

Go Solar California!

California Solar Initiative, the Golden State's Million Solar Roofs Program

Upcoming Changes to the Solar Photovoltaic Incentive Programs December 15, 2006

Under the new California Solar Initiative, the state's goal to install 3,000 megawatts of solar capacity by 2017 brings together expertise from the current programs of the California Energy Commission (Emerging Renewables Program) and the California Public Utilities Commission (Self-Generation Incentive Program) to move California toward a cleaner energy future through new program offerings.

Beginning in January of 2007, California Solar Programs Will Change!

Application Process

Solar photovoltaic (PV) reservation applications for the Energy Commission's current Emerging Renewables Program (ERP) will continue to be received through December 31, 2006. However, it is recommended that applications be submitted by the close of business December 29, 2006, to avoid any last minute rush. The Energy Commission is not expecting to accept in-person applications on December 30 and 31, but applications postmarked or faxed prior to January 1, 2007 will be accepted. ERP reservation applications for solar incentives submitted after December 31, 2006, will not be accepted, but will be returned to the applicant, along with simple directions about re-applying to the appropriate new program offering.

Beginning January 1, 2007, the Energy Commission's New Solar Homes Partnership (NSHP) will focus solely on PV systems for new residential buildings. The California Public Utilities Commission (CPUC), through program administrators, will provide incentives for all other residential and non-residential customers. Both new programs will change from the traditional capacity-based incentives to performance-based or expected performance-based buydown/incentives that reward properly designed, installed and maintained solar systems.

Beginning January 1, 2007, consumers seeking photovoltaic incentives should submit applications as follows:

- **California Energy Commission
New Solar Homes Partnership**
(New residential construction only)
1516 9th Street, MS-45
Sacramento, CA 95814-5512
1-800-555-7794
E-mail: renewable@energy.state.ca.us
- **CPUC Program Administrators**
(All other residential, commercial, industrial, and agricultural properties)
Apply to the program administrator in your local area:

Southern California Edison

California Solar Initiative
2131 Walnut Grove Avenue
G01, 3rd Floor, B10
Rosemead, CA 91770
1-800-736-4777

San Diego Regional Energy Office

(customers of San Diego Gas & Electric)
8690 Balboa Avenue, #100
San Diego, CA 92123
1-866-sdenergy or 858-244-1177
E-mail: csi@sdenergy.org

Pacific Gas and Electric Company

PG&E Integrated Processing Center
P.O. Box 7265
San Francisco, CA 94120-7265
E-mail: solar@pge.com



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Program Payment Basis

California Energy Commission New Solar Homes Partnership:

New residential construction only

Incentives will be determined by the level of an applicant's commitment to solar and energy efficiency, and by the expected performance of the system, which depends on specific key factors regarding equipment efficiency and the design and installation of the system. The incentive is paid once the system is installed, operational and has met all program requirements.

Incentive Levels

There are two incentive levels available: (See NSHP Guidebook for details and program requirements)

- **Base incentive:** the Expected Performance Base Incentive (EPBI) amount will begin in 2007 based on the reference system receiving \$2.50/watt. The actual incentive amount for a particular system and installation is dependent on the EPBI calculation of the system's performance compared to the reference system.
- **Production housing with solar as a standard feature incentive:** the EPBI amount will begin in 2007 based on the reference system receiving \$2.60/watt. The actual incentive amount for a particular system and installation is dependent on the EPBI calculation of the system's performance compared to the reference system. To qualify, a builder must commit that a minimum of 50% of the homes/dwelling units in the subdivision, or multi-family housing development with 6 or more homes/dwelling units, will have solar systems that meet or exceed the California Flexible Installation criteria.

California Public Utilities Commission California Solar Initiative:

On January 1, 2007, PV rebates given through the CPUC California Solar Initiative will change from the current capacity-based payments to performance-based incentives that reward properly installed and maintained solar systems. The incentives will be determined according to the system size, as follows:

- For photovoltaic systems greater than or equal to 100 kilowatts in size, incentives will be paid monthly based on the actual energy produced for a period of five years. This incentive path is called Performance Based Incentives (PBI).
- Incentives for all systems less than 100 kilowatts will initially be paid a one-time, up-front incentive based on expected system performance. Expected performance will be calculated based on equipment ratings and installation factors, such as geographic location, tilt, orientation and shading. This type of incentive is called Expected Performance-Based Buydown (EPBB).

Type of CSI Incentive	Size Category	Payment Structure	Customers Eligible	Notes
Expected Performance-Based Buydown (EPBB)	< 100 kW	1 lump sum based on \$/watt	Residential, Commercial, Government, and Nonprofit	<ul style="list-style-type: none">○ EPBB is required for Non-Residential new construction systems, excluding BIPV.○ Residential New Construction projects are funded through the Energy Commission's New Solar Homes Partnership (not CSI)
Performance Based Incentive (PBI)	≥ 100 kW	Payments based on \$/kWh produced over 5 year term	Residential, Commercial, Government, and Nonprofit	<ul style="list-style-type: none">○ Smaller systems may opt into PBI○ PBI is required for Building Integrated PV (BIPV) Systems



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In both payment approaches, the incentive payment levels will automatically be reduced over the duration of the CSI program in 10 steps, based on the MW volume of confirmed reservations issued within each utility service territory. On average, the CSI incentives are projected to decline at a rate of 7 percent each year following the start of implementation in 2007.

Expected Performance-Based Buydown (EPBB) Levels

The CSI program will pay incentives to solar projects with system ratings of less than 100 kW through an up-front incentive known as an EPBB. These EPBB incentives are based on an estimate of the system's future performance. EPBB incentives combine the benefits of rewarding performance with the administrative simplicity of a one-time incentive paid at the time of project installation.

Beginning in January 1, 2007, the new payment levels will be set at:

- Residential and commercial customers will initially receive incentives of \$2.50 per watt and will be eligible for additional federal tax credits.
- Government and non-profit organizations will initially receive \$3.25 per watt to compensate for their lack of access to the federal tax credit as non-taxable entities.

The following EPBB schedule illustrates the gradual decrease. For instance, once 70 megawatts of solar energy systems are installed in Step 2, incentives will drop to those applicable in Step 3. Once another 100 megawatts of solar energy systems are installed in Step 3, incentives will drop to Step 4. These allocations have been further allocated by utility service area and residential versus non-residential installations. The incentives will gradually phase out over the 10 steps.

Small System Incentive Schedule
(per CEC-AC watt; initially for systems less than 100kW)

Step	Megawatts Per Step	Residential	Commercial	Non-Taxable
1	50	n/a	n/a	n/a
2	70	\$2.50	\$2.50	\$3.25
3	100	\$2.20	\$2.20	\$2.95
4	130	\$1.90	\$1.90	\$2.65
5	170	\$1.55	\$1.55	\$2.30
6	230	\$1.10	\$1.10	\$1.85
7	300	\$0.65	\$0.65	\$1.40
8	400	\$0.35	\$0.35	\$1.10
9	500	\$0.25	\$0.25	\$0.90
10	650	\$0.20	\$0.20	\$0.70

The duration of that phase-out will be dependent on: (1) whether the incentive budgets are depleted; (2) when the Program Administrators reach their MW goal; or (3) by the end of the program or 2016, whichever comes first. Table 8 displays the MW targets by Program Administrator service territory and customer class.



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EPBB incentives will be paid in a one-time payment provided the system size is less than 100 kW. There are different incentive rates for System Owners who are commercial entities or Government or Non-Profit entities. If a Government or Non-Profit entity is not the System Owner, the incentive amount will be determined by the tax status of the System Owner. Refer to your Program Administrator's website to determine the step and incentive rate in effect when you apply.

Performance Based Incentive (PBI) Levels

The CSI program will pay PBI for solar projects with systems equal to or greater than 100 kilowatts (kW), with monthly payments based on recorded kilowatt hours (kWh) of solar power produced over a 5-year period. Residential and small projects can also choose to opt-in to the performance-based incentive payment approach. Once the PBI incentive rate has been determined and a confirmed reservation issued, the ¢/kWh incentive rate will remain constant for the 5-year term.

Program Administrators will make monthly payments for residential and non-residential applicants based on actual electricity generated in kWh per the monthly reading of the meter after commissioning of the system. Note that there are different incentive rates for commercial entities and for Government or Non-Profit entities that are the System Owners. If a Government or Non-Profit entity is not the System Owner, the incentive amount will be determined by the tax status of the System Owner. Government and Non-Profit entities will be required to submit verification of their tax-exempt status to receive this incentive amount. Tax-exempt entities who apply for the higher incentive level must include with their incentive application a certification under penalty of perjury from their Chief Financial Officer or equivalent that they are a government or non-profit entity and they are not receiving, and will not in the future receive, federal tax benefits through financing arrangements. Non-profit entities must renew this certification annually if they receive PBI payments.

See the following table for general information on PBI payment levels. The PBI incentive levels may vary by the Program Administrators' territory, depending on the pace of solar demand in each territory. Refer to your Program Administrator's website to determine the step and incentive rate in effect when you apply.

Large System Performance-Based Incentive Schedule*
(per kilowatt-hour, initially for systems 100kW or larger in size)

Step	Megawatts Per Step	Residential	Commercial	Non-Taxable
1	50	n/a	n/a	n/a
2	70	\$0.39	\$0.39	\$0.50
3	100	\$0.34	\$0.34	\$0.46
4	130	\$0.26	\$0.26	\$0.37
5	170	\$0.22	\$0.22	\$0.32
6	230	\$0.15	\$0.15	\$0.26
7	300	\$0.09	\$0.09	\$0.19
8	400	\$0.05	\$0.05	\$0.15
9	500	\$0.03	\$0.03	\$0.12
10	650	\$0.03	\$0.03	\$0.10

*Smaller systems may also opt-in to this schedule to receive greater incentives for high performance



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Program Design Aspects Will Change

California Energy Commission New Solar Homes Partnership:

New residential construction only

All incentive recipients must satisfy the following new conditions to obtain the incentives:

Eligible Technology

Eligible Photovoltaic systems must be 1 kilowatt (alternating current) or greater.

Eligible Customers

Eligible customers will include builders of new production homes, including developers of affordable housing, with electricity service provided by Pacific Gas and Electric, Southern California Edison, San Diego Gas and Electric and Bear Valley Electric.

Reservation Period

- 18 months for the base incentive
- 36 months for qualifying developments and affordable housing projects

Efficiency Requirements

Eligible photovoltaic systems must be installed on new residential buildings that have achieved an Energy Commission specified level of energy efficiency beyond Title 24 standards. Participating residential buildings are required to meet one of the tiers of energy efficiency shown below:

- Tier I - 15 percent reduction in the residential building's combined space heating, space cooling and water heating energy compared to the current Title 24 Standards.
- Tier II - 35 percent reduction in the residential building's combined space heating, space cooling and water heating energy and 40 percent reduction in the residential building's air conditioning energy compared to the current Title 24 Standard.

In addition, for either Tier I or Tier II, each appliance provided by the builder must be Energy Star labeled if Energy Star is applicable to that appliance. Energy efficiency rebates provided by the utilities may also be available in addition to the solar incentives provided through the NSHP.

System Verification

Installed systems must be third-party field verified to ensure installations are consistent with the information used to determine the estimated solar system performance, reservation amount, and final rebate amount.

Warranty Requirements

All systems must have a minimum ten-year warranty to protect against defective workmanship, system or component breakdown or degradation in electrical output of more than fifteen percent from their originally rated electrical output during the ten year period.

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California Solar Initiative:

- **Incentive Cap:** Applicants can request incentives for up to 1 MW at a system installation.
- **New requirements:** All incentive recipients must satisfy the following new conditions to obtain the incentives, as outlined below. The CEC and CPUC will develop program handbooks that describe the new requirements in detail on this website by December 2006. On January 1, 2007, all applicants must:
 1. *Be an electric customer of PG&E, Southern California Edison, or San Diego Gas & Electric.* Gas-only customers are no longer eligible for incentives through their gas utility.
 2. *Install separate meters to measure solar output.* The CSI program requires accurate solar production meters for all projects that receive CSI program incentives. Accurate measurement of solar output is of paramount importance to ensure optimum value for both solar owners and ratepayers. For systems with a system rating of less than 10 kW, a basic meter with accuracy of ± 5 percent is required. For systems with a system rating of 10 kW and greater, an interval data meter with accuracy of ± 2 percent is required. The CPUC is still determining requirements for access to the meter for testing or inspection, and if applicable, data gathering. The CPUC will provide more information on this requirement via this website and the program handbook before January 1, 2007.
 3. *Report performance back to the program administrator.* The CPUC will provide more information on this requirement via this website and the program handbook before January 1, 2007.
 4. *Perform an energy efficiency audit.* In 2008, the CEC and CPUC will require specific energy efficiency requirements to obtain PV incentives. The CEC and CPUC will determine these requirements in 2007. The CPUC will provide more information on the requirement to perform energy efficiency audits in 2007 via this website and the program handbook.
 5. *Comply with new insurance, warranty, and permanence requirements:*

New Insurance Requirements:

The Program Administrators will require insurance as a condition for receiving a CSI program incentive because, through the CSI program incentive, the utilities (and SDREO) become part of the customer's decision (and extended process) to install a solar energy system. The CPUC will provide more information on this requirement via this website and the program handbook before January 1, 2007.

New Warranty Requirements: In 2007, all systems must have a minimum 5-year warranty to protect the purchaser against system or component breakdown. The warranty must cover and provide for no-cost repair or replacement of the system or system components including any associated labor for 5 years. The warranty must also cover the major components of the solar system against breakdown or degradation in electrical output. The CPUC will provide more information on this requirement via this website and the program handbook before January 1, 2007.

Self-installed systems must have a minimum 5-year warranty on the equipment to be installed to protect the purchaser against breakdown or electrical output degradation of major system components.

New System Permanence Requirements: Equipment installed under the CSI program is intended to be in place for the duration of its useful life. Only permanently installed systems are eligible for incentives. This means that the PV system must demonstrate to the satisfaction of the Program Administrator adequate assurances of both physical and contractual permanence prior to receiving an incentive. The CPUC will provide more information on this requirement via this website and the program handbook before January 1, 2007.



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6. *Regularly inspect large systems (>30kW) and spot-check small systems (<30kW).* It is the intent of the CSI program to provide incentives for reliable, permanent, safe systems that are professionally installed, and comply with all applicable federal, state, and local regulations. Program Administrators will conduct a system inspection visit for every system rated from 30 kW up to 100kW to verify that the project is installed as represented in the application, is operational, interconnected and conforms to the eligibility criteria of the CSI program. Program Administrators will perform random field inspections to verify system characteristics for systems less than 30 kW. Systems receiving a PBI may be required to have a field inspection. The CPUC will provide more information on this requirement via this website and the program handbook before January 1, 2007.

The California Public Utilities Commission is developing the program handbook for the California Solar Initiative.

The Energy Commission adopted the New Solar Homes Partnership Guidebook at the December 13, 2006 Business Meeting that describe the new requirements in detail. For a copy of the New Solar Homes Partnership Guidebook, visit: www.energy.ca.gov/renewables/06-NSHP-1/documents/index.html

Visit www.GoSolarCalifornia.ca.gov for more details on these requirements and continuous updates.

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