

California Energy Commission Solar or Wind Energy System Credit Worksheet

You must retain this page and copies of the applicable lists of approved equipment for your tax records

A. System Information

1. Purchaser's Name and address.....	_____
2. Address of Installation	_____
3. Installer's Name and address.....	_____
4. Date System Purchased:	_____
a. Photovoltaic Modules:	_____
b. Wind Turbines:	_____
c. Inverters:.....	_____
5. Date System Installed.....	_____
6. System type:	<input type="checkbox"/> Photovoltaic <input type="checkbox"/> Wind <input type="checkbox"/> Both

B. Photovoltaic Energy Systems

A Make and Model #	B Certification #	C # of Modules	D PTC Rating (watts)	E=C x D Output (watts)
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
Total PV Electrical Output of System:				_____ watts

C. Wind Energy Systems

A Make and Model #	B Certification #	C # of Turbines	D Power Rating (watts)	E=C x D Output (watts)
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
Total Wind Electrical Output of System:				_____ watts

D. Inverters

A Make & Model #	B Certification #	C Quantity	D Power (watts)	E Efficiency (%)	F=CxD (watts)	G=ExF (%-watts)
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
Totals:					_____	_____
Average Inverter Efficiency of the System						
= (Total Column G) / (Total Column F)						
= (_____) / (_____) = _____ %						

E. Calculation of Rated Peak Generating Capacity of System:

1. Enter total PV Electrical Output from Section B, Column E.	_____	Watts
2. Enter Total Wind Electrical Output from Section C, Column E.	_____	Watts
3. Add Line 1 and Line 2.	_____	Watts
4. Enter Average Inverter Efficiency from Section D	_____	%
5. Multiply Line 3 by Line 4.	_____	Watts
6. If Line 5 is greater than total for Section D, Column F, enter total from Section D, Column F. If Line 5 is less than Section D, Column F, enter total from Line 5. This is the Rated Peak Generating Capacity of System.	_____	Watts

Enter the Rated Peak Generating Capacity of your photovoltaic and/or wind energy system on Part III, line 1 of FTB Form 3508. You must retain this completed worksheet and copies of the applicable lists of approved equipment with your tax records and make this information available to the Franchise Tax Board upon request.

Purpose

This worksheet provides taxpayers with general information about the Solar or Wind Energy System Credit and assists taxpayers in determining whether their solar or wind energy systems are “certified” by the California Energy Commission (“Commission”) and thereby eligible for the tax credit. In addition, the worksheet assists taxpayers in calculating the Rated Peak Generating Capacity (“RPGC”) of their solar or wind energy systems. The RPGC is the maximum amount of electricity, measured in watts, a solar or wind energy system is expected to generate at any given time. Under the law, the RPGC of a solar or wind energy system affects the taxpayer’s eligibility for a tax credit and the amount of the taxpayer’s tax credit.

The results of this worksheet are intended to be used with the California Franchise Tax Board (“FTB”) Form 3508, entitled “Solar or Wind Energy System Credit.” Taxpayers will need to know the RPGC of their solar or wind energy systems in order to complete several questions on FTB Form 3508.

For certification and auditing purposes, taxpayers must retain copies of this and any other worksheets they complete for their solar or wind energy systems. FTB Form 3508 directs taxpayers to keep copies of all documents pertaining to the purchase and installation of their solar or wind energy systems, including all certification information obtained from the Commission.

General Information

For taxable years beginning on or after January 1, 2001, and before January 1, 2006, the California Personal Income Tax Law and the Corporation Tax Law allows a nonrefundable tax credit for certain approved solar or wind energy systems. The tax credit is known as the Solar or Wind Energy System Credit, and can be used by taxpayers against their net tax in an amount equal to the lesser of 15% (.15) of the cost paid or incurred for the purchase and installation of a solar or wind energy system after deducting the value of any municipal, state, or federal sponsored financial incentives, or \$4.50 per rated watt of the solar energy system. For taxable years beginning on or after January 1, 2004, and before January 1, 2006, the credit percentage will change to 7.5% (.075).

This tax credit was established under Senate Bill 17X2 (Stats. 2001-02, 2nd Extraordinary Session, Ch. 12), which was enacted into law on October 8, 2001. The law is codified in California Revenue and Taxation Code sections 17053.84 and 23684. This law was subsequently amended by Senate Bill 1660 (Stats. 2002, Ch. 487) to clarify the eligibility of wind energy systems. Under the law, the FTB is charged with administering the tax credit in consultation with the Commission. To qualify for the tax credit the following requirements must be satisfied as specified in the law.

- The taxpayer must have purchased and installed the system on the residential or small commercial taxpayer’s owned, leased, or rented premises in California after January 1, 2001.
- The system must generate electricity by means of a photovoltaic or wind-driven device. Solar thermal devices are not eligible.
- The system installed after January 1, 2001 must have a rated peak generating capacity of 200,000 watts (200 kilowatts) or less. Systems installed prior to January 1, 2001 should not be considered in determining the rated peak generating capacity of systems installed after this date.
- The system must be interconnected and operate in parallel with the electric grid. It must be used for the individual function of generating electricity and the electricity generated must be used primarily to offset part or all of the taxpayer’s own electricity needs.
- The system must be installed with a five-year warranty to protect against breakdown or undue degradation.
- The system must be certified by the Commission.
- The taxpayer may not be engaged in those lines of business described in Sector 22 of the North American Industry Classification System (NAICS) Manual published by the United States Office of Management and Budget, 1997 edition. (These taxpayers are excluded from the tax credit.)

These and related requirements are addressed in FTB Form 3508.

As noted above, the law requires solar and wind energy systems to be certified by the Commission to qualify for the tax credit. The Commission’s approach for certifying solar and wind energy systems is based on the system’s individual components, rather than the system as a whole. This approach is being taken in recognition of the fact that there are an endless number of systems that can be certified based on a combination of the components used in the systems. Therefore, the Commission will consider systems certified if the systems use components that have been approved by the Commission. This approach provides taxpayers with more latitude to customize a solar or wind energy system based on the taxpayer’s particular needs. This approach also allows the Commission to rely on its existing process of approving system components under its Emerging Renewables Program. Under the Commission’s Emerging Renewables Program, applicants are eligible for incentives to offset the cost of their generating systems if their systems use components that have been approved by the Commission.

Based on the Emerging Renewables Program, the Commission has established lists of approved system components for the Solar or Wind Energy System Credit. These lists were established for the following system components for each tax year beginning in 2001: 1) Photovoltaic Modules, 2) Small Wind Turbines, and 3) Inverters. Each list identifies Commission-approved components by make, model number and description, and provides performance specifications needed to calculate a solar or wind energy system's rated peak generating capacity. In addition, the lists identify the Commission certification number and period of certification (beginning date and ending date) for approved components. In order for a taxpayer to qualify for a tax credit, his or her solar or wind energy system must use components that are listed on the Commission's lists of approved components and were certified on the date the system was purchased or installed. For example, if your solar or wind energy system was purchased or installed in May 2004, the system must use components that are listed on the Commission's list of approved components for the 2004 tax year with a begin certified date before May 2004 and an end certified date of "current" or after May 2004. **If your system uses photovoltaic modules, wind turbines, or inverters that are not listed on the Commission's lists of approved components, or were not certified on the date the system was purchased or installed, your system does not qualify for the tax credit.** The Commission lists of approved system components for the Solar or Wind Energy System Credit can be found at the Commission's consumer information web site at the following address: http://www.consumerenergy-center.org/renewable/tax_credit.html. These lists can also be obtained by calling the Commission at (800) 555-7794. Please note, these lists are not the same as the equipment lists for the Commission's Emerging Renewables Program. The equipment lists for the Emerging Renewables Program show currently eligible equipment only and do not contain certification numbers needed to complete this worksheet.

Completing the Solar or Wind Energy System Credit Worksheet

A. System Information. Provide the purchaser's name and address, address of installation (address where system was installed), and installer's name and address. If the system was installed by the purchaser, write in "self-installed" in the space provided for the installer's name and address.) List the date that photovoltaic modules, wind turbines and inverters were purchased, and the date the system was installed. The installation date is the date of the final inspection and approval by the local building department. Indicate the type of system you have by checking photovoltaic system, wind, or both. See the General Information below for a description of the system types.

General information on system type. Only photovoltaic and wind energy systems qualify for the tax credit. A

photovoltaic energy system is a device that uses semiconductors to convert sun light directly into electricity. The semiconductors are typically arranged in individual panels, referred to as photovoltaic modules. Generally, the more photovoltaic modules a system uses the more electricity it generates. A wind energy system is a device that uses a wind turbine to convert wind energy into electricity. Wind energy systems utilize a rotor, which is spun by the wind, to turn a motor and generate electricity. Generally, the larger or more efficient a rotor or motor is, the more electricity it generates.

Solar or wind energy systems that generate electricity by means of photovoltaic modules or wind turbines typically include a component, known as an inverter, to convert the electricity generated by the system from Direct Current ("DC") to Alternating Current ("AC"), so the electricity can be more readily used by the consumer. Most consumers can only utilize electricity with AC, because this is how utilities supply electricity to homes and businesses. Consequently, most solar energy systems need an inverter to provide usable electricity to the consumer. However, an inverter is not required if the consumer is set up to utilize electricity with DC. To qualify for a tax credit, your solar or wind energy system must use an inverter if you can only utilize electricity with AC. If you are set up to utilize electricity with DC, your solar or wind energy system does not need an inverter to qualify for the tax credit.

System Components and Rated Peak Generating Capacity

Complete Section B of the worksheet if your system is a photovoltaic energy system. Complete Section C if your system is a wind energy system. Complete both Section B and C if your system is a hybrid and uses both photovoltaic modules and wind turbines. If your solar or wind energy system uses one or more inverters to convert the electrical output of your system from DC to AC, then you must also complete Section D. Complete Section E to determine the RPGC of your System. If your solar or wind energy system does not use an inverter, the RPGC of your solar or wind energy system is the Total Electrical Output of your system as calculated in sections B and C.

B. Photovoltaic Energy Systems. Identify in Column A of the table the make and model number of the photovoltaic modules used in your solar energy system. In Column B write in the Commission certification number corresponding to the photovoltaic modules identified in Column A. The Commission certification number of approved photovoltaic modules can be found in the Commission's List of Approved Photovoltaic Modules for the Solar or Wind Energy System Credit, which is located at http://www.consumerenergycenter.org/renewable/tax_credit.html, or can be obtained by calling (800) 555-7794. In

Column C write in the quantity of each photovoltaic module identified in Column A. In Column D write in the PTC Rating corresponding to each photovoltaic module identified in Column A. The PTC Rating of approved photovoltaic modules can be found in the Commission's List of Approved Photovoltaic Modules for the Solar or Wind Energy System Credit.

To calculate the total electrical output, in watts, generated by your system's photovoltaic modules, multiply the number of photovoltaic modules shown in Column C by the PTC Rating of the photovoltaic modules shown in Column D. Write the product of this calculation in Column E. Repeat this calculation for each photovoltaic module identified in Column A. Add up the electrical output for each make and model number of photovoltaic module in your system as shown in Column E and write the sum of this calculation on the Total PV Electrical Output line directly below the table. If your system does not use an inverter and does not contain a wind turbine, the Total PV Electrical Output, in watts, generated by your solar energy system is the RPGC of your system.

C. Wind Energy Systems. Identify in Column A of the table the make and model number of the wind turbines used in your wind energy system. In Column B write in the Commission certification number corresponding to the wind turbines identified in Column A. The Commission certification number of approved wind turbines can be found in the Commission's List of Approved Wind Turbines for the Solar or Wind Energy System Credit, which is located at http://www.consumerenergycenter.org/renewable/tax_credit.html, or can be obtained by calling (800) 555-7794. In Column C write in the quantity of each wind turbine identified in Column A. In Column D write in the Power Rating corresponding to each wind turbine identified in Column A. The Power Rating of approved wind turbines can be found in the Commission's List of Approved Wind Turbines for the Solar or Wind Energy System Credit.

To calculate the electrical output, in watts, generated by your system's wind turbines, multiply the number of wind turbines shown in Column C by the Power Rating of the wind turbines shown in Column D. Write the product of this calculation in Column E. Repeat this calculation for each wind turbine identified in Column A. Add up the electrical output for each make and model number of wind turbine in your system as shown in Column E and write the sum of this calculation on the Total Wind Electrical Output line directly below the table. If your system does not use an inverter and does not contain a photovoltaic component (e.g., photovoltaic module), the Total Wind Electrical Output, in watts, generated by your wind energy system is the RPGC of your system.

D. Inverters. Identify in Column A of the table the make and model number of the inverters used in your solar or wind energy system. In Column B write in the Commission certification number corresponding to the inverters identified in Column A. The Commission certification number of approved inverters can be found in the Commission's List of Approved Inverters for the Solar or Wind Energy System Credit, which is located at http://www.consumerenergycenter.org/renewable/tax_credit.html, or can be obtained by calling (800) 555-7794. In Column C write in the quantity of each inverter identified in Column A. In Columns D and E write in the Power Rating and Efficiency corresponding to each inverter identified in Column A. As of April 1, 2005, inverter efficiency is measured by a weighted average at various load points. The Power Rating and Efficiency of approved inverters can be found in the Commission's List of Approved Inverters for the Solar or Wind Energy System Credit.

Calculate the Average Inverter Efficiency of your system by completing Columns F and G. Multiply the number of inverters shown in Column C by the Power Rating of the inverters shown in Column D. Write the product of this calculation in Column F. Then multiply the Efficiency of each inverter shown in Column E by the value shown in Column F. Write the product of this calculation in Column G. Then add up the values in Columns F and G, respectively, and note these totals at the bottom of the table. The Average Inverter Efficiency of your system is the sum of Column G values divided by the sum of Column F values.

E. Rated Peak Generating Capacity. The RPGC of your solar or wind energy system is the Total Electrical Output of your system, as determined in Sections B and C, multiplied by the Average Inverter Efficiency for your system as determined in Section D or the total power rating for the inverters (Section D, Column F), whichever is less.

If the RPGC of your solar or wind energy system is 200,000 watts or less, check "Yes" on Part I, line 3 of FTB Form 3508. If the RPGC of your system is greater than 200,000 watts, check "No" on Part I, line 3 of FTB Form 3508.

If your solar or wind energy system uses photovoltaic modules, wind turbines and inverters that are listed on the Commission's lists of approved components and were certified on the date of your system's purchase or installation, then check "Yes" on Part I, line 6 of FTB Form 3508. If your system uses any photovoltaic modules, wind turbines or inverters that are not listed on the Commission's lists of approved components, or were not certified on the date your system was purchased or installed, then you must check "No" on Part I, line 6 of FTB Form 3508.