



Corona Department of Water & Power (DWP) Solar Partnership Program Guidelines and Application

DWP's new Solar Partnership Program is available to help offset your investment in a PV system and get you on the road to making use of renewable energy. DWP provides rebates to its electric customers to reduce the initial system cost.

All California utilities are required to collect Public Benefits Funds from their customers. These funds are to be used by the utilities to develop and implement public purpose programs such as Photovoltaics. DWP is committed to promoting and supporting renewable technologies and is offering its customers rebates to reduce the purchase and installation costs for PV systems and provide a net metering credit for producing solar electricity.

DWP's Solar Partnership Program uses its customer funds to provide these solar incentives. To obtain the best value for our customers, the DWP Solar Partnership Program is designed to encourage the installation of PV Systems that produce the maximum amount of energy possible, so our Program incentive is calculated based on an Estimated Performance Calculation.

ELECTRICITY FROM THE SUN

Photovoltaics are the direct conversion of light into electricity. Certain materials, like silicon, naturally release electrons when they are exposed to light, and these electrons can then be harnessed to produce an electric current. Several thin wafers of silicon are wired together and enclosed in a rugged protective casing or panel. PV panels produce direct current (DC) electricity, which must be converted to alternating current (AC) electricity to run standard household appliances. An inverter connected to the PV panels is used to convert the DC electricity into AC electricity.

The amount of electricity produced is measured in watts (W). A kilowatt (kW) is equal to 1,000 watts. A Megawatt (MW) is equal to 1,000,000 Watts or 1,000 kilowatts. The amount of electricity used over a given period of time is measured in kilowatt-hours (kWh).

HOW DOES THE BUYDOWN PROGRAM WORK?

The amount of the rebate is based on the Estimated Performance (kilowatt-hour production) of the system, and converted to the effective annual AC generating capacity of the PV system measured in AC watts. **The rebate amount for 2015 is \$0.78 per AC watt for systems up to a maximum size of 3 kilowatts (residential) and 25 kilowatts (commercial).**

DWP electric customers that abide by the PV program terms and conditions, install a qualifying PV system and enter into an Interconnection Agreement with DWP are eligible for a Buy Down incentive.

CUSTOMER PARTICIPATION QUALIFICATIONS

To qualify for the rebate you must:

1. Be a customer receiving electricity distributed by DWP.
2. Complete and submit the attached Program Application for the DWP Solar Partnership Program to reserve a rebate for installation of a PV system. Customer will receive confirmation letter once the reservation has been approved.
3. Complete and sign the Interconnection and Net Metering Agreement with DWP. The Interconnection Agreement spells out the terms and conditions of the customer's responsibilities as a power producer and delineates the terms of the DWP net metering rate.
4. Obtain the required building and electrical permits to install the PV system from the City's Building Division.
5. Install a PV system that is compliant with the terms and conditions of the DWP Solar Partnership Program. A minimum 10-year full-system warranty against defective parts, workmanship, or unusual degradation of the system output from the PV retailer or installer is required.
6. Request a Solar Partnership Program inspection from DWP after the installation has been completed and after the system has successfully passed the City Building Inspection.
7. Submit the following documents to DWP: 1) the signed Interconnection Agreement, 2) a copy of the receipt for the PV system, and 3) a copy of the PV system 10 year warranty. Customer should make and keep on file a copy of the Interconnection and Net Metering Agreement.
8. After the required documents have been submitted and approved by DWP to receive the incentive, you will receive your rebate check within thirty (30) days.

NOTE:

- A. To expedite the rebate process, the solar system must be installed and receive final inspection approval within 3 months as outlined below:**
- 1. 2 weeks for DWP staff to confirm and reserve the funding for the system.**
 - 2. 2 weeks for applicant to submit plans and obtain permits from the City's Building Division.**
 - 3. 2 months for applicant to install and obtain final inspection approval.**
- B. Rebates are available on a first come, first served basis per calendar year, and are limited to \$2,340 for residential and \$19,500 for commercial installation. Customers may apply for one incentive over the 10-year lifetime of the program.**
- C. The site of installation must be located within the electric service territory of Corona DWP, and the purchaser's intent is to operate the system at the listed site of installation for its useful life.**

PROGRAM AND SYSTEM REQUIREMENTS

Eligible generating systems must meet all of the following requirements:

- 1. Certified Components or Systems**
 - a. All flat plate photovoltaic modules must be certified by a nationally recognized testing laboratory as meeting the requirements of the Underwriters Laboratory Standard 1703, and must appear on the latest California Energy Commission certified photovoltaic modules list available at the following website
http://www.gosolarcalifornia.org/equipment/pv_modules.php
 - b. All inverters must be certified as meeting the requirements of UL 1741 and appear on the latest California Energy Commission certified inverters list available at the following website:
<http://www.gosolarcalifornia.org/equipment/inverters.php>
- 2. Qualified and Registered Contractors must meet all Installation Codes and Standards.**
 - a. Photovoltaic systems must be installed by appropriately licensed California contractors in accordance with rules and regulations adopted by the State of California Contractors' State Licensing Board and must in all cases be installed in conformance with the manufacturer's specifications and with all applicable electrical and other codes and standards.

Contractors must possess, or employ subcontractors who possess, an A, B, C-10 or C-46 license.

- b. In addition to the State requirements, contractors wishing to install systems qualifying for the DWP Buydown Incentive must also submit an application (application available from DWP) listing appropriate licenses, years of experience, PV training, and liability insurance level.

3. Grid Connected

- Eligible systems in the Solar Partnership program must be grid-connected. This means simply that the system must be electrically connected (on the customer's premises) to the DWP electrical grid serving the customer's electrical load. The interconnection must comply with all applicable electrical codes and interconnection requirements. The system offsets the customer's energy use either directly, by supplying electrical energy otherwise supplied by the local utility electrical grid, or indirectly, by supplying electrical energy to the local utility electrical grid which is then available for use by the customer or others.

4. 10-Year Full Warranty

- All retailers of generating systems that receive a Solar Partnership Program payment under this program must provide a minimum ten-year warranty to the purchaser against breakdown or degradation of output. The warranty must cover all components of the generating system that are eligible for the Solar Partnership Program against breakdown or degradation in electrical output of more than ten percent (10%) from their originally rated electrical output. The warranty shall cover the full cost of repair or replacement of defective components or systems. Where the retailer is also the installer or professionally contracts for the installation the warranty must also cover labor costs to remove and reinstall defective components or systems. You will need to provide DWP with a copy of the full 10-year warranty in order to process the Solar Partnership Program incentive.

5. Interconnection Agreement with DWP

- In order to receive a Solar Partnership Program incentive the customer must agree to the terms of, and enter into, an Interconnection and Net Metering Agreement with DWP.

6. Purchaser/Retailer/Installer Information Provided

- Provide all information on the Purchaser, Retailer and/or Installer as requested. For Purchaser, the Federal Tax ID Number is your Social Security Number. Your Federal Tax Identification Number is required if you are going to receive the rebate.

7. Generating System Component Ratings and Estimated Performance Based Buyback basis

- a. Information on the generating system (modules and inverter) should be provided by the retailer or installer. The PTC Module Power Rating refers to the "PVUSA Test Conditions" watt-rating used by the State of California. This rating for each brand/model of module can be found at http://www.gosolarcalifornia.org/equipment/pv_modules.php.
- b. Total Array Output is the number of the PV modules multiplied by the PTC power rating of each module. Peak Inverter Efficiency refers to the level of the efficacy of the inverter to convert from direct to alternating current (DC to AC). Inverter peak efficiency levels are provided by inverter manufacturers and can also be found on the California Energy Commission website at <http://www.gosolarcalifornia.org/equipment/inverters.php>.
- c. The Estimated Performance Based Capacity is the Total Array Output multiplied by the Peak Inverter Efficiency (e.g., 94%) multiplied by a Design Factor. The Design Factor is the multiple of the orientation factor and shading factor for the PV system in our utility service area. The Orientation Factor for any tilt oriented within 45 degrees of true south is 1.0; for systems oriented from 45 degrees to 90 degrees from true south, the Orientation Factor is 0.9. To derive the Shading factor, use the Sun Charts for our area to determine percent of annual shading. The installer may also use the on-line CEC PV calculator, if available, or other approved software.

| Orientation (Compass Direction) | Tilt | Orientation Factor |
|---------------------------------|------|--------------------|
| Horizontal | 0 | 1.0 |
| 135° to 225° Azimuth | Any | 1.0 |
| 90-135° and 225-270° | Any | 0.9 |
| North of East-West | -- | 0.0 (no incentive) |

| Percent Annual Shading (derived from Sun Chart) | Shading Factor |
|---|--------------------|
| 0% to 15% | 1.0 |
| 15% to 25% | 0.9 |
| 25% to 35% | 0.75 |
| >35% | 0.0 (no incentive) |

The Design Factor is the Orientation Factor x Shading Factor.

8. Rebate Calculation

- a. The Rebate is equal to the Estimated Performance multiplied by \$0.78 / wattAC
- b. Rebate = Total Array Output x Peak Inverter Efficiency x Design Factor x \$0.78

9. Rebate Designee

- Unless otherwise specified, DWP will default and send the rebate to the customer. Keep a copy of your signed and completed Solar Partnership Program Application and Interconnection Agreement for your records.



PV App. # _____

PROGRAM APPLICATION

This application must be completed and submitted to DWP in order to reserve a rebate for installation of a solar photovoltaic (PV) system under DWP's Program.

| | | | |
|--|--|---|---|
| 1. Purchaser Information: | | | |
| Name: _____ | | | |
| Installation Address: _____ | | | Zip Code: _____ |
| Phone #: _____ | Email: _____ | Utility Account #: _____ | |
| 2. Seller Information: | | | |
| Company: _____ | | Address: _____ | |
| Phone #: _____ | Fax #: _____ | Email: _____ | |
| 3. Installer Information: Purchaser Same as Seller or as shown below: | | | |
| Name: _____ | | | |
| Phone #: _____ | Fax #: _____ | Email: _____ | |
| Contractor Class: _____ | License #: _____ | Expires: _____ | Installer will provide full ten-year warranty? No Yes |
| 4. Generating System: | | | |
| Photovoltaic Module Manufacturer | | | Module Model #: _____ |
| Quantity: _____ | PTC Power Rating per Module: Watts _{PTC} _____ | Total Module Output: Watts (Quantity x PTC Power Rating) | |
| Inverter Manufacturer | | | Inverter Model #: _____ |
| Inverter CEC Efficiency: % _____ | Quantity: _____ | Inverter includes eligible performance meter? No Yes | |
| Performance Meter Manufacturer: | | | Performance Meter Model #: _____ |
| Will PV system be installed on roof? No Yes – Age of roof in years: _____ | | | |
| 5. System Rated Output: | | | |
| System Rated Output: Watts _{AC} (Total module output watts x inverter efficiency) | | | |
| Estimated Energy Production: kWh/year _____ | | Methodology Used: _____ | |
| 6. Estimated Performance Based Capacity Calculation: | | | |
| Orientation (Azimuth in degrees) _____ | | Orientation Factor (from table) _____ | |
| Shading Percentage _____ | | Shading Factor (from table): _____ | |
| *Design Factor = Orientation Factor _____ x Shading Factor _____ = _____ | | | |
| System Rated Output x Design Factor* = _____ Watts x _____ = _____ Watts _{AC} Expected Performance Based Capacity | | | |
| 7. Rebate: Pay rebate to: Purchaser Seller | | | |
| Residential Rebate = \$ _____ (\$0.78 /watt _{AC} x Estimated Performance Based Capacity, up to \$2,340) | Non-Profit Rebate= \$ _____ (\$0.78/watt _{AC} x Estimated Performance Based Capacity, up to \$19,500) | Commercial Rebate= \$ _____ (\$0.78/watt _{AC} x Estimated Performance Based Capacity up to \$19,500) | |

Each of the Undersigned declares under penalty of perjury that:

- 1) the information provided in this form is true and correct to the best of my knowledge, 2) the above

described generating system is intended primarily to offset part or all of the purchaser's electrical needs at the site of installation, 3) the site of installation is located within the electric service territory of Corona DWP, and 4) the purchaser's intent is to operate the system at the listed site of installation for its useful life.

Purchaser Name _____

Signature _____ Date _____

Seller Name _____ Signature _____

Date _____

Attachments: Please attach a copy of the utility bill, a purchase order for the equipment and installation of your generating system showing the itemized cost of the major equipment and labor, and a Shading Sun Chart.

HOW TO COMPLETE THE PROGRAM APPLICATION

1. Purchaser Information:

Provide contact information of purchaser of the system. Provide the street address where the system will be installed, and DWP account number.

2. Seller Information:

Provide the contact information for the seller of the generating equipment.

3. Installer Information:

Provide the installer's name, if different from the seller, and the California license class (C-10, electrical or C-46, solar) and license number of the installing contractor. Owner-installed systems are not eligible for participation.

4. Generating System:

PV Modules: Enter the manufacturer's name, model number and quantity of photovoltaic modules that your system will contain. Only modules that have been certified by a nationally recognized testing laboratory as meeting the requirements of the Underwriters Laboratory (UL) Standard 1703 are eligible. Enter the "PTC" (not STC) rating of the modules. The California Energy Commission (CEC) maintains a list of certified modules and their PTC ratings on their website at

http://www.gosolarcalifornia.org/equipment/pv_modules.php. Multiply the module quantity by the module PTC watts to get Total Module Output in watts PTC.

Inverters: Enter the manufacturer's name, model and inverter efficiency (at three-quarter's load) of the inverter in your system. Inverters must have a minimum warranty of ten years and be certified as meeting the requirements of UL 1741. A list of certified inverters can be obtained from the CEC website at **<http://www.gosolarcalifornia.org/equipment/inverters.php>**.

Performance Meters: Meters must retain the kilowatt-hour production data in the event of a power outage and must be easy to read for the purchaser's benefit. The meter must measure the total energy produced by the system in kilowatt-hours and have a manufacturer's uncertainty specification of plus or minus five percent.

Roof PV Installations: PV modules have a warranty of 25 years. It is highly recommended to install PV over a new roof. Reinstalling PV modules after re-roofing can cost a few thousand dollars.

5. **System Rated Output:**

Multiply the Total Module Output by the Inverter Efficiency. Please enter the entire system size even if your rebate will be capped. Enter the estimated energy production and indicate the calculation methodology used to determine the estimated energy production value in kilowatt-hours. Example: Clean Power Estimator or PV Installer's Guide. Clean Power Estimator can be found at www.consumerenergycenter.org/renewables/estimator/index.html. PV Installer's Guide can be downloaded at www.energy.ca.gov/reports/2001-09-04_500-01-020.PDF.

6. **Estimated Performance Based Capacity Calculation:**

Multiply the System Rated Output by the Design Factor, which is the multiple of the Orientation Factor and Shading Factor. Use the following Table:

| Orientation of PV Array (Compass Direction, 180°= true south) | Tilt | Orientation Factor |
|---|------|--------------------|
| Horizontal | 0 | 1.0 |
| 135° to 225° Azimuth | Any | 1.0 |
| 90-135° and 225-270° | Any | 0.9 |
| North of East-West | -- | 0.0 (no incentive) |

| Percent Annual Shading (derived from Sun Chart) | Shading Factor |
|---|--------------------|
| 0% to 15% | 1.0 |
| 15% to 25% | 0.9 |
| 25% to 35% | 0.75 |
| >35% | 0.0 (no incentive) |

This yields the Estimated Performance Based Capacity, which is the basis for the rebate calculation.

7. **Rebate:**

Residential: Multiply the Estimated Performance Based Capacity watts by \$0.78/watt AC. If your system exceeds 3,000 watts AC, enter \$2,340. Non-Profit: Multiply the Estimated Performance Based Capacity watts by \$0.78/watt AC. If your system exceeds 25,000 watts AC, enter \$19,500.

Commercial: Multiply the Estimated Performance Based Capacity watts by \$0.78/watt. If your system exceeds 25,000 watts, enter \$19,500.

REBATE APPLICATION SUBMITTAL

Please mail or bring your Rebate Application to:

Corona Department of Water and Power
755 Public Safety Way
Corona, CA 92880
Phone: (951) 736-2234
Fax: (951) 736-2455