



Solar PV Program Guidebook & Rebate Application

The City of Ukiah (City) encourages the installation of high-quality solar photovoltaic (PV) systems. California's Senate Bill 1 (SB1), passed in August 2006, set a statewide goal to add 3,000 MW of new PV systems over ten years. The outcome of the program is examined at the end of each year and appropriate revisions are made to ensure progress toward program goals and equity among rate classes.

Per SB1 requirements, a solar PV rebate budget will be made available through 2017. The City's Solar PV Program is funded by electric utility customer revenue in the Public Benefits Fund (PBF). In accordance with Assembly Bill 1890 publicly-owned utilities are required to collect a separate surcharge to be used for Public Benefits programs. The amount publicly-owned utilities must collect for their PBF is tied to the lowest percentage of expenditures of the state's three investor-owned utilities; currently the surcharge is 2.85%.

PROGRAM ELIGIBILITY AND REQUIREMENTS

Customer/Applicant

The City's Solar PV Program is available to all City electric utility customers. The applicant must be the electric utility customer of record at the location where the generating equipment will be located. Solar retailers/installers may provide application assistance.

To be eligible for interconnection to the City's electric grid, the customer must submit a Solar PV Program Application and receive a PV System Approval letter from the City prior to the beginning of installation and final interconnection authorization.

The City cannot provide contractor recommendations, but advises customers to obtain more than one contractor bid, references and contractor licensing status. Customers may search for solar installers, contractors and retailers at: www.gosolarcalifornia.ca.gov/database/search-new.php

Installer

To be eligible for interconnection to Ukiah's electrical grid, all systems must be installed by appropriately licensed contractors in accordance with rules and regulations adopted by the State of California Contractors State Licensing Board (CSLB) and City Building Codes. Contractors must have an active A, B, C-10 license, or C-46 license for installing PV systems. Roofing contractors with a current C-39 license may place PV panels in accordance with the limitations of their license. However, electrical connections shall not be made by a roofing contractor. Although not required, installation contractors are encouraged to become certified by the North American Board of Certified Energy Practitioners (NABCEP). The City also recommends that the installer be registered with Go Solar California and meet their pre-screening criteria. For more information, visit: www.gosolarcalifornia.ca.gov.

In all cases, systems must be installed in conformance with the manufacturer's specifications and all applicable electrical and building codes and standards and City Electric Utility standards and specifications.

System Equipment

All PV modules, inverters, and meters must be listed on the California Energy Commission's (CEC) Eligible Equipment List and must be new and not previously placed in service in any other location or for any other application. This list is continuously updated by the CEC. The current list for eligible equipment can be found at: www.gosolarcalifornia.ca.gov/equipment.

Modules: Only PV modules listed at www.gosolarcalifornia.org/equipment/pv_modules.php may be considered eligible. All modules must be certified to UL 1703 by a Nationally Recognized Testing Laboratory (NRTL) to ensure safety and reliability.

Inverters: Only inverters listed at www.gosolarcalifornia.org/equipment/inverters.php may be considered eligible. All inverters shall be certified to UL 1741 standards by a NRTL. Inverters shall also meet IEEE 1547 interconnection standards to be approved as non-islanding (non-backfeeding) devices that automatically disconnect from the grid upon loss of utility voltage.

Performance Meters: All solar energy systems must be installed with a performance meter or an inverter with a built-in performance meter so that the customer can monitor and measure the system's performance and the quantity of electricity generated by the system. All meters shall measure and display the real-time production of the system in watts or kW, cumulative energy produced, and retain production data during power outages. All performance meters shall be easy to read and accessible to Ukiah inspectors and/or meter readers. On multiple inverter systems, an internet based monitoring system is NOT an acceptable substitute for a performance meter.

The City reserves the right to reject a system from interconnection if it is deemed unsafe by the City.

System Size

The minimum system size requirement for the City's Solar PV Program is 1 kW and the maximum system size is 1 MW. Systems must be sized so they do NOT exceed the annual electric usage of the home or business.

Systems sized between 1 kW_{AC} and 5 kW_{AC}, inclusive, shall be assumed to primarily offset the customer's annual electricity needs. For systems larger than 5 kW_{AC}, the customer must show justification of the system sizing with the submittal of the initial rebate application, demonstrating that the system is sized NOT to exceed the annual household electric energy use.

For new construction or for customers with existing electric usage history that does not reflect the customer's expected expanded consumption, the customer must include an electrical load estimate for systems larger than 5 kW_{AC}. Suggested methods of substantiating a load estimate include an electric load calculation with corresponding equipment schedules, building simulation program reports, or detailed engineering calculations. The Electric Utility Department will verify load calculations. Calculations must be submitted at time of application.

Shading Analysis

Minimal shading - A system is considered to have "minimal shading" if no solar obstruction is closer than a distance twice the height it extends above the PV modules. Obstructions include any roof equipment, neighboring trees, poles, buildings, or other objects. No shading analysis is required for systems with minimal shading.

If shading obstructions exist, shading conditions shall be verified using a solar assessment tool, such as a Solar Pathfinder or Solmetric report and submitted with the application. Monthly shading derate factors must be recorded for the system.

Energy Efficiency

For residential installations, the customer must include the Residential Energy Efficiency Checklist along with the application. It is recommended that the customer implement efficiency measures prior to PV system installation. For commercial sites, the customer should contact the City to request an energy efficiency audit, prior to PV system installation. An energy efficiency representative will visit the facility and make recommendations as to possible energy efficiency opportunities. Customers may be exempt if their home complies with the 2001 or 2005 CA Title 24 Energy Code (submit a copy showing compliance with CF-1R Form, prepared by a Certified Energy Plans Examiner).

Warranty

All systems must have a minimum 10-year warranty provided in combination by the manufacturer and installer to protect the purchaser 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 10-year period. The warranty

must cover the PV modules and inverters, and provide for no-cost repair or replacement of the system or system components.

Metering and Data Collection

The City shall install, own, and maintain a kilowatt-hour meter/meters capable of registering the bi-directional flow of electricity. The customer is responsible for the application, permit inspection fees, and meter, panel and installation costs. Modifications to the service entrance must be approved by the City. All service entrance and disconnects must be Electric Utility Service Equipment Requirements Committee (EUSERC) approved.

All net-metering customers may be required to self-read their City meter and provide meter readings on a monthly basis. Additionally, customers may be required to provide cumulative production data from their performance meter on an annual basis.

A separate performance meter must be installed on the customer-side of the system (see System Equipment above). Utilizing inverters that have a built-in performance meter is acceptable.

Site Inspections and System Verification

To be eligible for the City's Solar PV Program, customers must agree to provide the City, and/or third parties contracted by the City, with access to the site and any available data and information collected on the system.

The City will conduct a System Interconnection Inspection in order to verify that the PV system is installed as represented in the application, is operational, interconnected, and conforms to the eligibility criteria of the City's Solar PV Program and the Interconnection Agreement. At the City's discretion, the installer may be required to be present at the interconnection inspection. The City reserves the right to disqualify installers from future program participation for failed inspections due to gross negligence, fraud, or uncorrected mechanical failures within 60 days.

PERMITS AND INTERCONNECTION

A final approved building permit is required to for solar PV system interconnection. Customers will also be required to enter into an Interconnection Agreement and a Net Metering Agreement with the City. See the Net Metering Agreement for more details.

The Net Metering Agreement must be on file for each unless updated.

SOLAR PV PROGRAM REBATE STRUCTURE AND APPLICATION PROCESS

Complete instructions, including a list of required attachments, are available in the City's Solar PV Program Application. Applications will be received and approved funds reserved on a first come, first served basis until the available funding has been allocated. If available funds become fully allocated, additional funds will become available on July 1 of the following fiscal year.

Projects must be complete within six months from the date the building permit is issued for the system. Customers must file for an extension if their completion date extends beyond the six month completion requirement.

Equipment is intended to be in place for the duration of its useful life. Only permanently installed systems are eligible for rebates. PV systems must demonstrate adequate assurances of both physical and contractual permanence prior to receiving a rebate.

To be eligible for a rebate, the system must be owned by the customer and installed on the customer's side of the meter. Leased systems set up as a Power Purchase Agreement model do not qualify for a rebate. Leased systems qualify for rebates only if the lease structure is set up as a financing mechanism for the system itself with lease payments identified accordingly. For leased systems, a copy of the lease agreement must be included with the Rebate Application. All Renewable Energy Credits shall be transferred to the City of Ukiah Electric Utility.

Solar PV Program rebates are capped according to rate class (see Table 1).

Table 1: Solar PV Rebate Budget and Caps

Annual Program Budget	Residential Cap	Commercial Cap
\$150,000	\$7,000	\$25,000

Calculating Rebate Amount

Beginning in 2010, capacity-based incentives are no longer available. All rebates will be calculated according to the expected performance of the system, called an Expected Performance Based Incentive (EPBB). Please see Solar PV Program Application Instructions for more information on calculating rebate amounts.

Table 2: Solar PV Rebate Rate by Fiscal Year

Fiscal Year Ending	FY Start Date	FY End Date	\$/ W_{AC}
2016	July 1, 2015	June 30, 2016	\$0.56
2017	July 1, 2016	June 30, 2017	\$0.28

Project Costs

No project can receive total combined incentives that exceed total eligible project costs. The customer must submit project cost details to report total eligible project costs and to ensure that total incentives do not exceed out-of-pocket expenses for the customer.

Application Process

The customer submits the Solar PV Program Application, with required attachments. If the application is incomplete, the City will return the Application. If the Application is complete and rebate funds are available, the City will include the potential rebate amount on the PV System Approval letter to the customer. Upon receiving your Approval letter, the customer will have two months to secure a permit, and then six months to install the system. If the customer has not secured a permit within two months after receiving their Approval Letter, the rebate reservation will expire and the funds will be released to other customers. The customer may re-apply at a later time if they choose. .

Once the system is installed, the customer must schedule a System Interconnection Inspection with the City so that the system can be interconnected and energized (707-467-5718). All Building Permit processes must be adhered to. The customer must pay all current application, permit and inspection fees prior to calling to schedule their interconnection inspection. The PV System must pass all required City Building Official inspections prior to the Interconnection Inspection.

Once the system has passed all required inspections, the City will process the rebate. The reservation period for all projects is 6 months from the date your building permit is issued for the system, unless an extension is filed.

Rebate Payments

Rebate Payments will be made to the customer or installing contractor. The customer must designate who the rebate is to be paid to by checking the appropriate box on the Rebate Application. The City shall process the rebate and send a check to the designated party within 45 days of passing the final system performance inspection, and submission of all required attachments. Rebates cannot be paid retroactively for systems installed in previous years. Each customer is eligible for one rebate for each property owned, on a first-come, first-served basis. Rebate recipients are responsible for determining if their rebate is taxable by checking with a qualified tax advisor.

In exchange for the Solar PV Program rebate and annual payments to net-producers of energy, the customer agrees that the Renewable Energy Credits (RECs) generated by the system belong to The City. If the system is leased, a signed form from the leasing company acknowledging that the RECs belong to the City is required. The City may use or sell the RECs at their discretion.

Once the system is operational, the customer must schedule a post-installation performance inspection of the system. This inspection verifies that the system was installed in accordance with the inputs to the EPBB calculator, and that the system is performing (ie. producing power) at the appropriate levels (<http://www.csi-epbb.com/CSI-EPBBCalculatorUserGuide.pdf>) for more details on using the calculator. If the system is verified to NOT be installed as submitted, the contractor will be required to submit a corrected EPBB calculator. ***If the system output is reduced as a result, the customer rebate will be adjusted down accordingly.***

System Changes Affecting Rebate Amount

Customers must inform the City of any system design changes by submitting written notification. If the revised system is larger, the incremental rebate (if applicable) will be calculated and the rebate amount may be revised, if funding is still available.

THE CITY OF UKIAH RESERVES THE RIGHT TO MODIFY THIS PROGRAM, AS NEEDED, TO BETTER SERVE THE INTERESTS OF OUR CUSTOMERS.

For more information, please contact:

City of Ukiah, Efficiency Services
(707) 467-5700

OR

City of Ukiah Electrical Utility
411 W. Clay St.
Ukiah, CA
707-467-5711



Solar PV Program Application

Customer Information			
Customer Name:		Phone #:	
Installation Address:		E-Mail:	
Mailing Address:			
Ukiah Account #:	Ukiah Meter #:	Utility Service:	Amps
System Retailer Information			
Company:		Address:	
Contact:	Phone #:	Email:	
Installer Information Check if Same as Retailer <input type="checkbox"/>			
Company:		Address:	
Contact Name:	Phone #:	Email:	
Contractor Class:	License #:	State:	Expiration:
PV System Information (Check one) Roof Mounted <input type="checkbox"/> Ground Mounted <input type="checkbox"/>			
Module Manufacturer:		Module Model #:	
Quantity:	Module PTC Power Rating: Watts _{DC}	System PTC Power Rating: Watts _{DC}	
Inverter Manufacturer:		Inverter Model #:	
Quantity:	Inverter Efficiency Rating (%):	System AC Power Rating: Watts _{AC}	
CSI EPBB Input			
Mounting Method (av. standoff) inches	Shading : Minimal shading Analysis Attached <input type="checkbox"/>	ArrayTilt: degrees	Array Azimuth: degrees
CSI EPBB Results			
Annual kWh: kWh/year		CSI Rating: kW _{AC}	
Installed System Cost		Owned <input type="checkbox"/>	Leased <input type="checkbox"/>
Total Cost of System Before Rebate or Tax Credits: \$			
*Rebate	Pay rebate to:	Customer <input type="checkbox"/>	**Retailer <input type="checkbox"/> **Installer <input type="checkbox"/> N/A <input type="checkbox"/>
Eligible Rebate: \$ (CSI rating x 1000 x current rebate per AC watt); Maximum Rebate: \$7,000 for residential; \$25,000 for commercial/irrigation			

Each of the Undersigned declares under penalty of perjury that:

- The information provided in this form is true and correct to the best of my knowledge,
- The site of installation is permanently located within City of Ukiah service territory,
- Your intent is to operate the system at the listed site of installation for its useful life, and
- If you trench, you agree to disclose the location of easements and call 1-800-227-2600 to "Call Before You Dig".
- **Leased systems are eligible only under certain circumstances. See Solar Guidebook for details.**

I give the City permission to provide my usage history to any party necessary to approve and reserve my rebate funds.

Customer Signature(s) _____ Date _____

Installer Signature _____ Date _____

***Note: This is the approved rebate assuming the system is installed as submitted, and the shading, tilt and orientation factors are entered correctly into the EPBB calculator. The City will perform a final inspection to verify the accuracy of the EPBB calculator inputs. If the EPBB calculator inputs were entered incorrectly, the City will adjust the inputs and rebate accordingly based on the de-rate factors listed in the Rebate Application Instructions. ** I/We understand that this direct payment to my Contractor or Retailer does not relieve me of my tax liability and will be reported under my Tax Identification Number on IRS Form 1099.**



City of Ukiah Solar PV Program

Application Instructions

CUSTOMER INFORMATION

- Enter Customer's Name, as it appears on the City of Ukiah Electric Utility Account
- Enter Customer's phone number, where they can best be reached during the day
- Enter the site address of the solar PV installation, which must be the Customer's electric service location
- Enter the mailing address of the Customer
- Enter the customer's email address
- Enter the City of Ukiah electric utility account number, meter number and the size of the utility service (in Amps)

SYSTEM RETAILER INFORMATION

- Enter system retailer name (company name) and contact information

INSTALLER INFORMATION

- Check box if Installer is also the Retailer and skip contact information. If not the same;
- Enter installer name (company name) and contact information
- Enter installer's contractor's license class
- Enter installer's contractor number
- Enter State the installer is licensed
- Enter expiration date of installer's contractor's license

PV SYSTEM INFORMATION

- Go to www.csi-EPBB.com/default.aspx, and enter the system array data from the application.
- **YOU MUST ENTER THE FOLLOWING: Zip Code = 95482; Utility = PG&E; Incentive Type = EPBB**
- Complete PV system information, matching the EPBB calculator exactly
- Check appropriate box for PV system mounting type (roof or ground)
- Enter PV module manufacturer
- Enter PV module model number
- Enter the quantity of modules to be installed
- Enter module PTC power rating, in Watts_{DC}, as listed at: www.gosolarcalifornia.org/equipment/pv_modules.php
- Enter the system PTC power rating, in Watts_{DC} (module quantity x module's PTC power rating)
- Enter the inverter manufacturer
- Enter the inverter model number
- Enter the quantity of inverters to be installed
- Enter the inverter's weighted efficiency rating (%), as listed at: www.gosolarcalifornia.org/equipment/inverters.php
- Enter the system AC power rating, in Watts_{AC} (system PTC power rating x inverter efficiency)

CSI EPBB INPUT

- Inputs on the Application must match the inputs on the EPBB Calculator.
- Mounting Method is the "average standoff" between the mounting surface and PV module/mounting rack.
- Check minimal shading (if no solar obstruction is closer than a distance twice the height it extends above the PV modules) or check that you've attached a shading analysis (including monthly de-rate factors)
- Enter the array tilt in degrees
- Enter the array azimuth in degrees (assume True North = 0 degrees)
- PRINT A COPY OF THE INPUT PAGE. Click on "GO"

CSI EPBB RESULTS

- PRINT A COPY OF RESULTS PAGE.
- Enter the estimated annual kWh produced on the Rebate Application (shown on results page of the EPBB Calculator)
- Enter the CSI power rating on the Application, in kW_{AC} (shown on results page of the EPBB Calculator)
- See www.csi-EPBB.com/CSICalculatorV4UserGuide.pdf for more details on using the calculator

INSTALLED SYSTEM COST & REBATE

- Enter the total cost of system before rebate or tax credits
- If applying for a rebate, check appropriate box to designate whom the rebate should be paid to (customer, retailer or installer)
- Enter eligible rebate, calculated by: CSI rating x 1000 x \$Rebate per AC watt (Rebate Caps Apply; Residential = \$7,000; Commercial = \$25,000)

City of Ukiah Solar Program Rebate Application Checklist

To better facilitate Application processing, please submit your Application and supporting documentation at least 6 weeks prior to proposed interconnection (10 weeks for 400A or commercial service).

All City of Ukiah PV Program Applications must be accompanied by the following attachments in order to be considered complete:

- Check the box on the rebate application giving the City of Ukiah permission to provide customer usage history to parties involved in the approval and reservation of rebate funds. This is necessary to verify the system is not designed to produce more power than the home or business uses on an annual basis.
- Two years of billing history (or the maximum number of months of usage history if two years not available)
- If system is owned, include purchase order or contract for the PV system equipment and installation
- If system is leased, include a copy of the lease agreement
- Proof of 10 year warranty on parts and labor
- Residential Energy Efficiency Checklist
- Copy of the CSI EPBB Results page (generated after you click "GO")
- If more than "minimally shaded", include a shading analysis (Solar Pathfinder or Solmetric report)
- For new construction or if electric consumption history does not reflect expected expanded consumption, include an electrical load estimate for PV systems larger than 5 kW_{AC}. Suggested methods of substantiating a load estimate include an electric load calculation with corresponding equipment schedules, building simulation program reports, or detailed engineering calculations.
- Email all rebate documents to rebate@esgroupllc.com, or mail all rebate documents to:

City of Ukiah
5734 Lonetree Blvd.
Rocklin, CA 95765 or email to rebate@esgroupllc.com.

If your Rebate Application is complete, you will receive a **Rebate Reservation Confirmation Letter** from the City of Ukiah confirming that rebate funds have been reserved for your project. Please note that installation of your PV system may only commence after you have received your Rebate Reservation Confirmation Letter in order to qualify for a rebate. Your confirmation letter will also provide important information regarding additional steps required by the City of Ukiah's Building Department (ex: permits and inspections). Please provide the City of Ukiah with an estimated date of installation completion, as far in advance as possible.

In order to acquire a building permit for your PV system, you will need:

- Completed Building Permit Application
- Copy of rebate approval letter
- One signed copy of the interconnection agreement
- Application for residential/commercial utility service
- W-9 Internal revenue service (if a commercial installation)
- Four copies of plans – 2 wet signed
- 8 ½ X 11 plot plan
- Two sets of truss calculations or engineered calculations if required
- PV system design and electrical one-line drawing
- If system is **not** roof-mounted, include a plot plan with proposed system location and trenching in relation to existing utilities/easements, and disclose easements. Call 1-800-227-2600 if trenching is necessary!

Permit application documents should be submitted to City of Ukiah's Building Department.

Once the system is installed, a final inspection by the City of Ukiah Building Department is required. Please contact the City of Ukiah at 707-467-5718 to schedule a final inspection. Once approved, contact the City of Ukiah again at 707-463-6228 to schedule a new meter installation so that the system can be energized.

Once the system is energized, Ukiah will conduct a final Solar Performance Inspection to verify that the system was installed according to the EPBB calculator inputs and to verify that the system is performing properly. Call 1-707-467-5700 to schedule this inspection. If the EPBB calculator inputs were entered incorrectly, Ukiah will require your contractor to submit a corrected EPBB results page, and your rebate will be adjusted accordingly.

FINAL REBATE PROCESSING

If applicable, the solar PV rebate will be processed when the following documents have been submitted:

- Signed Application with all Required Attachments
- Final building permit, showing inspection was approved
- Final system performance inspection, showing the inspection was approved
- Signed and executed System Interconnection Agreement
- Copy of PAID purchase order, receipt or invoice (or executed contract for payment)
- Copy of executed warranty, showing date warranty begins
- Any revised Application documents as required (if applicable)

The City of Ukiah will review your rebate request and process the rebate, when complete. The reservation period for all projects is six months from the date of the Rebate Reservation Confirmation Letter, unless an Extension is filed. If a rebate reservation expires and a customer reapplies at a later time, any new rebate will be calculated based on the City of Ukiah's \$ per AC watt rebate for that fiscal year.

The City of Ukiah reserves the right to adjust program requirements to better serve our customers and facilitate application processing. We look forward to assisting you with your solar PV installation. If you have any questions, please contact us at 707-467-5700.