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Before the
Public Utilities Commission of the State of California

Rosemead, California
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CALIFORNIA
SOLAR CONSUMER PROTECTION GUIDE

Published January 2021

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This guide provides important information to homeowners thinking of going solar.

PUTTING SOLAR ON YOUR HOME IS AN IMPORTANT FINANCIAL DECISION.

DON'T SIGN A CONTRACT UNTIL YOU READ THIS DOCUMENT!

This guide is from the California Public Utilities Commission (CPUC), a government agency that regulates privately-owned utilities like Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), and San Diego Gas & Electric Company (SDG&E). PG&E, SCE, and SDG&E customers must initial and sign this guide to connect a residential solar system to the electric grid. The CPUC requires these companies to collect your signed copy of this guide to ensure that you know your rights and have enough information to make a decision. *(This requirement does not apply to solar thermal systems or solar systems in new home construction or multi-family buildings.)*

Guide Accessibility

- Audio recording available at 855-955-1535.
- Español, 中文, 한국어, Tiếng Việt, and Tagalog versions available at 866-849-8390.

You should understand and initial the first 4 pages and sign at the end of this guide before you sign a contract for a residential solar system.

Initial here if you understand this page _____(1/4)

Watch Out for False Claims

Most solar providers are honest and fair. However, there are still some false claims you need to watch out for. Do not do business with a salesperson who makes one of these false claims.

False Claim	The Truth
You can get free solar energy at no cost to you.	**Solar energy is rarely free. An honest company will be upfront about all the costs you will pay over time.** There is one exception: a few government-funded solar programs offer free or low-cost solar to low-income households. Go directly to page 6 to see what government-approved organizations run these programs.
You will never pay an electricity bill ever again after a solar system is installed.	**After going solar, you will typically pay a small electricity bill every month and a larger electricity bill at the end of the 12-month cycle. See page 18 for an example.** Customers who take out a solar loan or sign a lease or power purchase agreement will also receive a monthly bill from a loan company or solar provider. If you use Property Assessed Clean Energy (PACE) financing, you will also make a payment once or twice a year with your property taxes or monthly with your mortgage payment.
Time is running out and you must quickly sign an electronic tablet to get solar.	**An honest salesperson would never rush you to sign anything without giving you time to review what you are signing.** California law requires that a salesperson show you the contract terms before you sign.

If you think you have been a victim of solar fraud, you may file a complaint against a contractor or home improvement salesperson to the Contractors State License Board (CSLB) at 800-321-CSLB (2752) or **www.cslb.ca.gov/consumers**. To file a complaint against a financing company, visit **www.dfpi.ca.gov/file-a-complaint**.

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Know Your Rights

You have the right...

to read this entire 24-page guide before signing a contract.

The CPUC recommends that solar providers give out this guide during their first contact with potential customers. Do not feel pressured to read this guide while the salesperson waits. Ask them to come back at a later date to allow you time to read it.

If you are a PG&E, SCE, or SDG&E customer, a solar provider must give you time to read this guide before you sign a contract for solar. If they do not allow you to read this guide, they cannot connect your solar system to the electric grid, and you should report them to the to the Contractors State License Board (CSLB) at 800-321-CSLB (2751) or www.cslb.ca.gov/consumers.

to a copy of a solar contract and financing agreement in the language in which the salesperson spoke to you.

If a solar provider or salesperson comes to sell you solar panels and speaks to you in a language other than English, they must give you a copy of the contract in that language. Also, if you prefer to read this guide in Spanish, Chinese, Korean, Vietnamese, or Tagalog, the solar provider or salesperson must give you this guide in that language.

to a Solar Disclosure Document from your solar provider.

By law, a solar provider must provide you with a completed Solar Energy System Disclosure Document created by the Contractors State License Board (CSLB). This one-page document shows you the total costs for the solar energy system. A blank version of this document is available at www.cslb.ca.gov/consumers/solar_smart.

to a 3-day cancellation period after signing a contract.

You have at least three business days to cancel your contract for any reason. You may cancel the contract by emailing, mailing, faxing, or delivering a notice to your solar provider by midnight of the third business day after you received a signed, dated copy of the contract. If you are 65 years of age or older, you have five days. Note that different rules may apply for contracts negotiated at a company's place of business.

If your solar provider refuses to cancel the contract, report them to the CSLB at 800-321-CSLB (2751) or www.cslb.ca.gov/consumers.

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Ask Solar Providers These Initial Questions

Before You Sign A Contract

What is your Contractors State License Board (CSLB) license or registration number?

Ask for the solar provider's CSLB license number. If you were contacted by a telephone or door-to-door salesperson, ask for their individual home improvement salesperson (HIS) registration number, too. Then check the license and, if applicable, HIS registration numbers to make sure they are valid and associated with the solar provider by going to www.cslb.ca.gov/consumers or calling 800-321-CSLB (2752).

- CSLB License Number is:_____
- (If applicable) HIS Registration Number is:_____

The CSLB license must be active and in classification C-46 (Solar Contractor), C-10 (Electrical Contractor), or B (General Building Contractor) in order to be valid. If your solar provider does not have a valid contractor license, do not sign a contract with them and report them to the CSLB.

What is the total cost of the solar energy system?

If you are considering a solar loan, lease, or power purchase agreement, also ask:

- Is there a down payment?
- How much will I pay per month? When will these payments increase and by how much?

If you are considering PACE financing, also ask:

- How much will I pay once or twice a year with my property taxes or monthly with my mortgage?
- How many years will I pay this amount?

If I sell my home, what are my options and what do I need to do?

Ask your solar provider, lender, or PACE program administrator to show you where in the contract it describes what happens when you sell your home.

Make sure to **get bids from at least 3** different solar providers. See page 9 for more details.

OK, I read these 4 pages. Now what?

- For other important questions to ask a solar provider ***before*** you sign a contract, go to page 10 of this guide.
- If you already understand the information listed in the table of contents and are getting ready to sign a contract, you can skip to the "Before You Sign" checklist, on page 22 of this guide.
- For a step-by-step guide for how to go solar, proceed to the next page. This is recommended, even if you've already started the solar process!

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STEP 1:
Is Solar a Good Fit for Me?

Solar photovoltaic panels can capture sunlight on your roof or property and convert it into electricity. This electricity powers the needs of your home, such as lights, electric vehicles, and appliances.



Before you consider getting solar at your home, ask yourself:

Have I made my home energy efficient first?

Reducing your energy use can reduce the size of the solar system you need, potentially saving you thousands of dollars. Visit www.energyupgradeca.org/home-energy-efficiency and/or contact your electricity provider for energy efficiency tips and advice on how to get a home energy assessment. You may also want to ask your electricity provider about residential demand response programs.

Do I qualify for low-income solar programs?

If you think you might qualify for a low-income solar program, be sure to read page 6. There are residential solar and community solar programs available for qualifying low-income PG&E, SCE, and SDG&E customers that could save you money with no financial contribution.

Is my roof suitable for rooftop solar?

- Does my roof receive a good amount of sunlight or is it mostly shaded? What direction does the roof face? Roofs that are mostly shaded or face due north are not good candidates for solar. If you plan to replace your roof soon, you should replace it before installing a rooftop solar system.
- If your roof is heavily shaded or isn't in great condition, or if you are a renter, community solar programs could be a good fit for you. With community solar, you receive 50-100 percent of your electricity from solar projects located across California. Community solar programs vary and may increase your electricity bill or provide an electricity bill savings. Contact your electricity provider for more information.

Low-Income Solar Programs

Available to PG&E, SCE, and SDG&E Customers

If you currently receive or qualify for a discounted electricity bill through the California Alternate Rates for Energy (CARE) or Family Electric Rate Assistance (FERA) program, you may qualify for assistance installing solar at low or no cost using one of the programs to the right.

You may also qualify for one of these programs if you live in a disadvantaged community (DAC). A DAC is a neighborhood vulnerable to multiple sources of pollution. To find out if you live in a qualified DAC, check out the map: www.cpuc.ca.gov/solarindacs.

If you are not a PG&E, SCE, or SDG&E customer, call your electricity provider or check their website to see if any low-income solar options are available to you.

SASH Program & DAC-SASH Program

The SASH Program provides discounted rooftop solar for income-qualified single families. If you qualify, your family can get assistance installing solar at low cost. The DAC-SASH program is designed for CARE- or FERA-eligible single-family homeowners who live in a DAC. If you qualify, your family can get assistance installing solar. GRID Alternatives administers the SASH and DAC-SASH programs.

See if you qualify by visiting www.gridalternatives.org/qualify or by calling GRID Alternatives at 866-921-4696.

DAC-Green Tariff Program

The DAC-Green Tariff Program is designed for eligible households that live in a DAC. Participants can have 100 percent of their electricity offset by solar generation and receive a 20 percent discount on their electricity bills. In this program, you do not have to install solar on your roof. The solar is installed elsewhere and the bill credits are assigned to you.

See www.cpuc.ca.gov/solarindacs for more information on eligibility and how to sign up.

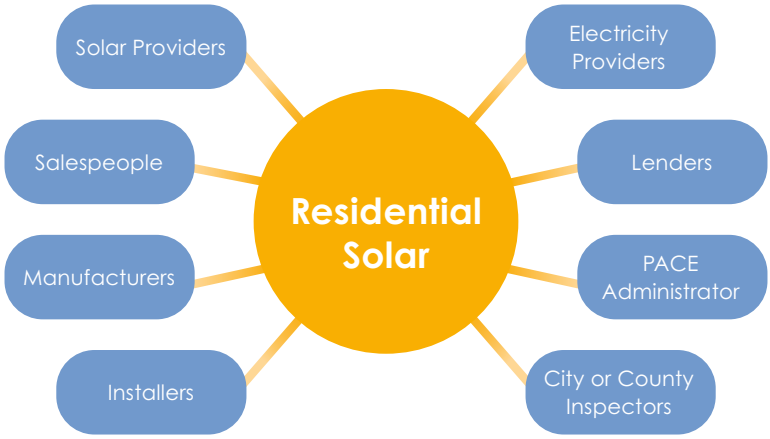
Community Solar Green Tariff Program

The Community Solar Green Tariff Program allows households in a disadvantaged community to subscribe to a solar farm within 5 miles of their neighborhood and receive a 20 percent discount on their electricity bills.

See www.cpuc.ca.gov/solarindacs for more information on eligibility and how to sign up.

PACE financing is not a "free government program." If someone describes it this way to you, please read about false claims on page 2 of this guide. You can learn about PACE financing on page 14.

STEP 2:
Understand Roles and Solar Process



Solar Providers
Solar providers are the companies that sell you solar and send installers to your home. Sometimes they provide financing. They must be licensed. See page 4.

Salespeople
Salespeople work for solar providers and may call you or knock on your door. They must be registered, with some limited exceptions. Ask for their "home improvement salesperson (HIS) registration" and check it at 800-321-CSLB (2752) or www.cslb.ca.gov/consumers.

Installers
Installers are sent by solar providers to your home to check roof, ground and electric conditions and to install the solar system. They must be licensed like a solar provider. See page 4.

Manufacturers
Manufacturers are the companies that make solar equipment. They provide most solar warranties for purchased systems.

Electricity Providers
Electricity providers interconnect your solar system to the electric grid and send you electricity bills that may include solar bill credits.

Lenders
Lenders provide you with financing if you have a solar loan.

PACE Program Administrators
Except for a few governmental PACE programs, PACE financing programs are managed by PACE program administrators, which must be licensed. Check their license at www.dfpi.ca.gov/pace-program-administrators.

PACE Solicitors and PACE Solicitor Agents
PACE solicitors are organizations, such as contractor companies; and PACE solicitor agents are individuals, such as home improvement salespersons. They are authorized by PACE program administrators to solicit property owners to enter into PACE financing agreements. Check their enrollment with a PACE program administrator at www.dfpi.ca.gov/pace-program-administrators.

City/County Inspectors
City/county inspectors come to your home to make sure the system is up to code to ensure your health and safety.

Overview of a Typical Rooftop Solar Process

Before You Sign a Contract

You	decide if rooftop solar is a good fit for you (see page 5)
You	get a home energy assessment to make your home more energy efficient (see page 5)
You	look at low-income solar programs to see if you qualify (see page 6)
You	research solar providers and compare at least 3 bids (see page 9)
Solar Provider	provides you with contract and Solar Energy System Disclosure Document (see page 9)
You	qualify for financing, if needed (see page 12)
Lender/PACE Program Administrator	writes up financing agreement (if needed)
You	review solar contract, Solar Energy System Disclosure Document, and any financing agreement (see page 19)
You	go through checklist on page 22 of this Solar Consumer Protection Guide
You	sign this guide, the solar contract, and the financing agreement

After You Sign A Contract

Installer	performs a home site visit to confirm assumptions and check roof, ground, and electric conditions
Solar Provider	finalizes system design and applies for building permit with city or county agency
Installer	installs the solar system (only after receiving city/county permit)
City/County Inspector	inspects system for building permit compliance when applicable
Solar Provider	submits application to electricity provider to interconnect solar system to grid
Solar Provider	submits city/county inspection approval to electricity provider
You	turn on system only after receiving written approval from electricity provider
Electricity Provider	sends you your first electricity bill with solar/net energy metering credits (see page 17)
Lender/Solar Provider	sends you first bill for solar system or solar energy*

*If you use PACE financing, you will not receive a bill from a lender or solar provider (the last step above). Instead, your payments will be due once or twice a year with your property taxes or monthly with your mortgage payment.



It typically takes 1 to 3 months after you sign a contract for the solar system to be installed at your home.

After the solar system is installed, it typically takes 2 to 3 weeks to receive approval from your electricity provider to turn your system on. It could take longer depending on your circumstances.

STEP 3:
Find a Qualified Solar Provider

For low-income solar programs, go to page 6.

Find Solar Providers that Serve Your Neighborhood

Go to www.cslb.ca.gov, a government website, and click on "Find My Licensed Contractor." Enter your city and one of the following license classifications: C-46 (Solar Contractor), C-10 (Electrical Contractor), or B (General Building Contractor).

Go to www.californiadgstats.ca.gov, a government-funded website, to enter your ZIP code and see a list of solar providers and recent installation costs. Note that these costs are not verified by the government.

Check to see if your county has a County Contractors Association with licensed solar providers.

Ask friends and neighbors who had solar installed at least a year ago if they recommend a solar provider and why.

Narrow Down the List to Qualified Solar Providers

First, make sure solar providers you consider have a valid license from the CSLB. It is illegal for solar providers and their installers to conduct business without a license.

- Go to the Contractors State License Board (CSLB) website at www.cslb.ca.gov/consumers or call 800-321-CSLB (2752) to see if the solar provider and installer licenses are active and valid. The licenses must be in the classification C-46 (Solar Contractor), C-10 (Electrical Contractor), or B (General Building Contractor).

Find out how long the company has been in business and how many installations they have done.

Check out trusted customer review websites online. Since some websites may not be neutral, check a few different websites to make sure reviews are consistent.

It's a good sign if companies employ installers certified by the North American Board of Certified Energy Practitioners (NABCEP), a high standard in the industry.

Get Bids From At Least 3 Qualified Solar Providers, Compare Bids, and Ask Questions

After you narrow down the list of solar providers, ask for a bid or price quote.

- Look up how to compare solar quotes online, and compare the bids you have obtained.
- Note that the cheapest bid is not necessarily the best option for you. A very low bid may indicate that a solar provider is trying to cut corners.

The CPUC recommends that solar providers give out this guide during their first contact with potential customers. Don't hesitate to ask solar providers a lot of questions up front. A qualified company will be happy to answer all of them. A sample list of questions is on the next page.

Questions to Ask a Solar Provider

Before You Sign a Contract

Company Background

What is your company's contractor license number from the Contractors State License Board (CSLB)? What is your installer's contractor license number?

Is the salesperson an employee of your company?

Will you subcontract with another company to install the solar system? If so, what is their CSLB contractor license number?

How long have you been in business and how many systems have you installed?

Can you provide me with three customer references to call or visit? These customers should have solar installed for at least a year.

Design & Roof

Is my roof a good candidate for solar? Why?

Does my roof need to be replaced before installing solar panels?

- If yes, how much will that cost, who will do it, what is their license number, and is there a roof warranty?

Why did you choose this specific design and size for the solar system you are recommending to me?

- Note that a system sized to cover all of your electricity needs isn't necessarily the best investment. Typically, a system is sized to around 80-85 percent of your electricity use from the previous year.

What steps will you take to ensure my roof won't leak?

Roughly how much will it cost to remove and re-install the panels if I need to replace my roof in the future, including inspection fees?

Warranties & Performance Of Solar System

Are there warranties for the panels and inverters?

- If yes, how long do they last and whom do I contact to replace these components?
- If equipment such as the inverter fails after the warranty period, how much will it cost to replace?

Are there warranties for labor/construction?

Are repairs and maintenance included in the contract? If yes, who should I contact for repairs?

Will I be able to monitor the performance of the system once it's installed? If so, how?

Does the solar provider offer a minimum energy guarantee (common with leases and power purchase agreements)?

- If yes, how will I be compensated if the system does not produce as much energy as promised in the contract?

Is there an insurance policy that comes with the solar system, or do I need to take out additional homeowner's insurance? Note that this is especially important if you live in fire-prone areas.

What are my obligations in the contract if my solar system stops working due to a disaster like an earthquake or a fire?

Who has the right to claim the environmental benefits of the power generated by my system? (See "Getting Environmental Credit for Going Green" on page 18).



Electricity Bill Savings Estimates (see page 17)



Please beware of a solar provider who tells you solar is free–it is not. See page 2 for more information on false claims.

Will you explain to me why an electricity bill savings estimate is not a guarantee?

What electricity provider bill escalation rate is assumed in your electricity bill savings estimate?

- Note that the CPUC has capped this escalation rate assumption at 4 percent per year.

What electricity rate plan do you recommend I switch to for solar, and why?

- How long will I be on that rate plan, and how can I compare or change rate plans on my electricity provider's website?
- Note that each electricity provider has a rate plan comparison tool or page on its website.

Even though I will continue to pay electricity bills after going solar, I can receive solar bill credits on my electricity bill. How does that work?

Is there an option to pay my electricity bills monthly instead of annually, so the costs are more even throughout the year? How do I sign up?

Does my electricity provider offer special rates for solar customers?



Impacts On Future Sale Of Your Home

Will a solar system make it more difficult for me to sell my home or refinance?

For leases, power purchase agreements (PPA), and PACE-financed systems:

- What happens if the home buyer doesn't want the solar system or doesn't qualify to take on my lease, PPA, or PACE-financed system?
- Are there fees if I need to terminate the contract early to sell my house?
- Are there fees for transferring the lease, PPA, or PACE financing to a new homeowner?



Timeline (see page 8)

When do you propose to start and finish installing solar on my roof?

After installation is complete, roughly how long will it take for my electricity provider to send me written approval to turn my system on?

What situations would allow me to be released from a contract?



For questions about financing, read the next section!

STEP 4:
Compare Your Financing Options

The most common solar financing options are:

- Purchase of a solar system with a solar loan or cash. With a purchase, you own the system.
- Property Assessed Clean Energy (PACE) financing of the upfront costs of a solar system, which you pay back on your property tax bill. With PACE financing, you own the system.
- Lease of a solar system, in which the solar provider owns the system and "rents" it to you for a scheduled monthly payment over a set number of years.
- Power purchase agreements (PPA), in which the solar provider owns the solar system and sells you the electricity it generates for a certain price over a set number of years.

The next few pages contain a quick look at each option's pros and cons, and then a closer look at each.

	Pros	Cons
Purchase with Cash or Loan	Typically greater return on investment. If you use a loan, little or no upfront costs. May increase value of home. You can directly receive tax credits and deductions. Consult tax professional to see if you qualify.	You are typically responsible for repairs and maintenance. This may involve contacting different manufacturers, who could go out of business during the 10-20 year component lifecycles. Some solar loans place a lien on your property. In those cases, if you do not make your payments, this could result in foreclosure or make it more difficult to sell your home or refinance your mortgage.
PACE Financing	Little or no upfront costs. May have a longer repayment period than typical home improvement loan, which may be preferable. You can directly receive tax credits and deductions. Consult tax professional to see if you qualify.	PACE financing results in a first-priority lien on your property. Your bank may require you to pay off the PACE assessment prior to refinancing. If you do not make your PACE payments, this could result in foreclosure or make it more difficult to sell your home or refinance your mortgage. You are typically responsible for repairs and maintenance. This may involve contacting different manufacturers, who could go out of business during the 10-20 year component lifecycles.
Lease and PPA	Little or no upfront costs. Solar provider is responsible for all monitoring, maintenance, and repairs. Minimum energy production often guaranteed.	Selling home may be more complicated than with a purchased system. Options typically are: the new owner must agree to take on the lease/agreement, you continue making payments, or you buy out the lease/agreement, which could be thousands of dollars. Solar provider could go out of business during the contract period.



A Closer Look at Purchase (with cash or loan)

You can purchase a solar system from a solar provider or manufacturer with a solar loan or cash. In this approach, you own the installed system. Types of loans include:

- **Secured loans:** these require an asset that will serve as collateral for the loan – often that asset is your solar system.
- **Unsecured loans:** these do not require any collateral, similar to a credit card.

A secured loan is often preferred because it typically has lower interest rates.

Many solar providers work with lenders that offer solar loans, but you should check with banks and credit unions as well. Compare offers to make sure you are being offered a reasonable interest rate.

If you install and own a solar system by the end of 2022, there is a 26 percent federal income tax credit (ITC) available. Under current law, the federal ITC is scheduled to drop to 22 percent for systems installed in 2023 and then 0 percent for systems installed after 2023. If you have questions about the ITC or whether a loan is tax deductible, speak to a Certified Public Accountant (CPA) for tax advice.

Unless you purchase a maintenance plan or your system comes with one, you will be responsible for any maintenance and repairs. Make sure you save the equipment warranties, particularly for the inverter, which may need to be replaced sooner than other equipment. If you sell your home, look for real estate agents and appraisers with experience selling homes with solar. You may include the system in the house sale just like any other major home component.

Questions to Ask a Lender About the Purchase of a Solar System with a Loan:

What is the total cost of the loan over the entire course of the contract?

How much will I pay up front, how much over time, and for how long?

What is my interest rate?
What is my annual percentage rate ("APR")?

Whom do I contact if I have questions about my loan payments?

Will a solar loan make it more difficult for me to sell or refinance my home?
Will I need to buy out my loan? Whom do I contact?

A Closer Look at PACE (Property Assessed Clean Energy)

PACE is a financing option that is available in some areas of California. In most places, it is sold through PACE solicitors and solicitor agents who are required to be enrolled with a PACE program administrator. In a PACE financing arrangement, a PACE program administrator finances the upfront costs of a solar system, which you then pay through an assessment on your property tax bill. With PACE financing, you own the solar system. You should read and review the terms carefully, and if necessary, consult with a tax professional or attorney.

PACE financing lasts for a fixed term, typically around 10-30 years, and it is attached to your house. If you sell your house before you have fully paid the PACE assessment, the buyer may require you to pay off the remaining balance of the assessment, which could be thousands of dollars. Some mortgage lenders will not loan money to buyers to purchase properties with PACE liens unless the full assessment is paid.

Unlike leases and power purchase agreements that require monthly payments, PACE assessments are typically due once or twice a year, in larger lump sums, with your property taxes. Given this unique arrangement, it's important to understand how much you will owe and when, so that you can set aside enough money throughout the year to cover the amount.

If your house is mortgaged and you typically pay your taxes with an escrow or impound account, your mortgage company may increase the amount you pay monthly to cover the anticipated increase to your property tax bill. Discuss how PACE will affect your monthly mortgage payment before you sign an agreement.

Be aware that if you fail to make your PACE payments included with your property taxes or mortgage, your home could be put in foreclosure.

Questions to Ask a PACE Program Administrator About a PACE-Financed System:

What is your PACE program administrator license number?
(Check the license at **www.dfpi.ca.gov/pace-program-administrators**)

Is the PACE solicitor or PACE solicitor agent I talked to enrolled with you? (Check their enrollment with the PACE program administrator at **www.dfpi.ca.gov/pace-program-administrators**)

What is the total cost of the financing over the entire course of the contract?

How much will I owe for PACE financing when I pay my mortgage or property taxes?

How many times a year will I owe this PACE payment?

What happens if I want to sell or refinance my home? Will selling or refinancing be more difficult with PACE financing? Is there anything I have to do with the mortgage company?

What are the penalties for failing to pay the assessment on time?

Whom do I contact if I have problems making my PACE payments?

A Closer Look at Lease & PPA
(Power Purchase Agreement)

With a lease, the solar provider owns the system on your property and "rents" it to you for a set period of time. A solar provider will install the solar system on your home, and you will make scheduled monthly payments in exchange for all the electricity the system produces. A typical lease contract period is 20-25 years.

In a power purchase agreement (PPA), the solar provider owns the system on your property and sells you the electricity it generates. PPAs are similar to leases, except that instead of making a fixed monthly payment for the system, you typically pay for all the power the solar system generates (a fixed per-kilowatt-hour rate). The contract will specify the kilowatt-hour rate you pay in the first year and every year after that. This rate should generally be lower than your current electricity rate. A typical PPA contract period is 20-25 years.

- If you sell your house before the lease or PPA contract is over, you will have to pay the solar provider the remainder of the value of the lease or PPA or transfer the contract to the new property owner. Make sure you understand the specific contract terms, since buying out a lease or PPA can cost thousands of dollars.
- Payments for leases or PPAs will typically increase by a specified amount every year based on an "escalation clause" or "escalator." Escalators are typically in the range of a 1 percent to 3 percent increase above the rate you paid in the previous year. Be cautious of entering into a contract with an escalator higher than that.
- There may be different ways to arrange leases and PPAs, such as paying more up front to reduce your monthly payments.

Questions to Ask a Lender or Solar Provider About a Lease or PPA

What is the total cost of the solar system or solar energy over the entire course of the contract?

How much will I pay up front, how much over time, and for how long?

Will my payments increase over time? How much will they increase, and how frequently?

Is there an option to make a down payment to reduce my monthly payments (for a lease) or kilowatt-hour rate (for a PPA)?

What happens if I wish to end the lease or PPA early?

If I end my agreement early, will I owe a balloon payment and/or an early termination fee? If so, how much will I owe?

Will a lease or PPA make it more difficult for me to sell or refinance my home?

Who will be responsible for monitoring, operations, and maintenance of the solar system?

STEP 5:
Learn About Electricity Bill Savings

Electricity Bill Savings Estimates Do Not Guarantee Savings

Electricity bill savings estimates are educated guesses about how much you could save with rooftop solar. They are based on several uncertain factors. Here are some reasons why it's possible that your savings could be lower than the estimate:

Your future energy use is uncertain. For example, if your family grows, you buy an electric vehicle, or you decide to turn up your air conditioning in the summer, your energy use will go up.

If you sell your home, you could incur additional costs. For example, if a buyer doesn't want to take on a lease or PPA, you might have to buy out the contract, which could be thousands of dollars.

Electricity prices and rates can change over time. Electricity bill savings estimates typically assume they will escalate, or rise, by a certain percentage each year (the CPUC has capped the assumed escalation rate at 4 percent for these estimates). Also, your electricity provider may require you to switch to a different rate plan in the future, which could change how much you save.

Your solar system might perform slightly worse than the estimate assumed. For example, if your area is unusually dusty, the system could generate slightly less energy than estimated.



Before you sign a contract, ask yourself: if the savings end up being lower than the estimated monthly or yearly savings, does getting rooftop solar still make sense to me?

How Electricity Bill Savings Work

If you go solar, your electricity provider will enroll you in its Net Energy Metering (NEM) program. NEM allows you to get a financial credit on your electricity bill when your solar system sends electricity back to the grid after first powering the electricity needs at your house. Usually this credit is approximately equal to the retail rate of energy. This means that you are credited on your bill about the same amount that your electricity provider would have charged you for electricity during that time.

NEM and Your Electricity Bill

Consuming and Exporting Electricity

Since the sun isn't always shining, solar customers also rely on electricity from their electricity provider. After your solar system is interconnected to the grid, your monthly electricity bill will summarize how much electricity you took in or "consumed," from your electricity provider, and how much electricity your solar system sent to the grid or "exported."

Monthly Bill Charges, Credits, and Minimum Amounts

If you took in more than you sent out to the grid in any given month, you will see an overall charge on your bill. If you sent out more than you took in, you will see an overall credit. Typically, you will be able to carry forward credits to the next month's bill, and electricity usage charges will not be due until the end of a 12-month period. Note that many electricity providers require solar customers to pay a monthly minimum bill each month just like other customers. This minimum bill may change over time.

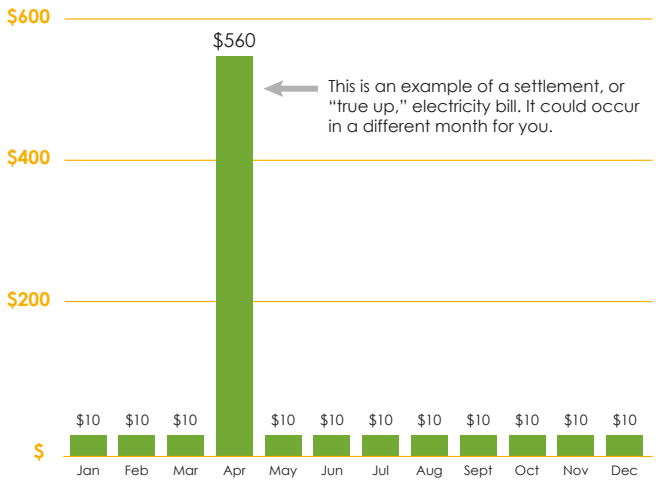
Time-of-Use Rates

PG&E, SCE, and SDG&E solar customers are required to go on a time-of-use (TOU) rate plan. A TOU rate plan will charge different prices for electricity depending up on the time of day. Prices are typically higher between 4 p.m. and 9 p.m., called "peak" hours, and lower the rest of the day and at night during "off peak" hours.

12 Month Settlement Bill

Typically, at the end of a 12-month period, you will receive a settlement bill, also called a "true up" bill, that settles all the credits and charges. Even though going solar can reduce your electricity costs, most customers still owe some money to their electricity provider at the end of the 12 months. See graphic to the right that shows an example of an electricity bill over a 12-month cycle for a solar customer.

Example Of A Settlement, Or "True Up" Electricity Bill



Some electricity providers give you the option to pay your settlement bill monthly instead of annually. If you choose the monthly option, your payments will be more evenly distributed over the course of the 12 months, and you will not have to worry about paying a potentially large bill once a year. Be clear with your solar provider if you want the monthly option, and double-check with your electricity provider that the correct option was chosen.

Though it's rare, if you sent out more electricity than you took in over the course of the 12-month period, you are typically eligible to be paid "net surplus compensation," which is around 2 to 3 cents per kilowatt-hour. Because this rate is lower than the retail rate, it is generally not in your financial interest to install a solar system that produces more energy than you would use over the course of a year.

Currently, PG&E, SCE, and SDG&E customers are guaranteed NEM for 20 years from the time their solar system starts operating. Your electricity rate, however, is subject to change. Go to **www.cpuc.ca.gov/electricrates** for more details on how electricity rates work.

If you still have questions after reading this section, you can find help at the additional resources on pages 20-21 of this guide.

Getting Environmental Credit for Going Green

When a residential solar system produces electricity, the system is eligible to receive Renewable Energy Certificates (REC), which represent the renewable energy that is generated. If you purchase a solar system, you own the rights to these RECs and can make the claim that you're producing clean energy and avoiding emissions of greenhouse gases by going solar. However, if you enter a lease or PPA, the contract may state that the solar provider or someone else owns the RECs. If you do not own the RECs, they can be sold without your knowledge to other customers who use them to make environmental claims or comply with clean energy requirements. And with PACE financing, a local jurisdiction may own the RECs. If owning the RECs is important to you, ask your solar provider who will own the RECs, and check the contract fine print.





Combining Solar with Storage

When you install battery storage with your solar system, you can store excess solar electricity produced by your panels for use in the evening when the sun goes down. The software that comes with battery storage automatically determines whether to store the extra energy or export it to the grid to maximize cost savings. Battery storage can also provide limited back-up power.

The state-funded Self-Generation Incentive Program (SGIP) provides financial incentives to install storage. See **www.cpuc.ca.gov/sgip** for more details on SGIP.

STEP 6:
Carefully Read All Paperwork

The Solar Energy System Disclosure Document

This one-page document from the Contractors State License Board shows you the total costs for the proposed solar energy system. It also has information about your three- or five-day right to cancel a contract. A solar provider is required to fill out this document. It may be placed as the cover page to the contract. See a blank version at www.cslb.ca.gov/consumers/solar_smart.

Contract

The solar contract is the legally binding document between you and the solar provider. Make sure to read it carefully.

Make sure everything you were promised is written in the contract. For example, many answers to the questions on pages 10 and 11 of this guide should be referenced in the contract.

By law, any contract for solar installation must include:

- Contractor information, including business address and license numbers
- Description of the project, including equipment installed and materials used
- Contract price, plus finance charge and/or down payment if applicable
- Approximate start and end date of the contract term
- Notice of a 3- or 5-day right to cancel the contract (with limited exceptions)

Ask the solar provider what situations would allow you to be released from the contract. For example, if your solar provider discovers on a site visit that your roof is shaded in a way that wasn't expected, that could cancel the contract.

Financial Paperwork

If you are purchasing a system with a solar loan, you will be asked to sign a separate financing agreement. The lender will provide you with this separate agreement.

If you are purchasing a system with PACE financing, you must sign: (1) a Financing Application and, (2) a Financing Agreement.

- Before you sign the Financing Application, read it carefully to make sure all the information is correct, including your contact information, your income, and the cost of the solar energy system.
- The separate financing agreement may be provided by the solar provider, the PACE program administrator, or a financing institution. If you are using PACE financing, it should include a PACE Financing Estimate and Disclosure form showing the solar system's total cost. A link to a blank version of this document is available at www.cslb.ca.gov/consumers/solar_smart.

Make sure everything you were promised is written into any financing agreement. For example, many answers to the questions on pages 13–15 of this guide should be referenced in the financing agreement.

STEP 7:
Review Additional Resources

If you still have questions about any aspect of going solar, find resources in the list below where you can read or watch additional information, or call someone to advise you.

Electricity Provider Solar Programs

Pacific Gas and Electric (PG&E)

- PG&E solar customer service: 877-743-4112
- PG&E clean energy: www.pge.com/en_US/residential/solar-and-vehicles/options/option-overview/how-to-get-started/how-to-get-started.page

Southern California Edison (SCE)

- SCE solar phone number: 866-600-6290
- SCE solar power at home: www.sce.com/residential/generating-your-own-power/solar-power

San Diego Gas & Electric (SDG&E)

- SDG&E solar phone number: 800-411-SDGE (7343)
- SDG&E get started with solar: www.sdge.com/residential/solar/getting-started-with-solar

If another electricity provider supplies you with electricity, call them or check their website for details on their solar programs.

Low-Income Solar Programs

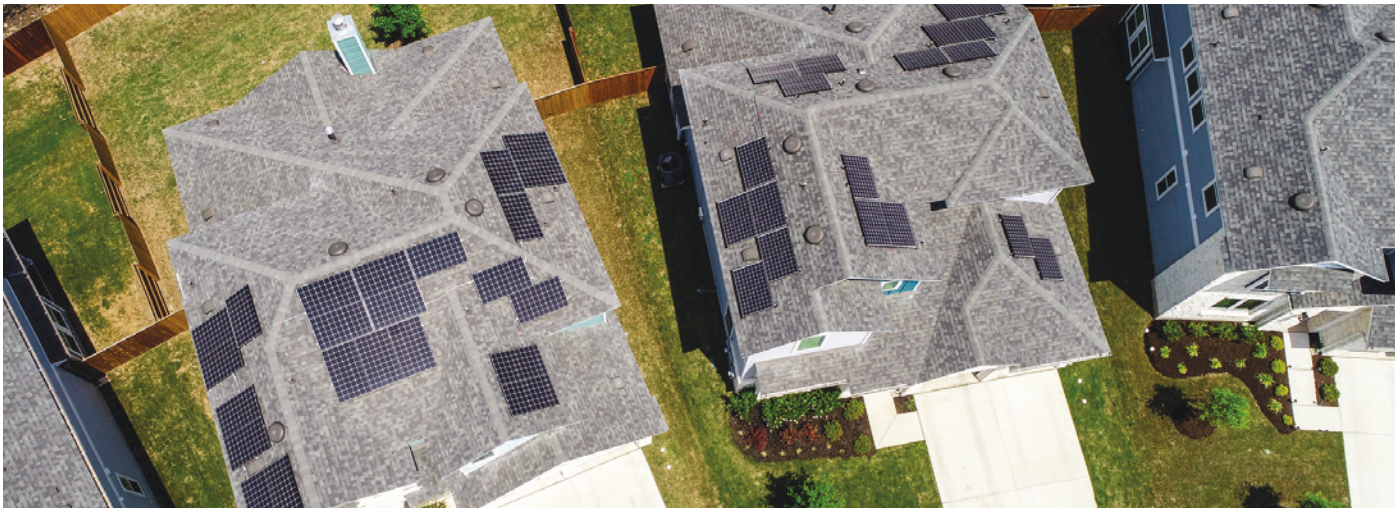
- SASH and DAC-SASH program: 866-921-4696 and www.gridalternatives.org/qualify
- Community Solar Green Tariff program and DAC Green Tariff program: www.cpuc.ca.gov/solarindacs

If you are not a PG&E, SCE, or SDG&E customer, contact your electricity provider for low-income solar options.

Contractors State License Board (CSLB)

- CSLB 24-hour licensing and consumer information: 800-321-CSLB (2752)
- Check a contractor license or home improvement salesperson registration: www.cslb.ca.gov/onlineservices/checklicenseii/checklicense.aspx
- CSLB solar smart: www.cslb.ca.gov/consumers/solar_smart
- PACE Financing Estimate and Disclosure form and CSLB Solar Energy System Disclosure document: www.cslb.ca.gov/consumers/solar_smart

Links with this icon have a resource available in video format.



Department of Financial Protection and Innovation (DFPI)

- PACE financing information: www.dfpi.ca.gov/pace
- Financial services: 213-576-7690; pacehelp@dfpi.ca.gov
- PACE program administrator license check: www.dfpi.ca.gov/pace-program-administrators
- Filing a complaint against a PACE provider: www.dfpi.ca.gov/file-a-complaint

Solar Bills and Net Energy Metering (NEM)

- PG&E how to read your solar bill: www.pge.com/en_US/residential/solar-and-vehicles/green-energy-incentives/solar-and-renewable-metering-and-billing/how-to-read-your-bill/how-to-read-your-bill.page
- SCE understanding your bill: www.sce.com/residential/generating-your-own-power/net-energy-metering/understanding-your-bill
- SDG&E understanding your NEM statement: www.sdge.com/residential/savings-center/solar-power-renewable-energy/net-energy-metering/billing-information/understanding-your-nem-statement
- CPUC NEM overview: www.cpuc.ca.gov/nem

Solar Financing Guides

- Clean Energy States Alliance (CESA) homeowner's guide to solar financing: www.cesa.org/resource-library/resource/a-homeowners-guide-to-solar-financing-leases-loans-and-ppas
- CESA una guía práctica de financiación solar para dueños de casa (en Español): www.cesa.org/resource-library/resource/una-guia-practica-de-financiacion-solar-para-duenos-de-casa
- CESA/George Washington University rooftop solar financing 101: www.cesa.org/projects/sustainable-solar/videos

Other Solar Guides

- Solar Energy Industries Association (SEIA) Residential Consumer Guide to Solar Power: www.seia.org/research-resources/residential-consumer-guide-solar-power
- Interstate Renewable Energy Council (IREC) Be Solar Smart Consumer Checklist: www.irecusa.org/consumer-protection/consumer-checklist
- CESA/George Washington University Choosing a Solar Installer: https://cesa.org/projects/sustainable-solar/videos

STEP 8: "Before You Sign" Checklist

Make sure you have completed these items before you sign any documents!

Remember, take your time and don't feel pressured to sign a contract. Do not sign anything if you feel you need more time to do research or think about your decision.

- ☐ Check to see if you qualify for a low-income solar program, which has strong protections for consumers. See page 6.
- ☐ Consider making your home more energy efficient before getting solar. This could save you money. See page 5.
- ☐ Get at least 3 bids for solar at your home. See page 9.
- ☐ Ask the solar provider for 3 customer references and call or visit them. See page 9.
- ☐ Check to make sure the solar provider's license, and if applicable, the home improvement salesperson's registration number, is current and valid with the Contractors State License Board. See page 4.
- ☐ Understand the solar purchasing process, including what happens after you sign a contract for solar. See page 8.
- ☐ Ask the solar provider the contract questions on page 4, 10, and 11 so you understand the terms of the solar contract.
- ☐ If you are financing your system, ask the lender, solar provider, or PACE program administrator the finance questions on page 13, 14 or 15, so you understand the terms of your financing arrangement.
- ☐ Read the critical information about electricity bill savings estimates on page 16.
- ☐ Carefully read all the documents that the solar provider is asking you to sign. These usually include: 1) Solar Energy System Disclosure Document, 2) Contract, and 3) Financial Paperwork. See page 19.
- ☐ Save copies of all the documents you sign. The information will be useful if you sell your home, need to replace your roof, or have any repair or maintenance issues.

STEP 9: Sign This Guide

January 2021

Have you read at least the first 4 pages of this guide?

The first 4 pages of the California Solar Consumer Protection Guide contain important information on false claims to watch out for and your rights.

The CPUC recommends that solar providers* give out this guide during their first contact with potential customers, so customers may fully understand what a solar purchase involves. If a solar provider gave you this guide along with your contract, the CPUC recommends that you take at least 48 hours to read and understand this entire guide before you sign below.

Do not feel pressured to read the complete document while the salesperson waits.

Ask them to come back at a later date to allow you time to read it.

Customer

- ☐ I have not yet entered into a contract for solar with the solar provider signing on page 24.
- ☐ The solar provider provided me with a complete copy of the Solar Consumer Protection Guide before they collected my initials and signature below.
- ☐ The solar provider gave me the opportunity to read this guide in Español, 中文, 한국어, Tiếng Việt, or Tagalog if they spoke to me in one of those languages.
- ☐ I read and initialed the first 4 pages of California's Solar Consumer Protection Guide. The solar provider gave me the time to read the entire 24-page guide.
- ☐ I was provided an option to sign the Solar Consumer Protection Guide electronically or in handwriting.
- ☐ If I was solicited as part of a door-to-door sale, the solar provider offered me the option to sign the Solar Consumer Protection Guide with a handwritten signature by default. I was also given the option to sign with an electronic signature.
- ☐ If I was solicited as part of a door-to-door sale and did not expressly request an electronic format, a complete copy of the Solar Consumer Protection Guide was provided in paper format.
- ☐ If I choose to sign the Solar Consumer Protection Guide electronically, I am using an email address that was created and is controlled by me prior to the sale, lease, or power purchase agreement.

Customer Printed Name _____ Date _____

Customer Signature _____

continued on page 24

Solar Provider

- ☐ The customer initialed the first 4 pages of the guide.
- ☐ The customer signed above before entering into a contract for the purchase, lease, power purchase agreement, or PACE financing of a solar system or solar energy with the company named below.
- ☐ The sales presentation to this customer was principally conducted in this language: _____

Company Representative Name/Title

Date

Company Representative Signature

Company Phone

Company Name

Company Email

Company CSLB License Number

Company CSLB License Classification

*A solar provider is defined in California Public Utilities Commissioner Decision (D.) 18-09-044 as a vendor, contractor, installer, or financing entity that enters into a contract for a power purchase agreement, lease, or purchased solar system. Pacific Gas and Electric Company (PG&E), Southern California Edison (SCE), and San Diego Gas & Electric (SDG&E) require solar providers to upload a signed copy of this page with a signature to their interconnection portals before interconnecting residential customers in single-family homes to the electric grid. This requirement does not apply to new home construction, multifamily buildings, or solar thermal systems.