

San Diego Solar Equity Program (SDSEP)

Program Handbook

Version 4 (Effective October 7, 2024)

October 7, 2024



Center for
Sustainable
Energy®

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What's New – San Diego Solar Equity Program

San Diego Solar Equity Program (SDSEP) Handbook Version 4 (V.4) is effective starting October 7, 2024. SDSEP Handbook V.4 has been updated to reflect the following changes:

- Additional information on the outcome of Year 1 and 2.
 - Refer to Section 1.1 Background
- Updated general customer eligibility requirements to include additional targeted residents based on changing City of San Diego priorities and the introduction of a two-phased roll-out of eligibility requirements in Year 3.
 - Refer to Section 2.1.2 Geographic Location
 - Refer to new Section 2.2 Customer Eligibility Requirements – Phased
- Year 3 program condensed Year 2 program's three-phase approach to a two-phase approach, with Phase 1 running from September 16, 2024, to March 16, 2025, and Phase 2 from March 17, 2025, to June 30, 2025. Eligibility for Phase 1 includes both prioritizing low-income households from Community of Concern as well as flood victims from the January 2024 San Diego floods.
 - Refer to new Section 2.2 Customer Eligibility Requirements – Phased
- Updated Solar Contractor project cap, increasing the limit to 8 projects per contractor.
 - Refer to Section 2.3 Solar Contractor Project Cap

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Glossary

Area Median Income (AMI)	The median or “middle” total household income for a given area. It is dependent on the location and household size, and it changes annually.
Communities of Concern	Per the San Diego Climate Equity Index , a Community of Concern is a census tract with Very Low, Low, or Moderate Access to Opportunity based on a combination of environmental metrics.
Host Customer	Host customer is the homeowner who will be receiving the solar PV installation
Incentive Claim Stage	The second step in the program after the solar PV is installed and receives permission to operate from SDG&E®. The Solar Contractor submits an Incentive Claim Form and supporting documentation to confirm completion of the project per program requirements and receive the incentive payment.
Kilowatt (kW)	Unit of measurement for power
Kilowatt-Hours (kWh)	Unit of measurement for energy (power applied over time)
Prevailing Wage	Prevailing wages are set by the Department of Industrial Relations, in conjunction with labor collective bargaining agreements, and are determined by job classification.
Photovoltaic (PV) Panel	This is the technical term for solar panels. Photovoltaics generate electricity from light.
Reservation Request Stage	The first step in the program where the Solar Contractor helps the Host Customer apply online, submit supporting documentation and reserve an incentive through SDSEP.
Single-Family Home	Detached, stand-alone homes as well as duplex, triplex and quadplex buildings. This also includes mobile and manufactured homes.
Solar Contractor	The solar or electric company who will be installing the solar PV system for the Host Customer

1 Introduction: San Diego Solar Equity Program (SDSEP)

This Program Handbook describes the requirements and necessary steps to receive the solar incentive for qualifying photovoltaic (PV) systems through the San Diego Solar Equity Program (SDSEP). This handbook will be updated and version-marked throughout the lifetime of the program to accurately reflect current program requirements.

1.1 Background

In July 2021, the City of San Diego and San Diego Gas & Electric® (SDG&E®) developed a new franchise agreement. As part of the Energy Cooperation Agreement (ECA) within this contract, SDG&E committed a total of \$10 million shareholder funds, \$1 million annually over 10 years, to provide monetary assistance to income-qualifying City of San Diego residential customers to install solar PV panels on their homes. These funds finance the San Diego Solar Equity Program (SDSEP), which is designed and administered by the Center for Sustainable Energy (CSE), the Program Administrator (PA). Up to 10% of the \$1 million per year is allocated to program administration and the remaining \$900,000 is reserved for customer incentives.

Program Overview

In Year 1 of the program, which ran from September 27, 2022, to June 30, 2023, there were 39 applications that met the program's eligibility requirements, resulting in about \$840,000 in incentive reservations. The remaining \$60,370 in incentive funds from Year 1 were rolled into the available incentive funding for Year 2, resulting in a total of \$960,370 available in funding for Year 2. SDSEP opened to applications under the Year 2 program design on August 1, 2023. SDSEP provided income-qualifying, residential SDG&E customers located in the City of San Diego in Communities of Concern with a financial incentive to cover most, if not all, of the cost to install a PV system on their homes.

In Year 2, the program's eligibility requirements were rolled out in three phases to first prioritize customers within Communities of Concern and with lower total household incomes. The financial incentive was set at \$4 per watt for up to 6.5 kilowatt (kW) systems. The incentive process involved two steps: 1) Reservation Request and 2) Incentive Claim. The incentive was paid once the system was installed and had received Permission to Operate (PTO) from SDG&E.

Year 3 Program Updates

As the program transitions into Year 3, several important changes will be implemented to enhance the program's efficiency and reach. The previous three-phase approach will be condensed into a two-phase approach:

- **Phase 1:** This phase will run for six months, from October 7, 2024, to April 7, 2025. Eligibility for Phase 1 will focus on residents with a total household income less than 80% of the Area Median Income (AMI) and located within a Community of Concern in the City of San Diego, or with a total household income less than 120% of AMI and located within neighborhoods impacted by the January 2024 flooding in the city.
- **Phase 2:** This phase will be three months long, from April 8, 2025, to June 30, 2025. Eligibility for Phase 2 will include residents with a total household income less than 120% of AMI who reside within the City of San Diego.

Additionally, Year 3 will prioritize flood victims from the January 2024 San Diego flood, ensuring they have greater access to the program's benefits. To further support the program's goals, the Solar Contractor project cap will be raised to 8 projects per contractor, encouraging more widespread participation and quicker installation timelines.

To qualify for an incentive, the Host Customer/Homeowner, Solar Contractor, and PV equipment must satisfy eligibility requirements outlined in this document.

2 Program Eligibility Requirements

2.1 Customer Eligibility Requirements

2.1.1 Income

SDSEP is an income-qualifying incentive program. To be eligible, the applying Host Customer/Homeowner must have a total household¹ income of 120% or less of the San Diego

¹ Household as defined by the US Census (see definition at [census.gov](https://www.census.gov))

County Area Median Income (AMI) for the application year². The total household income must meet this requirement for at least the 12 months preceding the date of application. There are no target allocations based on household income, if the total household income meets the requirement of being less than 120% AMI.

Household income is subject to verification and the Host Customer/Homeowner is required to provide supporting documentation. Proof of enrollment in the California Alternate Rates for Energy (CARE) Program, the Family Electric Rate Assistance (FERA) Program, the Energy Savings Assistance (ESA) Program, the Low-Income Home Energy Assistance Program (LIHEAP), the Department of Energy Weatherization Assistance Program (DOEWAP), the Housing Repair Loans and Grants Program, or other income-qualified programs may be accepted in lieu of household income verification.

2.1.2 Geographic Location

To qualify for the program, the Host Customer must reside in the City of San Diego. Additionally, there are geographic requirements for Phase 1 of the program which require Host Customers to be located in a census tract that is a Community of Concern per the City of San Diego's Climate Equity Index (CEI) or a neighborhood identified as being within zip codes impacted by the January 2024 floods. Communities of Concern are census tracts that have very low-, low-, or moderate access to opportunity because they face the largest environmental, socioeconomic, mobility, and health equity barriers. Flood impacted neighborhoods are determined by zip codes provided by the City of San Diego which maps the flood affected areas within the City of San Diego. Refer to Section 2.2 below for more details around the customer eligibility phases.

2.1.3 Property Type

Host Customers must be single-family homeowners. The program defines "single-family" as not only owner-occupied, stand-alone homes, but also owner-occupied duplex, triplex and quadplex buildings. The allowable system size is scaled to accommodate these home configurations, and this is described in further detail in Section 2.4.4 Maximum Allowable System Size below. Additionally, mobile and manufactured homes are eligible for the program if their roofs can support a permanent solar installation.

² San Diego County Area Median Income (AMI) and Income Limits are available at <https://www.sandiegocounty.gov/sdhcd/rental-assistance/income-limits-ami/>

2.1.4 No Existing Solar PV Systems

Eligible properties cannot have an existing solar PV system. SDSEP applies only to Host Customers who are installing entirely new solar PV systems, not adding to or replacing an existing system.

2.2 Customer Eligibility Requirements – Phased

	Phase 1	Phase 2
Length	<i>6 months</i> <i>(October 7, 2024 to April 7, 2025)</i>	<i>3 months</i> <i>(April 8, 2025 to June 30, 2025)</i>
Eligibility	Total household income less than 80% AMI AND located in a Community of Concern OR Total household income less than 120% AMI AND located within neighborhoods impacted by the January 2024 flooding (zip codes 92102, 92113, 92114)	Total household income less than 120% AMI

2.2.1 Phase 1 – Communities of Concern <80% AMI or Flood Impacted Neighborhoods <120% AMI: This phase will run for six months, from October 7, 2024, to April 7, 2025. Eligibility for Phase 1 will focus on residents with a total household income less than 80% of the Area Median Income (AMI) and located within a Community of Concern in the City of San Diego, or with a total household income less than 120% of AMI and located within neighborhoods impacted by the January 2024 flooding in the city (zip codes 92102, 92113, 92114).

2.2.2 Phase 2 – City of San Diego Residents with Income <120% AMI: This phase will be three months long, from April 8, 2025, to June 30, 2025. Eligibility for Phase 2 will include residents with a total household income less than 120% of AMI who reside within the City of San Diego.

If a Host Customer/Homeowner applies but is not eligible to participate until a later phase, their application will be cancelled, and they will be notified to reapply when the phase for which they qualify opens to applications. There will be no funding set aside between phases.

2.3 Solar Contractor Eligibility Requirements

2.3.1 Participation in Solar Contractor Workshop

To install solar PV systems under SDSEP, Solar Contractors must be listed on the Eligible Solar Contractor List. Interested Solar Contractors are added to the Eligible Solar Contractor List by initially attending a mandatory Solar Contractor Workshop, hosted by the PA and submitting a Solar Contractor Intake Form at the end of this workshop. Solar Contractor Workshops will be

held annually to reflect program updates and changes. Participating Solar Contractors must attend the Solar Contractor Workshop each year to remain on the Eligible Solar Contractor List. Inclusion on the Eligible Solar Contractor List means that the solar contractor has met the minimum requirements necessary to participate in the program. The PA in no way endorses or guarantees any solar contractor or their work.

2.3.2 Solar Contractor Project Caps

Solar Contractors are permitted to complete eight projects through SDSEP annually, and no more than eight applications should be submitted at a time. If one or more of the initial eight applications is not approved at the Reservation Request stage, the Solar Contractor can submit alternate applications with new Host Customers. Depending on the program uptake during Phase 1 and subject to funding availability, additional projects may be allocated to participating Solar Contractors in Phase 2 upon consultation with the City of San Diego and SDG&E.

2.3.3 Certified Solar Contractor

Participating Solar Contractors must be certified to install solar systems per the California Contractors State Licensing Board (CSLB). This includes active licenses A, B, C-10, or C-46.

2.3.4 Prevailing Wage

Participating Solar Contractors are required to pay prevailing wage, as defined by the California Department of Industrial Relations (DIR), to all staff working on the project. At the Reservation Request stage, the Solar Contractor is required to submit a signed attestation committing to pay prevailing wage. Additionally, for the first project the Solar Contractor applies for incentives through the SDSEP, the Solar Contractor will be required to participate in a pre-construction meeting with a prevailing wage consultant. This pre-construction is required to occur during the documentation collection period before the reservation can be reserved. In the pre-construction meeting, the consultant and the Solar Contractor will review prevailing wage requirements, including how to determine rates for different labor categories and how to track certified payroll. This is a one-time requirement for the first application a Solar Contractor submits before it is approved for the Reservation Request stage, but the PA reserves the right to audit as needed to enforce compliance with this requirement. Failure to comply with the prevailing wage requirements will result in removal from the Eligible Solar Contractor List.

2.3.5 Commitment to Energy Efficiency Education

Participating Solar Contractors must discuss energy efficiency with the customer during the initial consultation phase. No energy efficiency upgrade or action is required by the customer, but the Solar Contractor must ensure the Host Customer has a basic understanding of energy efficiency including their current energy needs and the future energy needs their solar PV system will need.

to support. The PA provides an [energy efficiency education handout](#) on the [Resources](#) page of the program website that can be used to help meet this requirement.

2.3.6 Job Training

Solar Contractors are not required to provide job training to be eligible for this program; however, it is highly encouraged and incentivized. Providing job training is a value added to the available incentive per project up to the cap of the system cost. This is discussed in further detail in the Incentives section below (Additional Incentives – Job Training).

2.4 Solar Generating Equipment Eligibility Requirements

The only technology eligible for SDSEP is solar PV systems. Below are the specific equipment eligibility requirements for the program.

2.4.1 New Equipment

All major system components must be new and must not have been previously placed in service in any other location or for any other application.

2.4.2 California Energy Commission Approved Equipment List

The major system components, PV modules, inverters and meters must be listed on the California Energy Commission's [Solar Equipment Lists](#). The Solar Equipment Lists include equipment that meet national safety and performance standards and are updated regularly.

Components purchased for a system must be eligible at the time the SDSEP application is submitted by the Solar Contractor. The PA will review the Reservation Request Form and all supporting documentation to ensure the equipment identified meets eligibility requirements prior to approval. If the Solar Contractor begins or completes the installation before receiving the Reservation Approval Notice, significant and costly changes may be needed for the system to comply with the eligibility criteria.

2.4.3 System Ownership

Qualifying solar PV systems must be Host Customer Owned (HCO) systems. Third Party-Ownership is not eligible for program incentives at this time.

2.4.4 Maximum Allowable System Size

SDSEP provides incentives for eligible solar PV systems up to 6.5 kW for detached, single-family homes, mobile homes, and manufactured homes. Duplexes are eligible for up to 12 kW total, triplexes are eligible for up to 17 kW and quadplexes are eligible for up to 23 kW. The solar PV system size that will be incentivized is measured using the Expected Performance Based Buy Down (EPBB) [Calculator](#). The incentive is calculated based on the California Solar Initiative

Alternating Current (AC) System size. The Solar Contractor must enter the proposed system in the EPBB calculator to determine this system size. It is calculated by multiplying the California Energy Commission (CEC) AC system size by the design factor, determined by the location, tilt and azimuth of the system. The Solar Contractor is required to submit a PDF of the EPBB calculator as supporting documentation with the Reservation Request Form during the Reservation Request stage.

2.4.5 System Installation

All systems must be installed by a SDSEP eligible Solar Contractor. In all cases, system installations must conform to the manufacturer's specifications with all applicable electrical and building codes and with appropriate electrical standards.

2.4.6 System Performance Meter

All systems must be installed with a performance meter so the Host Customer can determine the amount of energy produced by the system. The meter must measure the total energy produced by the system in kilowatt-hours (or watt hours), must retain the kilowatt-hour production data in the event of a power outage, and must provide a display of system output that the customer can easily understand. A system need not include a separate meter if the system is installed with an inverter that contains internal metering and display equipment that meets the meter requirements above.

For duplexes, triplexes, and quadplexes, if the units are individually metered, the system will either need to be installed under the Virtual Net Energy Metering (VNEM) tariff or installed as separate systems and tied to each meter through standard NEM, to ensure the owner and any tenants all benefit from the solar system equally.

2.4.7 Grid Interconnection and Permanency

Eligible solar PV systems must be permanently interconnected to the electrical distribution grid of SDG&E®. Systems installed under SDSEP are intended to be in place for the duration of the system's useful life; therefore, only physically permanent systems are eligible for incentives. Portable systems are not eligible. Physical permanence is demonstrated by attachment to a permanent surface with no indication of portability, including, but not limited to, quick disconnects or unsecured equipment.

The system interconnection must comply with applicable electrical codes and the interconnection requirements of SDG&E. Prior to submitting an Incentive Claim Form for payment, SDG&E must approve the system interconnection and provide Permission to Operate (PTO).

2.4.8 Warranty Requirements

Equipment incentivized and installed through SDSEP must come with the following minimum warranties:

- 10-year warranty for string inverters
- 20-year warranty for microinverters
- 20-year warranty for modules
- 10-year workmanship

All systems must have minimum warranties as listed above to protect the Host Customer against system or component breakdown. The warranties must cover and provide for no-cost repair or replacement of the system or any defective components, including any associated labor. The warranties must also cover the solar PV modules and inverters against breakdown or degradation of electrical output by more than ten percent from their originally rated electrical output during the warranty period.

A minimum 10-year workmanship warranty to provide for no-cost repair and replacement of the system for any expenses not otherwise covered by the manufacturer is also required.

The PA will verify warranty requirements via review of the installation contract submitted during the Reservation Request stage.

2.4.9 Field Inspections

The PA will review applications it receives to verify the information provided in the application is accurate. The PA may also conduct field inspections during the Incentive Claim stage to verify systems are operating properly and installed as specified in the Reservation Request stage. All solar PV systems shall be permitted, inspected, and approved by the local city or county authority having jurisdiction.

3 Incentives

3.1 Solar Incentive Offered

Technology Type	Size Category	Incentive Offered
Photovoltaics	Up to 6.5 kW	\$4.00 per Watt

The maximum allowable solar incentive will be calculated using the following formula:

California Solar Incentive AC System Size = CEC-AC rating x Design Factor x Incentive Rate

For example, the California Solar Incentive AC System Size for a PV system with a CEC-AC rating of 6,000 W (6 kW) and a 94% design factor would be calculated as follows:

$$6,000 \text{ W} \times 0.94 = 5,640 \text{ W}$$

SDSEP incentive would be calculated as follows:

$$5,650 \text{ W} \times \$4.00/\text{W} = \$22,560$$

Note that under no circumstance will the incentive from SDSEP exceed the net purchase price of the system as submitted and approved in the Reservation Request stage.

3.2 Eligible Solar Installation Costs

The following costs may be included in the total eligible project cost:

- Solar equipment capital costs
- Engineering and design costs for the solar energy system
- Construction and installation costs
 - For projects in which the generation equipment is part of a larger project, only the construction and installation costs directly associated with the installation of the energy generating equipment are eligible.
- All interconnection costs (if applicable), including:
 - Electric grid interconnection application deposits
 - Metering costs associated with interconnection
- Building permitting costs
- Warranty and/or maintenance contract costs associated with eligible project cost equipment (including any prepaid or extended warranties)
- Sales and use tax
- Performance Monitoring and Reporting Service (PMRS) equipment and/or services
- Certain mounting surface costs
 - Costs may include mounting surfaces for the PV modules and/or materials that provide the primary support for the PV modules. Only the percentage of mounting surface directly under the solar PV modules is eligible.

3.2.1 Additional Eligible Costs

- Electrical panel upgrades, as needed to support PV installation on the home.

3.3 Incentive Determination

3.3.1 Available Funds

Incentives will be provided on a first-come, first-serve basis until the available incentive funding per year is depleted. At the current incentive rate of \$4/Watt, assuming the average sized system is 5 kW, based on participation in Year 1, SDSEP can provide incentives for about 35 to 45 PV systems annually depending on the uptake of electric panel upgrade and job training adder incentives.

3.3.2 Incentive Rate Per Watt

The incentive is a flat rate of \$4/Watt California Solar Incentive AC. This rate is intended to cover 100% of the system cost and may be adjusted in future iterations based on the industry average cost for installing solar PV systems.

3.3.3 Additional Incentives – Panel Upgrades

The Host Customer can apply for up to \$3,500 additional funding to cover the costs associated with upgrading electrical panels, as necessary, to allow for the installation of a solar PV system at their residence.

3.3.4 Additional Incentives – Job Training

If the participating Solar Contractor provides 40 hours of paid job training time to at least one trainee, they are eligible to apply for up to \$1,000 additional incentive up to the cap of the system cost. Eligible training hours do not need to be solely spent on the specific program project and can be across the Solar Contractor's other non-SDSEP projects.

4 Application Process

4.1 Overview

To start the process to reserve incentive funds, the Solar Contractor must have completed an initial site walk at the Host Customer's residence and must have a contract with the Host Customer. On behalf of the Host Customer, the Solar Contractor submits an Incentive Application Intake Form through the SDSEP website. This web-based form generates a pre-populated Reservation Request Form which is attached to the submission confirmation email. If a Host Customer/Homeowner applies but is not eligible to participate until a later phase, their application will be cancelled, and they will be notified to reapply when the phase for which they qualify opens to applications.

The PA will contact the Solar Contractor and Host Customer within three (3) business days of receipt of the Incentive Application Intake Form with a secure Box link for document submission and next step instructions. The Solar Contractor and Host Customer must review, sign, and submit the Reservation Request Form along with supporting documents to the PA via the Box link.

Once the application and all supporting documents are reviewed and approved by the PA, a Reservation Approval Notice will be provided by email to the Solar Contractor and Host Customer that identifies the amount of funds reserved. Please note, the funding is not reserved until the PA sends the Reservation Approval Notice email. The Solar Contractor then has 12 months to install an eligible system, receive PTO from SDG&E®, and submit the Incentive Claim Form and supporting documentation.

Once SDG&E has issued an interconnection approval and the system is operational, the Solar Contractor submits the Incentive Claim Form with supporting documentation. After the PA determines the final system is eligible, the incentive payment will be sent out to the Payee listed on the Incentive Claim Form.

Details about required documents and timelines for each step of the application process are defined in greater detail in the sections below.

4.2 Reservation Request

Funding is reserved for Host Customers who have a signed contract with an eligible SDSEP Solar Contractor and are committed to purchase and install an eligible PV system. A Reservation Approval Notice provides the Host Customer with assurance the reserved funds will be available when the claim is made. Reservation Approvals are made only for completed applications on a first-come, first-serve basis. Incomplete applications will not be processed until all required documentation is provided. The reservation period is for 12 months. No payment will be made unless the installed system meets all applicable SDSEP requirements, even if funds are reserved.

4.2.1 Reserving an Incentive

The first step in the incentive reservation process is to complete the web-based Incentive Application Intake Form on the SDSEP website. This form is typically completed by the Solar Contractor on behalf of the Host Customer. At this step, a signed contract between the Solar Contractor and Host Customer is required, as well as a print-out or PDF of the EPBB calculator used to determine the system size. After completing and submitting the Incentive Application Intake Form, the Host Customer and the Solar Contractor will receive an auto-generated email with a pre-populated Reservation Request Form.

Within three (3) business days of submission, the PA will email the Host Customer and Solar Contractor a unique Box link and Reservation Request Checklist listing the documents required to complete the Reservation Request. The Host Customer and Solar Contractor must submit a signed Reservation Request Form and provide all the supporting documentation within 15 calendar days. The reservation process will be delayed if incomplete and/or incorrect information is received. If incorrect documents or documents are missing after the PA reviews the application, the Solar Contractor and Host Customer will have an additional 15 calendar days upon notice of the incomplete or missing documents to resolve the issue. If the issue is not resolved in this time frame, the application may be cancelled.

The Reservation Request will be approved based on the date it is deemed complete and not the date it was first submitted. Funds are not reserved until the Host Customer and the Solar Contractor receive the Reservation Approval Notice email from the PA. Upon reservation of the incentive, the project has 12 months to complete installation of the solar PV system. Requests for an extension will be reviewed on a case-by-case basis and extensions are not guaranteed.

The following documents are required at the Reservation Request stage and those with asterisks are required at submission of the Incentive Application Intake Form:

- Reservation Request Form with Signatures
 - Including signed Terms and Conditions
- Terms and Conditions with Signatures
- Installation Contract*
- Print out of Expected Performance Based Buydown (EPBB) Calculator*, including:
 - Module quantity and model numbers
 - Inverter quantity and model numbers
 - Design parameters
 - California Solar Initiative AC System Size (to calculate the incentive)
- Income Verification
- Letter of Authorization
 - To allow the PA to collect 12 months of utility data from SDG&E®
- Prevailing Wage Attestation

Duplex, triplex, and quadplex applications are treated the same as typical detached home applications. The Host Customer is the homeowner, and their information will be used to verify income eligibility. However, if the duplex, triplex or quadplex is individually metered, the Host Customer will need to submit a signed Letter of Authorization for their unit and a signed Letter of Authorization for each tenant so the PA can verify energy usage for the full building.

4.2.2 Supporting Documents

4.2.2.1 Reservation Request Form with Signatures

After the Incentive Application Intake Form is submitted, a pre-populated Reservation Request Form will be emailed to the Host Customer and Solar Contractor. All sections must be completed, and the Host Customer and Solar Contractor are required to sign the Reservation Request Form.

The following information is included:

- Host Customer Contact Information
- Secondary Contact Information (if desired)
- Host Customer Eligibility Information
- Solar Contractor Information
- Solar PV Equipment Information
- Incentive Amounts
- Signatures of Host Customer and Solar Contractor³

A blank copy of the Reservation Request Form is available on the Resources page of the program website. Applications must be submitted through the web-based Incentive Application Intake Form on the program website; however, the blank Reservation Request Form can be used by the Solar Contractor as needed to collect information from the Host Customer.

4.2.2.2 Installation Contract

At the time of submitting the Incentive Application Intake Form, the Solar Contractor must attach a copy of the system or equipment purchase agreement(s) or installation contract(s) between the Host Customer and Solar Contractor. This may include one contract where the equipment and installation are provided by the same company or two or more contracts for separate purchase(s) of equipment and a contract for labor. All installation contracts must comply with the Contractors State License Board (CSLB) requirements. The equipment purchase agreement(s) and installation contracts must constitute signed agreement(s) to proceed with the

³ In addition to submitting a signed copy of the Reservation Request Form, the Host Customer and Solar Contractor will need to submit a signed copy of the program Terms and Conditions. The Terms and Conditions are referenced in the Reservation Request Form and require the Host Customer and Solar Contractor to 1) confirm that they have read and understand the program requirements and 2) that all provided information is true to the best of their knowledge.

purchase and installation of the specified system, including identification and signatures of the buyer and seller. The agreement(s) must clearly identify or state the following:

- The quantity, make, and model number as shown on the CEC's lists of eligible equipment for PV modules, inverters, and system performance meters
- The physical address of the location where the equipment is to be installed; and
- The payment terms, the total cost of the system to be installed, the expected incentive amount from SDESP, and any other limited conditions of sale.

To reduce concerns with signing a contract before an incentive is approved, the agreement(s)/contract(s) may include a statement indicating the agreement is conditional upon receiving the expected incentive reservation approval.

All systems must come with a 10-year warranty for string inverters, a 20-year warranty for microinverters, and a 20-year warranty for modules to be eligible to receive incentives through SDSEP, and these warranties should be reflected in the contract.

4.2.2.3 Print out of Expected Performance Based Buydown (EPBB) Calculator

The EPBB calculator should be used to calculate the system size that will be used to calculate the solar incentive, factoring in the design factor based on system azimuth, tilt and location. The printout of the EPBB calculator is required at the Incentive Application Intake Form submission.

Appendix 1 – Expected Performance Based Buydown (EPBB Calculator) includes an example of the EPBB calculator print-out.

4.2.2.4 Income Verification

The Host Customer is required to provide documentation confirming that the household size and total household income listed on the Incentive Application Intake Form is accurate. The Host Customer must fill out a Household Income Summary Form that includes the total household size and a list of all household members 18 years or older. The Host Customer must submit the most recent Form 1040 (Individual Income Tax Return) for each adult household member (18 years old and older). If a Form 1040 is not available, the Host Customer should submit the most recent W-2 Form (Wage and Tax Statement) for that individual. If a W2 is not available, the Host Customer must submit twelve (12) months of pay stubs for that individual.

If the applicant is participating in one or more other income-qualified programs, including but not limited to California Alternate Rates for Energy (CARE), Family Electric Rate Assistance Program (FERA), Energy Savings Assistance (ESA), Low Income Home Energy Assistance Program

(LIHEAP), and Department of Energy Weatherization Assistance Program (DOEWAP), the applicant may submit proof of participating in lieu of income verification.

4.2.2.5 Letter of Authorization

The Letter of Authorization gives the PA permission to collect utility information from SDG&E® on the customer's behalf. This data will only be used to verify the proper sizing of the solar system. The form is on the SDG&E website and a copy is included in Appendix 2 – Letter of Authorization for reference.

4.2.2.6 Prevailing Wage Attestation

As outlined in the Program Eligibility Requirements section above, participating Solar Contractors are required to pay prevailing wage on the project in accordance with California Law. At the Reservation Request stage, the Solar Contractor must sign an attestation confirming understanding of the prevailing wage requirements and that the PA reserves the right to audit as needed.

4.3 Incentive Claim

4.3.1 Claiming an Incentive

Once the system is installed and interconnected, the Solar Contractor can begin the Incentive Claim process by submitting the Incentive Claim Form and copy of the PTO letter from SDG&E to the PA. The Solar Contractor will use the same Box folder upload link used during the Reservation Request stage. If the link has expired or cannot be located, reach out to the PA for a new link.

To receive incentive payment, the Solar Contractor must submit the Incentive Claim Form and supporting documentation within 12 months of the Reservation Approval Notice. Once a system is installed and received PTO from SDG&E®, the following documents must be submitted to claim the incentive payment:

- Incentive Claim Form (ICF)
- Permission to Operate (PTO) Letter from SDG&E
- Job Training Attestation (if applicable)
- Updated EPBB print out (if system components and/or design has changed)
- Optional documentation if selected for field inspections
 - Single line diagram
 - Photos of module arrays and inverters

When all required documents are submitted to the Box link, notify the PA via email. If the Solar Contractor does not notify the PA, this could delay payment as there are not automatic notifications from Box indicating that new files have been submitted.

The PA will review the submitted Incentive Claim documents within 15 calendar days of notification. If any documents require further clarification or are missing, the PA will follow-up via email in a similar manner as the Reservation Request process. Once all documents are reviewed and approved, the PA will notify the Solar Contractor and Host Customer with an Incentive Claim Approval email and will update the status of the project to “Incentive Claim: Pending Payment”.

The PA will process the payment and mail the incentive check to the Payee listed on the ICF. Once the payment has been issued, the PA will update the project status to “Incentive Claim: Incentive Check Mailed”. Payees should receive the incentive payment no longer than 30 calendar days from the receipt of the Incentive Claim Approval email.

4.3.2 Changes to the System as Reserved

SDSEP expects a system to be installed as described in the Reservation Request, but it recognizes that minor changes may result during installation and that extensions or other substantive changes may be necessary in extraordinary circumstances. Minor changes do not require prior approval but must be documented on the Incentive Claim Form. Minor changes include small increases and decreases in the size of the system (while staying within the SDSEP limits) or changes from one make or model of a certified component to another. Any changed incentive amount that occurs is subject to availability of funding.

Substantive changes or expiration date of reservation require prior approval by the PA and can be considered if requested in writing. Each request must describe the need for the change and must document the following:

1. Circumstances beyond the control of the Solar Contractor and Host Customer that prevent the system from being installed as described at the Reservation Request stage.
2. Neither the Host Customer nor the Solar Contractor knew or had reason to know of the above circumstances at the time the current reservation was issued.
3. The Host Customer or Solar Contractor has incurred documented costs or expenses equaling no less than 25 percent of the original reserved system’s total cost; and said costs or expenses are unrecoverable unless the requested changes are approved. (These costs can be incurred either through the purchase of system equipment or by other construction costs expressly for the purpose of installing the reserved system.)

4. There are no other known obstacles in the way of completing the project within the extension period.
5. The requested change would otherwise comply with all eligibility requirements of the program.

Extension requests and other substantive changes must be filed before the reservation expires. Any requests made 30 or fewer days before the reservation expiration date shall include an explanation of why a timelier request was not possible under the circumstances. The SDSEP PA will notify requesting parties of a decision on their request.

4.3.3 Supporting Documents

4.3.3.1 Incentive Claim Form

When the project is completed with installation and the system receives the Permission to Operate (PTO) letter from SDG&E®, the Solar Contractor must submit an Incentive Claim Form. All sections must be completed, and the Host Customer and Solar Contractor are required to sign the Incentive Claim Form.

The following information is included on the Incentive Claim Form:

- Host Customer Contact Information
- Secondary Contact Information (if desired)
- Host Customer Eligibility Information
- Solar Contractor Information
- Solar PV Equipment Information
- Incentive Amounts
- Signatures of Host Customer and Solar Contractor

The intent of the Incentive Claim Form is to confirm the amount of funding reserved on the Host Customer's behalf. Any changes to the information provided on the previously submitted Reservation Request Form must be noted in the space provided. If additional space is required to note such changes, additional pages may be attached to the form. All changes, especially changes in equipment, from the original application may affect the eligibility and amount of the incentive. The Incentive Claim Form is provided on the Resources page of the program website.

4.3.3.2 PTO Letter from SDG&E®

A copy of the PTO Letter from SDG&E must be provided to demonstrate the utility approved the operation of the system at the site of the installation.

4.3.3.3 Job Training Attestation

A Job Training Attestation must be submitted if the Solar Contractor pursues the job training incentive and provides 40 hours of paid job training to at least one job trainee (refer to Additional Incentives – Job Training). The Job Training Attestation is available on the SDSEP website under Resources and in Appendix 4.

4.3.3.4 Updated EPBB Calculator Print Out

If the system components and/or design has changed since the Reservation Request stage, the Solar Contractor must submit an updated EPBB print-out or PDF.

Appendix 1 – Expected Performance Based Buydown (EPBB Calculator)



Incentive Calculator - CSI Standard PV

The CSI-EPBB calculator is a tool available to participants of the CSI Program to determine the EPBB Design Factor and calculate an appropriate incentive level based on a reasonable expectation of performance for an individual system. The CSI-EPBB Calculator has also been created for consumers to educate themselves on the differences of solar system design and how changes to the PV system's specifications will produce different kilowatt hour results over the course of a year. Please be aware that actual performance of an installed PV system is based on numerous factors, including some factors that may not be considered in the CSI-EPBB Calculator. While this calculator relies on industry-standard assumptions, and is driven by [NREL's PV Watts v. 2 calculator](#), there may be other factors that affect the output of your PV System.

Site Specifications:

Project Name Example Project
 ZIP Code 92113
 City San Diego
 Utility SDG&E
 Customer Type Residential
 Incentive Type EPBB

Reference

92867
 Orange

PV System Specifications:

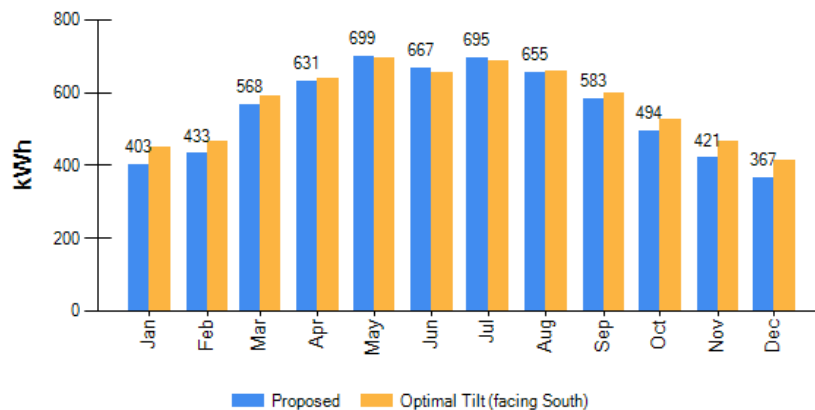
PV Module Advance Power:API-M225
 225.0W STC, 200.7W PTC, 204.1W PTC_{adj}¹
 Number of Modules 20
 Mounting Method >6" average standoff
 DC Rating (kW STC) 4.5000
 DC Rating (kW PTC) 4.0140
 Inverter ABB:PVI-10.0-I-OUTD-x-US-208-y [208V]
 Number of Inverters 5
 Inverter Efficiency (%) 96.00 %
 Shading Minimal Shading
 Array Tilt (degrees) 10
 Array Azimuth (degrees) 180 **True North 0°**



Optimal Tilt (proposed azimuth) 17
 Optimal Tilt (facing South) 17

Minimal Shading

Estimated Monthly Production



Results	Proposed	Reference
Annual kWh	6,615 (a)	6,862 (d) May-October 3,966 (h)
at optimal tilt	6,836 (b)	
facing south at optimal tilt	6,836 (c)	
Summer Months	May-October	
Summer kWh	3,793 (e)	
at optimal tilt	3,817 (f)	
facing south at optimal tilt	3,817 (g)	
CEC-AC Rating	3.853 kW	
Design Correction ²	99.371%	
Geographic Correction ³	99.621%	
Installation Correction ⁴	100.000%	
Design Factor ⁵	98.995%	
CSI Rating ⁶	3.814 kW	
Incentive Rate	\$0.00/Watt	
Incentive ⁷	\$0	
The CSI Program has closed and is no longer accepting applications.		
Report Generated on	9/15/2022 10:43:14 PM	

Notes:

1. **PTC_{adj}**: The adjusted PTC rating is calculated based on the installation method and panel specifications. See the User Guide Appendix A for details on the adjusted PTC calculation.
2. **Design Correction**: This is the ratio of the summer output of the proposed system (e) and the summer output of the summer optimal system at the proposed location (f).
3. **Geographic Correction**: This is the ratio of the annual output of the summer optimal south facing system at the proposed location (c) and the annual output of the summer optimal south facing system at the reference location (d).
4. **Installation Correction**: This is the ratio of the adjusted PTC rating and the unadjusted PTC rating.
5. **Design Factor**: This is the product of the Design Correction, Geographic Correction, and Installation Correction.
6. **CSI Rating**: This is the product of the Design Factor and the CEC-AC Rating.
7. **Incentive**: This is the total incentive for the proposed system. It is the product of the CSI Rating and the Incentive Rate.
Please be aware that the final CSI incentive rate that is reserved for you will be determined by your CSI Program Administrator at the time your reservation request (RR) application is approved, and may be lower than the current incentive rate shown in the CSI Statewide Trigger Point Tracker. Please note that final incentive amounts are subject to change based upon the configuration of the as-built system. (Per the CSI Handbook, no projects or applications are reserved CSI funding until all required information has been submitted and approved in writing by the Program Administrator.)
8. As of 6/20/08, the CSI-EPBB calculator performs rounding as follows:
 - o Estimated kWh production is rounded to the kWh
 - o CEC-AC rating is rounded to the watt
 - o CSI rating is rounded to the watt
 - o Design factor is rounded to 5 significant digits
 - o Incentive is rounded to the dollar

E-mail csi-epbb@aesc-inc.com with questions or comments.

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Appendix 2 – Letter of Authorization

AUTHORIZATION TO: RECEIVE CUSTOMER INFORMATION OR ACT ON A CUSTOMER'S BEHALF



THIS IS A LEGALLY BINDING CONTRACT—READ IT CAREFULLY
(Please Print or Type)

I, _____
NAME TITLE (IF APPLICABLE)

of _____ (Customer) have the following mailing address
NAME OF CUSTOMER OF RECORD

_____, and do hereby appoint
MAILING ADDRESS CITY STATE ZIP

_____, of _____
NAME OF THIRD PARTY MAILING ADDRESS

CITY STATE ZIP

to act as my agent and consultant (Agent) for the listed account(s) and in the categories indicated below:

ACCOUNTS INCLUDED IN THIS AUTHORIZATION:

1. _____
SERVICE ADDRESS CITY SERVICE ACCOUNT NUMBER
2. _____
SERVICE ADDRESS CITY SERVICE ACCOUNT NUMBER

(For more than two accounts, please list additional accounts on a separate sheet and attach it to this form)

INFORMATION, ACTS AND FUNCTIONS AUTHORIZED – This authorization provides authority to the Agent. The Agent must thereafter provide specific written instructions/requests (e-mail is acceptable) about the particular account(s) before any information is released or action is taken. In certain instances, the requested act or function may result in cost to you, the customer. Requests for information may be limited to the most recent 12 month period.

I (Customer) authorize my Agent to act on my behalf to perform the following specific acts and functions (initial all applicable boxes):

- ☐ 1. Request and receive billing records, billing history and all meter usage data used for bill calculation for all of my account(s), as specified herein, regarding utility services furnished by the Utility¹.
- ☐ 2. EPA Benchmarking (authorizes usage information to be uploaded to the EPA's ENERGY STAR **Portfolio Manager**®).
- ☐ 3. Request and receive copies of correspondence in connection with my account(s) concerning (initial all that apply):
- ☐ a. Verification of rate, date of rate change, and related information;
 - ☐ b. Contracts and Service Agreements;
 - ☐ c. Previous or proposed issuance of adjustments/credits; or
 - ☐ d. Other previously issued or unresolved/disputed billing adjustments.
- ☐ 4. Request investigation of my utility bill(s).
- ☐ 5. Request special metering, and the right to access interval usage and other metering data on my account(s).
- ☐ 6. Request rate analysis.
- ☐ 7. Request rate changes.
- ☐ 8. Request and receive verification of balances on my account(s) and discontinuance notices.
- ☐ 9. Other acts and functions (please specify) _____

¹ The Utility will provide standard customer information without charge up to two times in a 12 month period per service account. After two requests in a year, I understand I may be responsible for charges that may be incurred to process this request.

AUTHORIZATION TO: RECEIVE CUSTOMER INFORMATION OR ACT ON A CUSTOMER'S BEHALF

I (CUSTOMER) AUTHORIZE THE RELEASE OF MY ACCOUNT INFORMATION AND AUTHORIZE MY AGENT TO ACT ON MY BEHALF ON THE FOLLOWING BASIS² (initial one box only):

- ☐ One time authorization only (limited to a one-time request for information and/or the acts and functions specified above at the time of receipt of this Authorization).
- ☐ One year authorization - Requests for information and/or for the acts and functions specified above will be accepted and processed each time requested within the twelve month period from the date of execution of this Authorization.
- ☐ Authorization is given for the period commencing with the date of execution until _____ (Limited in duration to three years from the date of execution.) Requests for information and/or for the acts and functions specified above will be accepted and processed each time requested within the authorization period specified herein.

RELEASE OF ACCOUNT INFORMATION:

The Utility will provide the information requested above, to the extent available, via any one of the following. My (Agent) preferred format is (check all that apply):

- ☐ Hard copy via US Mail (if applicable).
- ☐ Facsimile at this telephone number: _____
- ☐ Electronic format via electronic mail (if applicable) to this e-mail address: _____

I (Customer), _____ (print name of authorized signatory), declare under penalty of perjury under the laws of the State of California that I am authorized to execute this document on behalf of the Customer of Record listed at the top of this form and that I have authority to financially bind the Customer of Record. I further certify that my Agent has authority to act on my behalf and request the release of information for the accounts listed on this form and perform the specific acts and functions listed above. I understand the Utility reserves the right to verify any authorization request submitted before releasing information or taking any action on my behalf. I authorize the Utility to release the requested information on my account or facilities to the above Agent who is acting on my behalf regarding the matters listed above. I hereby release, hold harmless, and indemnify the Utility from any liability, claims, demands, causes of action, damages, or expenses resulting from: 1) any release of information to my Agent pursuant to this Authorization; 2) the unauthorized use of this information by my Agent; and 3) from any actions taken by my Agent pursuant to this Authorization, including rate changes. I understand that I may cancel this authorization at any time by submitting a written request. [This form must be signed by someone who has authority to financially bind the customer (for example, CFO of a company or City Manager of a municipality).]

AUTHORIZED CUSTOMER SIGNATURE

TELEPHONE NUMBER

Executed this _____ day of _____ at _____
MONTH YEAR CITY AND STATE WHERE EXECUTED

I (Agent), hereby release, hold harmless, and indemnify the Utility from any liability, claims, demand, causes of action, damages, or expenses resulting from the use of customer information obtained pursuant to this authorization and from the taking of any action pursuant to this authorization, including rate changes.

AGENT SIGNATURE

TELEPHONE NUMBER

COMPANY

Executed this _____ day of _____
MONTH YEAR

² If no time period is specified, authorization will be limited to a one-time authorization
Revised 1/2014

Appendix 3 – Tips for Homeowners

This appendix provides some basic guidelines for those who are not familiar with renewable energy systems and may be interested in learning more.

List of Solar Contractors in San Diego

San Diego Solar Equity Program (SDSEP) maintains an updated List of Eligible Solar Contractors in the San Diego region who have completed a Solar Contractor Workshop and fully understand the program requirements. Inclusion on the List of Eligible Solar Contractors means that the solar contractor has met the minimum requirements necessary to participate in the program. The Center for Sustainable Energy, the Program Administrator, in no way endorses or guarantees any Solar Contractor or their work. Check out the Eligible Solar Contractor List posted on the Resources page of the SDSEP website to determine which Solar Contractor would be best for you and check out the tips below if you need further guidance.

Tips for Choosing a Solar Contractor

Get multiple bids

A “bid” is a proposed cost for the equipment and labor costs of purchasing and installing the solar photovoltaic (PV) system. It is important to evaluate multiple bids and compare each Solar Contractor’s proposed cost for equivalent systems before contracting with a Solar Contractor. Each Solar Contractor is only permitted to install five systems under the SDSEP annually, so if a Solar Contractor you contact is not available, consider another Solar Contractor on the list.

Get references or visit business review sites

Get references from previous customers of the Solar Contractor and review past work to confirm the Solar Contractor’s reputation within your community. You can also go to a business review site to get a better understanding of a Solar Contractor’s reputation and review comments or complaints.

Project deposit

SDSEP is an equity-focused solar incentive program intended to cover the majority of the cost of the solar system for the Host Customer. Some Solar Contractors may request an initial deposit from the Host Customer as part of the contract process, which would be returned when the incentive is claimed at the end of the project. However, not all Solar Contractors will require a deposit and you are within your right to only contract with a Solar Contractor who does not

require a deposit. If you do decide to contract with a Solar Contractor who requires a deposit, never pay more than 10% down or \$1,000—whichever is less.

How Much Energy Does a Photovoltaic (PV) System Produce?

Be sure to compare the expected energy output of the proposed solar system before choosing a Solar Contractor. The expected energy output from a solar system (measured in kWh⁴) is a much better indicator of the system performance than the system rated capacity (measured in kW⁵). Also, be sure to verify that your system has an easy-to-read meter installed that measures the energy produced in kilowatt-hours. The utility meter only provides the net energy used at your home and does not tell you how much energy your system produces.

Determining how much electricity a photovoltaic (PV) system will produce is based on the orientation and tilt of the system and shade from trees, chimneys or other objects. In San Diego, an average 1-kilowatt of solar panels installed on your roof, at the optimal orientation and tilt for maximum annual energy production, will produce between 1400-1700 kilowatt hours per year. For purposes of estimating the energy output of the PV system, it is reasonable to use the middle of that range: 1550 kilowatt-hours per year. This estimate accounts for the following factors that can affect the energy output of the system:

Factor	Description
Dirt and Dust	Dirt and dust that accumulate on the PV modules can account for energy loss in energy production. If the panels are cleaned regularly, losses due to dirt and dust could be zero.
Temperature	Increased temperatures reduce the energy output of all PV modules. For example, PV systems in the desert will be more affected by high temperatures than systems installed in temperate coastal zones.
Energy Loss in Wires	Connecting a PV system to your home electrical system requires running some length of electrical wiring. Energy is lost in transfer along the wires between system components.

⁴ kWh is kilowatt-hours, a unit of measurement for energy (power applied over time)

⁵ kW is kilowatt, a unit of measurement for power

Factor	Description
	The longer the length of wires connecting your PV system to your electrical meter, the greater the energy lost in transfer.
Shade	In many residential settings, the presence of shade is inevitable. Speak with a Solar Contractor to determine how shade will affect the performance of your system.
Orientation/Tilt	The direction and angle of the installed system will affect the amount of electricity it can produce and the time of year it will produce the most. To maximize annual production, placing the system facing South at about a 33-degree incline is best. To maximize summer production, placing the system facing South at about an 18-degree incline is best.



Appendix 4 – Contractors State License Board: What You Should Know Before Hiring a Contractor



✓ CONSTRUCTION PROJECT CHECK LIST

- ☐ Check the contractor license number at www.cslb.ca.gov to make sure it is current and in good standing.
- ☐ Ask to see the contractor's pocket license and a current photo ID.
- ☐ Ask for a list of current contact information (telephone number and business address) for the contractor, subcontractors, and suppliers.
- ☐ Find out from your local building department whether your project needs a building permit and confirm that your contractor will obtain all necessary permits.
- ☐ Get at least three contractor bids and references, and check out, in person, each prospective contractor's recent similar projects.
- ☐ Ask whether your contractor carries general liability insurance for employees in case accidental damage occurs during the project, and workers' compensation insurance for employees.
- ☐ Make sure all project materials and expectations are spelled out and signed in a written contract, including clean-up, debris removal, and site security.
- ☐ Ask your contractor if he or she understands your project expectations.
- ☐ Schedule and document each phase of your project and the corresponding payment schedule. Do not let payments get ahead of the work.
- ☐ Pay no more than 10% down or \$1,000, whichever is less.*
- ☐ Avoid paying in cash.
- ☐ Keep all of your project documents, including payments and photographs, in a job file.
- ☐ Try researching your contractor's name online for additional reviews.

* There is an exception to this rule for contractors who have filed a blanket performance and payment bond with CSLB's Registrar. This information is noted on the contractor's license detail page on CSLB's website.

Protect yourself from unscrupulous or unlicensed contractors.

General Advice

- Only hire state-licensed contractors.
- Any contractor performing work of \$500 or more (combined labor and material costs) must be licensed by CSLB to work in California.
- Avoid being caught up in high-pressure sales tactics.
- Avoid rushing into repairs. Take the time to get at least three identical bids and verify testimonials.
- Ask to see the contractor's "pocket license" or their representative's "Home Improvement Salesperson" registration. All contractors are issued pocket licenses that show the type of trade for which they are licensed, and the license expiration date. Ask to see a photo identification to confirm their identity.



CONTRACTORS STATE LICENSE BOARD

P.O. Box 26000
Sacramento, CA 95826-0026
800.321.CSLB (2752)
www.cslb.ca.gov • CheckTheLicenseFirst.com

DEPARTMENT OF CONSUMER AFFAIRS

13P-078/0121

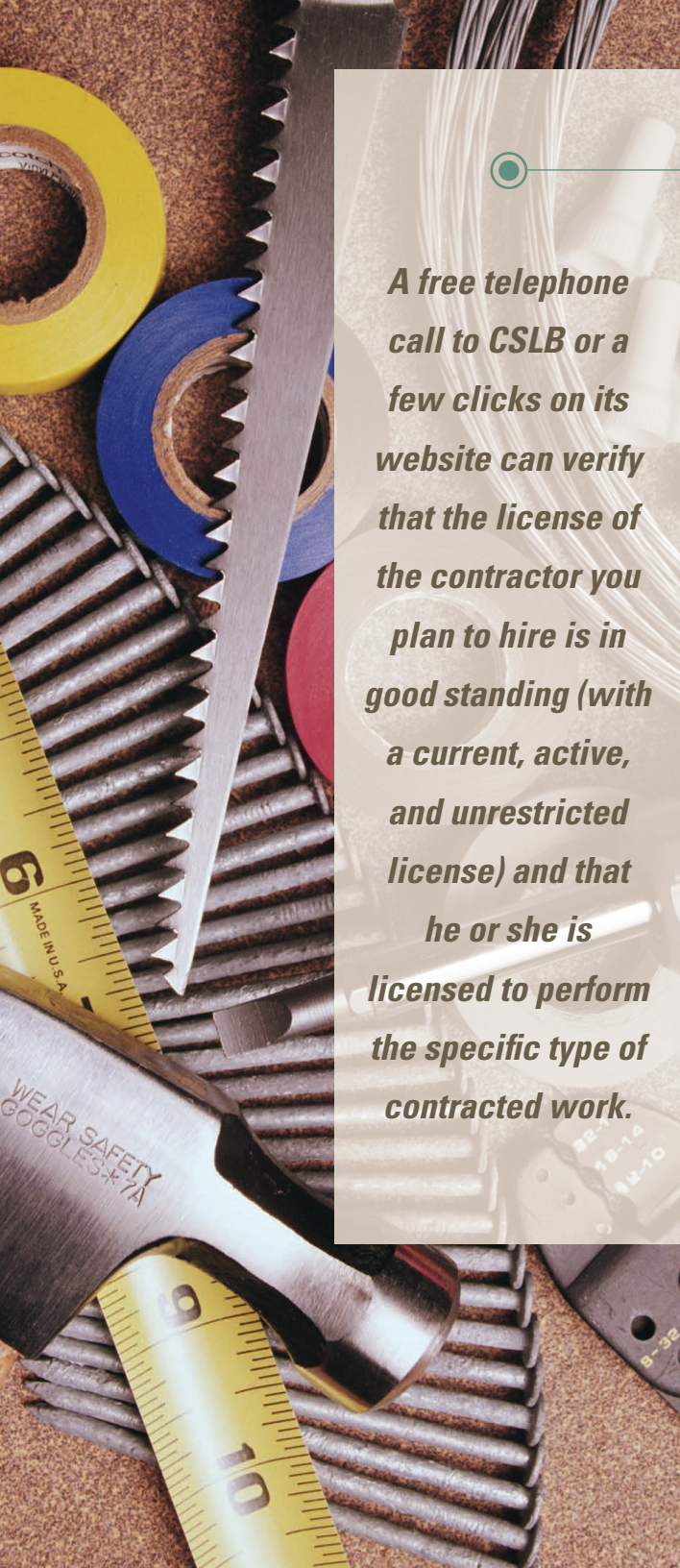
WHAT YOU SHOULD KNOW Before Hiring A Contractor



CONTRACTORS STATE LICENSE BOARD

Department of Consumer Affairs





A free telephone call to CSLB or a few clicks on its website can verify that the license of the contractor you plan to hire is in good standing (with a current, active, and unrestricted license) and that he or she is licensed to perform the specific type of contracted work.

Check the License First

By law, anyone in California who contracts for or bids on a construction project valued at \$500 or more (combined labor and material costs) must be licensed by the Contractors State License Board (CSLB). To qualify for a license, a contractor must verify four years of journey-level experience in the trade, pass both a trade and license law and business examination, and post a license bond. Since 2005, all new contractors have been required to pass a criminal background check. Contractors are required to put their CSLB license number in all advertisements. Ask to see the contractor's plastic pocket license and photo identification.

- Verify the license and make sure it is in good standing by visiting **www.cslb.ca.gov** or by calling CSLB's toll-free automated line: 800-321-CSLB (2752).
- Remember: Contractors with employees must carry workers' compensation insurance. (C-39 Roofing contractors must have a workers' compensation policy even if they do not have employees.)
- Get at least three bids, ask for references from the contractors' previous customers in the local area, and view the contractors' past projects in person.
- Unlicensed operators are required to include in their advertisements that they are not state-licensed and can only perform work valued at less than \$500.

Filing a Construction Complaint

- File online at **www.cslb.ca.gov**
- Print complaint form from **www.cslb.ca.gov**
- Call 800-321-CSLB (2752) for complaint form and *A Consumer Guide to Filing Construction Complaints*

Financial Information

- Avoid paying in cash.
- Contractors cannot ask for a deposit of more than 10 percent of the total cost of the job or \$1,000, whichever is less.* (This applies to any home improvement project, including swimming pools.)
- Stick to your schedule of payments and don't let payments get ahead of the completed work.

Get It in Writing

- Make sure you have a written contract and don't sign it until you fully understand the terms.
- All changes to the contract, or "change orders," need to be in writing and signed by both parties.
- Keep a job file of all project papers, photographs, and payments—and don't make the final payment until you're satisfied with the job.
- Homeowners waive their three-day right to cancel (or five-day right to cancel if they're 65 or older) if they sign a "service and repair contract," which is different from a standard "home improvement contract." (Service and repair contracts are usually for emergency repair work where the consumer initiated the contact.)

License History

- If you want information about a contractor's license history and pending or prior disciplinary actions, please call the appropriate CSLB Legal Action Disclosure telephone number:

Northern Region:
(916) 255-4041

Southern Region:
(562) 345-7656

Appendix 5 – California Solar Consumer Protection Guide



CALIFORNIA SOLAR CONSUMER PROTECTION GUIDE

Published March 2022



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).

Customers of PG&E, SCE, SDG&E, BVES, and PacifiCorp 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, Tagalog, Armenian, Portuguese, and Dari 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)



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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 [cslb.ca.gov/consumers](https://www.cslb.ca.gov/consumers).

To file a complaint against a financing company, visit [dfpi.ca.gov/file-a-complaint](https://www.dfpi.ca.gov/file-a-complaint).

Initial here if you
understand this
page ____ (2/4)



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 customer of PG&E, SCE, SDG&E, BVES, or PacifiCorp, 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 (2752) or [cslb.ca.gov/consumers](https://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 [cslb.ca.gov/consumers/solar_smart](https://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 (2752) or [cslb.ca.gov/consumers](https://www.cslb.ca.gov/consumers).



*Initial here if you
understand this
page ____ (3/4)*



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 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.

OK, I read these 4 pages. Now what?

1

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!

2

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

3

For **other important questions to ask a solar provider** before you sign a contract, go to page 10 of this guide.

4

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.

Initial here if you understand this page ____ (4/4)



STEP 1:

Is Solar a Good Fit for Me?

1

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 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 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.

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: cpuc.ca.gov/solarindacs.



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.

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

STEP 2: Understand Roles and Solar Process

2

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 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

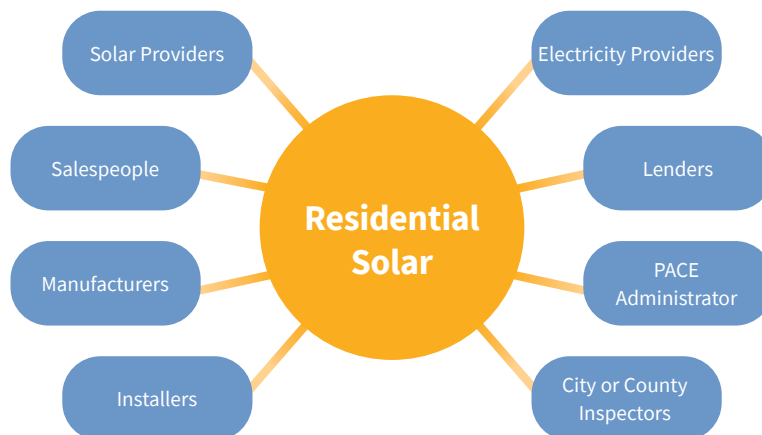
Except for a few governmental PACE programs, PACE financing programs are managed by PACE program administrators, which must be licensed. Check their license at dfpi.ca.gov/pace-program-administrators.

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 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



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

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*



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.

*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.

STEP 3:

Find a Qualified Solar Provider

3

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

Find Solar Providers that Serve Your Neighborhood

Go to 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 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 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.

Visit the CPUC’s public list of non-compliant solar providers, which identifies contractors that have violated CPUC, CSLB, or DFPI regulations. This list is updated quarterly and can be found at cpuc.ca.gov/solarpubliclist.

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!

4

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	<p>Typically, greater return on investment.</p> <p>If you use a loan, little or no upfront costs.</p> <p>May increase value of home.</p> <p>You can directly receive tax credits and deductions. Consult tax professional to see if you qualify.</p>	<p>You are typically responsible for repairs and maintenance. This may involve contacting different manufacturers, who could go out of business during the 10- to 20-year component lifecycles.</p> <p>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.</p>
PACE Financing	<p>Little or no upfront costs.</p> <p>May have a longer repayment period than typical home improvement loan, which may be preferable.</p> <p>You can directly receive tax credits and deductions. Consult tax professional to see if you qualify.</p>	<p>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.</p> <p>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.</p> <p>You are typically responsible for repairs and maintenance. This may involve contacting different manufacturers, who could go out of business during the 10- to 20-year component lifecycles.</p>
Lease and PPA	<p>Little or no upfront costs.</p> <p>Solar provider is responsible for all monitoring, maintenance, and repairs.</p> <p>Minimum energy production often guaranteed.</p>	<p>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.</p> <p>Solar provider could go out of business during the contract period.</p>

A Closer Look at Purchasing Outright (with cash or loan)



You can purchase a solar system from a solar provider or manufacturer with a traditional loan, 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 improvement.

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 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 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?

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

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?

5

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.

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.

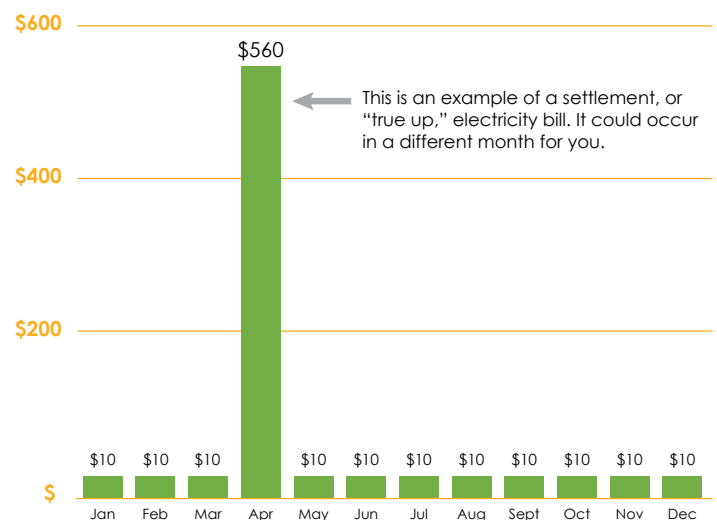
Though it's rare, if you sent out more electricity than you took in over the course of the 12-month period, you are typically eligible to be paid "net surplus compensation," which is around 2 to 3 cents per kilowatt-hour. Because this rate is lower than the retail rate, it is generally not in your financial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



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





Getting Environmental Credit for Going Green

When a residential solar system produces electricity, the system is eligible to receive Renewable Energy Certificates (REC). If you purchase your solar system, you own any RECs created. If you enter a lease or PPA, ask your solar provider who will own the RECs, and check the contract fine print.

Solar system owners may sell the RECs they generate. System owners would need to qualify for the Western Renewable Energy Generation Information System (WREGIS), which issues and tracks RECs. Please visit the WREGIS FAQ at wecc.org/WREGIS/ for more information.



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 cpuc.ca.gov/sgip for more details on SGIP.

STEP 6:

Carefully Read All Paperwork

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The Solar Energy System Disclosure Document

This document from the Contractors State License Board shows you the total costs for the proposed solar energy system as well as estimated electric bill savings using standardized inputs and assumptions. It also has information about your three-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 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.

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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: 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: 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: 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 gridalternatives.org/qualify
- Community Solar Green Tariff program and DAC Green Tariff program: 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: cslb.ca.gov/online-services/checklicenseii/checklicense.aspx
- CSLB solar smart: cslb.ca.gov/consumers/solar_smart
- PACE Financing Estimate and Disclosure form and CSLB Solar Energy System Disclosure document: 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: dfpi.ca.gov/pace
- Financial services: 213-576-7690; pacehelp@dfpi.ca.gov
- PACE program administrator license check: dfpi.ca.gov/pace-program-administrators
- Filing a complaint against a PACE provider: dfpi.ca.gov/file-a-complaint

Solar Bills and Net Energy Metering (NEM)

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

Solar Financing Guides

- Clean Energy States Alliance (CESA) homeowner's guide to solar financing: 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): cesa.org/resource-library/resource/una-guia-practica-de-financiacion-solar-para-duenos-de-casa
- ▶ CESA/George Washington University rooftop solar financing 101: 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: irecusa.org/consumer-protection/consumer-checklist
- ▶ CESA/George Washington University Choosing a Solar Installer: 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.

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- ☐ 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, and review the standardized inputs and assumptions on the CSLB Solar Energy System Disclosure Document.
 - ☐ 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

March 2022

9

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

Please affirm each of statements below by checking the boxes. If a statement does not apply to you, write "N/A" in that statement's box.

- ☐ 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.
- ☐ 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.
- ☐ The solar provider gave me the opportunity to read this guide in Español, 中文, 한국어, Tiếng Việt, Tagalog, Armenian, Portuguese, or Dari if they spoke to me in one of those languages.
- ☐ 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.

By signing, I affirm that I have read and understand the California Solar Consumer Protection Guide. I also affirm that information from my solar contract, interconnection application, CSLB Solar Disclosure Form, and/or financing agreement may be reviewed by state regulators to ensure compliance with California's solar consumer protection laws.

Customer Printed Name

Date

Customer Signature

continued on page 24

STEP 9: Sign This Guide *continued from page 23*

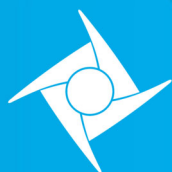
Solar Provider

Please affirm each of statements below by checking the boxes.

- ☐ 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.



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