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California Guide to Going Solar – *What You Need to Know*



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The California Public Utilities Commission (CPUC) created this guide to provide objective information to homeowners interested in rooftop solar.

The CPUC is a government agency that oversees the solar programs of private energy utilities.

This packet guides consumers through issues to consider when going solar, such as choosing a qualified contractor and solar financing.

Please take at least 48 hours to review this packet before signing a contract for a solar system.

For more information on this guide, please visit: xxxxx

> To see if you qualify for low-income solar programs, go to page X.

> For visually impaired individuals, or for anyone who prefers to hear this guide read aloud, an audio recording of this guide is available at XXX-XXX-XXXX.

Know Your Rights

As a California resident, you are entitled to certain rights to protect you during the solar sales process.

#1: YOUR RIGHT TO A 3-DAY CANCELLATION PERIOD AFTER SIGNING A CONTRACT

By law, after you sign a solar contract, you have up to three days to cancel your contract. You may cancel the contract by emailing, mailing, faxing or delivering a written notice to the solar provider at their place of business by midnight of the third business day after you received a signed, dated copy of the contract. Include your name, your address, and the date you received the signed copy of the contract. If your solar provider refuses to cancel the contract, report them to the Contractors State License Board (CSLB) *here*.

#2: YOUR RIGHT TO PUT DOWN NO MORE THAN \$1,000 OR 10% OF CONTRACT PRICE

By law, you are not obligated to pay more than \$1,000 or 10% of the contract price, whichever is less, as a down payment.¹

#3: YOUR RIGHT TO A SOLAR DISCLOSURE DOCUMENT

By law, a solar provider must fill out a Solar Energy System Disclosure Document created by the Contractors State License Board. This document provides you with key information about the proposed solar system, such as total costs over time. See this document *here*.

#4: YOUR RIGHT TO A STANDARDIZED ELECTRICITY BILL SAVINGS ESTIMATE

By law, you are entitled to receive an electricity bill savings estimate from a solar provider based on a standardized set of inputs developed by the California Public Utilities Commission *here*.

[this bullet is a placeholder until AB 1070 (Gonzalez Fletcher, 2017) is implemented]

#5: YOUR RIGHT TO READ THIS GUIDE AND SOLAR ENERGY SYSTEM DISCLOSURE DOCUMENT BEFORE SIGNING A CONTRACT

If you are a Pacific Gas and Electric (PG&E), Southern California Edison (SCE), or San Diego Gas & Electric (SDG&E) customer, a solar provider must share these documents with you and get your signature to confirm that you received and read them before you sign a contract.

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¹ Note there are exceptions if the contractor has an approved blanket performance bond on file with the CSLB, which can sometimes apply to larger companies.

Beware of Solar Scams and Misleading Sales Tactics

- There is no such thing as a free solar system. The California Government does not give out free solar, and the California Government does not require you to put solar on your home.
- You should not be asked to sign a contract, especially on an electronic tablet, without first being allowed to read the contract terms. California law requires that salespeople give you the opportunity to read the contract before signing. Salespeople should not pressure you to sign a contract on your first encounter or at any time during the sales process.
- Salespeople should not promise you that after going solar you won't pay an electric bill. This is false. Depending on your situation, you will still pay a monthly bill or one total bill at the end of the year.
- The average size of a residential solar system is between four and five kilowatts (kW). If the system size proposed by your contractor differs greatly from this, ask for an explanation.

If you think you have been a victim of solar fraud, report the incident to the Contractors State License Board (CSLB) at X or X.

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Consumer Checklist

Make sure to ask a Solar Provider these questions *BEFORE* you sign a contract.

Company Background

- What is your Contractors State License Board (CSLB) license number, and can you provide proof of your valid license with the CSLB?
- Will you subcontract to another company to install the solar system? If so, what is their CSLB number?
- Can you provide me with three references?
- How long have you been in business? How many installations have you installed?

Solar System Design

- Why did you choose this specific design and size? If another solar provider's design/size is different, ask why they differ.
- Does my roof need to be replaced before installing solar panels? How much will that cost, and who will do it? What steps will you take to ensure my roof won't leak?

Solar Financing

- What is the total cost of the solar system?
- How much will I pay up front, how much over time, and for how long?

Questions for solar systems that will be purchased with a loan:

- What is the interest rate and how many years will the financing agreement last?
- Will I have to make a down payment? If so, how much?

Questions for leases and power purchase agreements:

- What is the length of the lease or power purchase agreement contract term?
- 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 power purchase agreement)?
- What happens if I wish to end the lease or power purchase agreement early? Will I owe a balloon payment and/or an early termination fee? If so, how much will I owe?
- How does a lease or power purchase agreement affect the ability to sell my home?
- Who has the right to claim the environment benefits of the power generated by my system?
- What happens if I need to replace my roof during the contract term?

Questions for Property Assessed Clean Energy (PACE) financing:

- How much will I owe when I pay my mortgage or property taxes?
- How many times a year will I owe this payment?
- What happens if I want to refinance my home? Is there anything I have to do with the mortgage company?
- Will a lien be placed on my property if I do not pay on time? How does a lien impact my ability to sell my home?
- Who do I contact if I have problems making my PACE repayments?

Estimated Electric Bill Savings

****Please beware of a solar provider that tells you solar is free—it is not. See p.X for info on solar scams.****

- What are the total estimated electric bill savings in the first year based on the standardized inputs developed by the California Public Utilities Commission (CPUC)?
- Have you presented me with electric bill savings based on your own company model? Why does that calculation differ from the CPUC estimate?
- What assumption did you use for how much my utility's electric rates would increase each year? If it's larger than X%, can you explain why? *[this section is a placeholder until AB 1070 is implemented]*

Warranties and Performance of Solar System

- Are there warranties for the panels and inverters? If so, how long do they last and who do I contact to replace these components?
- Are there warranties for labor/construction? Is there a roof warranty (if the roof is being replaced)?
- Are repairs and maintenance included in the contract? 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/power purchase agreements)? If so, 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?
- What are my obligations under the contract in the event that the solar system stops working due to a disaster like an earthquake or a fire?

Timeline for Installation and Interconnection

- When do you propose to start and finish installing solar on my roof?
- After installation is complete, how long do you estimate it will take for my utility to interconnect my system to the grid?

Impacts on the Sale of Your Home

- How will a solar system impact the home sale or refinancing of my property?
- How much will it cost to remove and re-install the panels if I need to replace my roof when selling my home, including inspection fees?

Questions for leases and power purchase agreements:

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

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The Solar Energy System Disclosure Document and Solar Contract:

What You Need to Know

Solar Energy System Disclosure Document

- The Solar Energy System Disclosure Document is a standardized document created by the Contractors State License Board (CSLB). By law, a solar provider must give you a Solar Energy System Disclosure Document before asking you to sign a contract.
- This document contains key information, such as the total amount to be paid over the proposed contract term and proposed system size.
- A solar provider should conduct a home site visit and shading study before filling out the Solar Energy System Disclosure Document.
- You can see a blank version of the document *here* or by calling *here*. After you receive a Solar Energy System Disclosure Document, make sure to save it for future reference.

Solar Contract

- The solar contract—not the Solar Energy System Disclosure Document—is the legally binding document between you and your solar provider. Make sure to read it carefully.
- If you saw important information in the Solar Energy System Disclosure Document that is not referenced in the contract, ask your contractor to include it in the contract.
- Make sure everything you were promised is written in the contract, such as answers to questions in the consumer checklist.
- Any additional services besides basic solar installation should be separate line items in the contract price.
- Save your contract, as well as the name of all companies involved in the transaction. This information will be useful if you sell your home, need to replace your roof, or have any repair/maintenance issues.
- Be aware that you have a three-day right to cancel a contract after you sign. See the *Know Your Rights* section for details.

[this page is a placeholder until supporting information for the Solar Energy System Disclosure Document is produced at the CSLB's discretion pursuant to sub paragraph (c) of Business and Professions Code section 7169.]

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Additional Information

Starting on page X, you will find more detailed information on going solar. The California Public Utilities Commission recommends that you take at least 48 hours to review these additional pages before signing on the next page.

The additional information includes the following topics:

- How to Select a Solar Provider page X
- Role of Your Utility Versus Solar Provider page X
- Before Going Solar, Make Your Home Energy Efficient page X
- Low-Income Solar Programs page X
- Solar Financing Options page X
- Electricity Bill Savings Estimates - What You Need to Know page X
- Net Energy Metering: Explained page X
- Combining Solar With Storage and Electric Vehicles page X
- Additional Resources page X

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Signature Page

Have you read at least the first 5 sections of this consumer guide carefully?

These sections contain important information on your rights and how to avoid solar scams.

The California Public Utilities Commission also recommends that you take 48 hours to read and understand the entire X-page solar consumer guide before signing below.

Customer

- I have received and read the *California Guide to Going Solar – What You Need to Know* before I signed a contract with ___[print solar provider name]___ for the purchase, lease, power purchase agreement (PPA), or PACE-financing of a solar energy system. I initialed the first five sections of this document.

Customer Name

Signature

Date

Solar Provider²

- I provided ___[print customer name]___ with the *California Guide to Going Solar – What You Need to Know* before the customer entered into a contract with my company ___[print solar provider name]___ for the purchase, lease, power purchase agreement (PPA), or PACE-financing of a solar energy system.
- I provided the customer this guide in the same language as the sales presentation.
- I provided the customer sufficient time to read the entire document, and the customer initialed the first five sections.

Solar Provider

Signature

Date

- What language was principally used in the sales presentation given to the customer?

² A solar provider is defined by law in CPUC 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 (PG&E), Southern California Edison (SCE), and San Diego Gas & Electric (SDG&E) require solar providers to upload a signed copy of this page to their interconnection portals before interconnecting the customer to the electric grid. See [this link](#) to read the regulation that established the legal requirements for this signature page.

ADDITIONAL INFORMATION

How to Select a Solar Provider

Finding a qualified solar provider is key to getting a productive solar system at an affordable price. Much like buying or leasing a car, it's worth taking the time up front to compare your options before making this long-term investment. Below are recommendations to help you find a reputable solar provider.

Step One **Get Bids From At Least Three Solar Providers**

- There are websites, like EnergySage at *link*, that allow you to compare bids from pre-qualified installers in your area.
- Go to www.CaliforniaDGStats.ca.gov, a government-funded website, to enter your zip code and see a list of contractors and their recent installation costs.
- Ask a trusted community-based group, or friends and neighbors, for companies they recommend. Ask for specifics: Did the contractor produce high quality work? Did the company provide reliable customer service?
- Look for companies that employ installers certified by the North American Board of Certified Energy Practitioners (NABCEP).
- Note that the best system for you is not necessarily the cheapest system. A very low bid may indicate that a contractor is trying to cut corners.

Step Two **Do Research on the Solar Provider You Consider**

- First, make sure contractors you consider have a valid license from the Contractors State License Board (CSLB). It is illegal for contractors to install solar without one.
 - Go the CSLB website *here* or call *X* to make sure the contractor has a current and valid license.
 - If a contractor gave you a bid without a license or the license is revoked, cancelled, or suspended, please report them to the CSLB *here* or call *X*.
- Ask the solar provider for three references – and call the references.
- Find out how long the company has been in business.
- Check reviews of the contractor through websites like the Better Business Bureau, EnergySage, Yelp, Angie's List, or other customer review sites.

Role of Your Utility Versus Solar Provider

Electric Utility

When it comes to rooftop solar, utilities are mainly responsible for two tasks:

- 1) interconnecting your solar system to the grid, and
- 2) providing you with electricity bill credits for exported solar energy (see p. X for more details).

There are many electric utilities throughout California and their programs can vary. Check your utility’s website for more details on its solar program. If you aren’t sure what utility serves you, check for a logo and contact information on your electric bill. Links to some utility solar programs are on p. X.

Solar Provider

Solar providers are the companies that sell you solar and install the solar system on your home. A solar provider usually submits all the required paperwork to your utility on your behalf. Sometimes solar providers provide financing directly in the contract. Solar providers must be licensed by the Contractors State License Board.

Typical Steps to Going Solar

Steps	Tasks	Who Is Responsible
<i>Step 1</i>	Get multiple bids and research solar providers	Customer
<i>Step 2</i>	Fill out Solar Energy System Disclosure Document	Solar Provider
<i>Step 3</i>	Review Solar Energy System Disclosure Document	Customer
<i>Step 4</i>	Write up solar contract	Solar Provider
<i>Step 5</i>	Write up financing agreement	Solar Provider and/or Lender
<i>Step 6</i>	Sign the Solar Energy System Disclosure Document, solar contract and financing agreement	Customer
<i>Step 7</i>	Submit application to utility to interconnect solar system to grid	Solar Provider
<i>Step 8</i>	Apply for building permit with city or county agency	Solar Provider
<i>Step 9</i>	Inspect home for building permit compliance	City or County Inspector
<i>Step 10</i>	Install the solar system	Solar Provider
<i>Step 11</i>	Submit city/county inspection approval to utility	Solar Provider
<i>Step 12</i>	Inspect home for interconnection/meter compliance	Utility
<i>Step 13</i>	Turn system on after receiving written approval from utility	Customer
<i>Step 14</i>	Send first solar electricity bill to customer	Utility

Before Going Solar, Make Your Home Energy Efficient

Making your home energy efficient before going solar is an essential first step. By decreasing your overall energy use before going solar, you could reduce the size of the solar system you need, potentially saving thousands of dollars. Taking energy-saving actions has the double bonus of lowering your energy bills.

Steps to Conserve Energy at Your Home

Home Energy Assessment

A home energy assessment is a good way to start. Some utilities offer information and tools through your online account that help you assess, manage, and improve your energy use. You could save 5%–30% on your energy bills by making the efficiency improvements that are identified. Some utilities also offer in-person home energy assessments for qualifying low-income households through the Energy Savings Assistance Program. See *here* for more details.

Tips to Make Your Home Energy Efficient

Did you know that using a programmable thermostat can save you up to 10% on annual heating and cooling costs? Or that you can save up to \$75 each year by replacing your home's five most frequently used light bulbs with ENERGY STAR-rated light bulbs? See the Energy Upgrade California website *here* for simple energy efficiency tips on lighting, heating, air conditioning, insulation, and appliances that can save you money and make your home more comfortable.

Shift Electricity Use to Lower-Priced Times of Day

Many customers in California are required to switch to a “time-of-use” rate when they go solar. A time-of-use rate will charge different prices for energy depending upon the time of day. Prices are typically higher between 4:00pm and 9:00pm, called “peak” hours, and lower the rest of the day and at night during “off peak” hours. Take advantage of the opportunity to save money on a time-of-use rate by shifting energy-consuming activities to off peak hours, like running your laundry or dishwasher overnight. See more details *here*.

Low-Income Solar Programs

Below you will find a list of solar programs available to eligible low-income customers who receive electric bills from Pacific Gas and Electric (PG&E), Southern California Edison (SCE), or San Diego Gas & Electric (SDG&E). If you currently receive a discounted electric bill through the California Alternate Rates for Energy (CARE) program, you are likely to qualify for these programs. If you receive an electric bill from a utility other than the ones listed above, call your utility or check their website to see if any low-income solar options are available.

SASH Program

The SASH Program, which stands for “Single-family Affordable Solar Homes Program,” is a program that provides solar incentives for qualifying low-income homeowners who live in affordable single-family housing. The program provides rebates for rooftop solar that can save families up to 90% on electricity bills. The nonprofit organization “Grid Alternatives” runs the program. See *here* for more information on eligibility and how to sign up.

There is also a new SASH program called “DAC-SASH” that is designed for low-income homeowners that live in disadvantaged communities (DAC) impacted by high pollution rates and poor health conditions. Homeowners do not need to live in a home defined as affordable to qualify. See eligibility requirements *here*.

[this paragraph is a placeholder until program implemented]

DAC Green Tariff Program

The DAC Green Tariff Program allows qualifying low-income households in disadvantaged communities to receive 50-100% of their electricity from solar generation located throughout California, plus a 20% discount on electricity bills. In this program, you do not have to install solar on your roof to go solar, which is a great option if your home has an older roof or if you want a quick, hassle-free way to go solar. See more info *here*.

[this section is a placeholder until program implemented]

Community Solar Green Tariff Program

The Community Solar Green Tariff Program allows qualifying low-income households in disadvantaged communities to subscribe to a solar array within 5 miles of their home and receive a 20% discount on electricity bills. This program is similar to the DAC Green Tariff Program but with a stronger community focus. See more info *here*.

[this section is a placeholder until program implemented]

TIP:

- Check to see if you qualify for the **Energy Savings Assistance Program**, which helps low-income homeowners make energy-efficient improvements to their home, a smart thing to do before going solar. See *here*.

Solar Financing Options

Purchase With a Solar Loan

You can purchase a solar system outright from an approved contractor or manufacturer with a solar loan or cash. In this approach, you own the installed system. Since most systems cost between \$10,000 to \$35,000, most homeowners that purchase a system take out a solar loan instead of paying in cash. Secured loans require an asset that will serve as collateral for the loan – in most cases, that asset is your home, similar to a home equity loan. Unsecured loans do not require any collateral other than the solar panel system. Typically, a secured loan is preferred because it is tax deductible and has lower interest rates.

Many solar contractors 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. Since you will be responsible for any maintenance and repairs, also make sure the brand and models of all components (panels and inverters) are included in your contract.

If you purchase and start installing a solar system before December 31, 2021, you are also eligible for a federal solar investment tax credit (ITC) between 22% and 30%. If you have questions about the ITC or whether a loan is tax deductible, speak to a Certified Public Accountant (CPA) for tax advice. If you own your solar system, you may include the system in the house sale just like any other major home component.

Lease

With a lease, the solar company owns the system on your property and “rents” it to you for a set period of time. In this scenario, a contractor will install the solar system on your home at little or no cost, and you will make scheduled monthly payments in exchange for all the electricity the system produces. A typical lease is 15-25 years. If you sell your house before the lease is up, you will have to buy out the lease from the solar provider or transfer the lease to the new property owner. Make sure you understand the specific contract terms.

Monthly payments will typically increase every year based on an “escalation clause” or “escalator.” It’s very important to make sure the escalator in your contract is reasonable, typically in the range of 1 to 3%. See the next section on Electric Bill Savings Estimates for more information. There are also different ways to arrange a lease, such as paying more upfront to reduce your monthly payments.

Power Purchase Agreement

In a Power Purchase Agreement, a solar company owns and installs a solar system on your home at little or no cost and sells you the electricity it generates. Power Purchase Agreements are similar to solar leases, except that instead of making a fixed monthly payment for the system, you pay a fixed per-kilowatt-hour (kWh) rate, which should be competitive with your utility rate. If you sell your house before the Power Purchase Agreement contract term ends, you will have to buy out the Power Purchase Agreement from the solar provider or transfer the Power Purchase Agreement to the new property owner. Make sure you understand the specific contract terms.

If you decide on a Power Purchase Agreement, you will enter into a long-term contract with a solar provider. The contract will specify the kWh rate you will pay in the first year and every year going forward. Rates per kWh typically increase over time based on an “escalation clause” or “escalator.” It’s very important to make sure the escalator in your contract is reasonable, typically in the range of 1 to 3%. See the next section on Electric Bill Savings Estimates on p. X for more information.

PACE (Property Assessed Clean Energy)

PACE is a financing option that is available in some areas of California. In a PACE financing arrangement, a PACE program financier lends you money to cover the upfront costs of a solar system, which you then pay back through an assessment on your property tax bill. PACE financing lasts for a fixed term, typically around 10-20 years. If you sell your property before you have paid off the PACE loan, the remainder of the loan is likely to transfer to the new owner since PACE financing is attached to the property.

Unlike solar leases and Power Purchase Agreements that require monthly payments, PACE loan payments are typically due once or twice a year. Given this unique arrangement, it’s important to understand how much you will owe and when, so that you can set aside money throughout the year to cover the amount. If your home is mortgaged and you typically pay your taxes with an escrow or impound account, your mortgage company may be involved in handling these payments. Solar companies are required by law to provide you a PACE-specific disclosure form with key information about the financing arrangement, which can be found *here*.

Financing Options: Pros & Cons

Solar Financing Options	Pros	Cons
Purchase with solar loan	<ul style="list-style-type: none"> • Typically greater return on investment • May increase value of home • You can directly receive tax credits and deductions 	<ul style="list-style-type: none"> • You are responsible for repairs and maintenance, which may involve contacting different manufacturers • You take on risk of any production shortfalls unless a guarantee is offered by contractor/manufacturer
Lease and Power Purchase Agreement	<ul style="list-style-type: none"> • Little or no upfront costs • Typically solar provider is responsible for all monitoring, maintenance and repairs • Minimum energy production often guaranteed 	<ul style="list-style-type: none"> • Selling home is more complicated than straight purchase approach, since new owner must agree to take on the lease/agreement or you must buy out the lease/agreement
PACE	<ul style="list-style-type: none"> • Little or no upfront costs • Available to homeowners in eligible cities and counties who do not have access to good loan options 	<ul style="list-style-type: none"> • If you do not pay on time, you risk a PACE lien on your property • You are responsible for repairs and maintenance, which may involve contacting different manufacturers

Electric Bill Savings Estimates—What You Need to Know

1) A solar salesperson must present you with a bill savings estimate based on standardized inputs.

- According to California law, a solar company must present you with an electric bill savings estimate based on inputs determined by the California Public Utilities Commission.
- This standardized savings estimate will be included in your Solar Energy System Disclosure Document—don't hesitate to ask a solar salesperson to walk you through it.
- See *here* to look at the Solar Energy System Disclosure Document form, and see page X to learn more about this document.

[this section is a placeholder until AB 1070 is implemented and supporting information for the Solar Energy System Disclosure Document is produced at the CSLB's discretion pursuant to sub paragraph (c) of Business and Professions Code section 7169].

2) For leases and Power Purchase Agreements, watch out for unreasonable “escalators” and balloon payments.

- Even though a solar provider must present you with a standardized electric bill savings estimate, they may also choose to show you an estimate based on their own data.
 - If you are considering signing a lease or power purchase agreement, you should watch out for unreasonable “escalators” in these estimates. An escalator means that your monthly lease or Power Purchase Agreement payments will go up every year to account for inflation and electric utility rate increases.
 - According to data from the U.S. Energy Information Administration, California residential electricity prices have increased 2.5% a year on average over the past 10 years. If a solar company is assuming that utility electricity prices will increase by significantly more than that, your savings estimate could be inflated.
 - Be cautious of entering into leases or Power Purchase Agreements with escalators higher than 3%.
- Check for hidden fees, like balloon payments or early termination fees, that could considerably reduce your overall savings. A balloon payment is when you must make a large one-time payment if you move and the new owner doesn't take on the lease or Power Purchase Agreement. Be aware of these types of fees in the contract and ask the solar contractor how you can reduce your risk.

3) Bill savings estimates are not a guarantee.

- There are many uncertain factors that go into a bill savings estimate. These factors include the estimated production of the solar system (based on the system size, shading of your roof, etc.), your forecast electricity use, and future utility rates. A bill savings estimate does not guarantee that you will save any exact amount, unless a company commits to it in writing.
- Before signing a contract, ask yourself: if the savings end up being slightly lower each month or year, does this investment still make sense to me?

Net Energy Metering: Explained.

Net Energy Metering (NEM) is a special billing arrangement with your utility that allows you to receive a financial credit on your electric bill when your rooftop solar system sends electricity back to the grid. Simply put, NEM is how you can save money by going solar.

How NEM Works

When the sun is shining, your solar system powers any electricity needs at your house (for example, powering your lights or dishwasher). If there is excess energy leftover, it flows out onto the grid, and you receive a credit on your electricity bill in return. Usually this credit is approximately equal to the retail rate of energy, which means you are credited on your bill about the same amount that it costs you to buy electricity from your utility.

NEM and Your Electric Bill

Overview

Since the sun isn't always shining, solar customers will sometimes need to rely on energy from their utility. After your solar system is interconnected to the grid, your monthly electric bill will summarize how much energy you received or "consumed" from the utility, and how much your solar system sent back or "exported."

If you export more than you consume in any given month, you will get a credit on your bill. If you consume more than you export, you will see a charge. Usually, consumption charges are not due until the end of a 12-month period, and you will be able to carry forward any export credits to the next month. Some utilities require solar customers to pay a monthly minimum bill each month, around \$10, just like the other utility customers.

Since you will not receive bill credits until after your system is interconnected, make sure you talk to your solar provider about how long the interconnection process is expected to take. Depending upon your utility, it could take weeks or more between installation and interconnection.

PG&E, SCE, and SDG&E customers are required to go on a time-of-use rate plan to be eligible for NEM. Under a time-of-use plan, electricity prices change depending on the hour of the day. Each utility has a few time-of-use rate options. Talk with your solar provider about these options. PG&E, SCE, and SDG&E customers are guaranteed NEM for 20 years from the time their solar system starts operating.

12 Month "True Up" Bill

At the end of a 12-month period, you will receive a final bill, often called a "True Up" bill. Even though going solar can significantly reduce your electric costs over time, most customers still owe some money to their utility at the end of the 12 months. If your utility gives you the option to pay your bills monthly instead of annually, it's recommended that you choose this option. That way, you won't have to worry about paying for one potentially large bill at the end of the year.

Though it's rare, if you end up with an overall credit at the end of the 12-month period, you are eligible to be paid at the wholesale rate of energy. Because this rate is low, it is generally not in your interest to oversize your solar system.

Getting Credit For Going Green: Renewable Energy Certificates (RECs)

When a rooftop solar system produces electricity, the system is assigned Renewable Energy Certificates, or "RECs," which are certificates that represent the renewable energy that is generated. If you purchase a solar system, you will own these RECs, and therefore you can make the claim that you're avoiding emissions of greenhouse gases by going solar. However, if you enter a lease or PPA, the contract may state that the solar company or lender owns the RECs, and you therefore cannot claim the environmental benefit. If owning the RECs is important to you, ask your solar company who will own the RECs, and check the contract fine print.

Combining Solar With Storage and Electric Vehicles

Storage

When you install battery storage with your solar panel 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 backup power.

The Self-Generation Incentive Program (SGIP) provides financial incentives to install storage. See *here* for details on the SGIP program and EnergySage's website *here* for more guidance on investing in battery storage.

Electric Vehicles

Electric vehicles allow you to plug in your car to the grid and power your car through electricity instead of gasoline. It can be advantageous to install an electric vehicle charger at your home when installing solar because both are projects that require electrical planning, permitting, and installation. There are federal and state incentives available for electric vehicles: see *here*. The nonprofit organization Grid Alternatives also launched an electric vehicle program that provides grants to qualifying low-income households. See *here* for more info.

TIP:

- *When it comes to solar technology, there are often new products coming on the market, like frameless panels, solar roof tiles, and panels with even higher efficiency ratings. To decide whether to invest in the latest product, it's a good idea to weigh the costs and benefits and compare bids that use different technologies. For example, more efficient panels may cost more up front, but often take up less roof space, which could allow you to expand the system if you buy an electric vehicle later.*

Additional Resources

General Solar Guides

- EnergySage main landing page link
- Solar Energy Industries Association (SEIA) *Residential Consumer Guide to Solar Power* link
- Interstate Renewable Energy Council (IREC) consumer checklist link

Guides to Help You Select a Solar Contractor

- EnergySage “How to Choose A Solar Installer” page link
- Clean Energy States Alliance (CESA)/George Washington University (GW) video link 

Contractors State License Board (CSLB) Resources:

- “Check a License” tool to confirm status of a contractor’s license
- CSLB Solar Energy System Disclosure Document
- CSLB Solar Energy System Disclosure Document for PACE Financing
- CSLB “Solar Smart” link

Solar Financing Guides

- EnergySage Solar Financing Options page link
- CESA Homeowner’s Guide to Solar Financing in English
- CESA Homeowner’s Guide to Solar Financing in Spanish
- CESA/GW video Financing 101 

 means available in video format

Net Energy Metering (NEM) Resources

- CPUC NEM website link
- PG&E NEM link + NEM sample bill link
- SCE NEM link + NEM sample bill link
- SDG&E NEM link + NEM sample bill link

Utility Solar Program Resources:

- PG&E: Phone # PG&E Solar Call Center
PG&E’s Guide to Going Solar link
Solar program link
Solar checklist link
- SCE: Phone # SCE Solar Call Center
Solar program link
SCE solar videos 
- SDG&E: Phone # SDG&E Solar Call Center
Solar program link
SDG&E Let’s Go Solar...Together Guide link

If another utility supplies you with electricity, please see their website for details on solar programs.

Making Your Home Energy Efficient

- Energy Upgrade California link

Department of Business Oversight (DBO) Resources

[placeholder for DBO PACE guides when available]