Lassen MUD
PV BUY DOWN PROGRAM
Photovoltaic Systems Guidelines

Lassen MUD is committed to promoting and supporting renewable technologies. Our Photovoltaic (PV) Buy-Down Program provides rebates to help offset your purchase and installation investment in a PV system. Also, a net metering credit can be paid to you for producing solar electricity beyond the needs of your home or business. LMUD hopes that this dual incentive gets you on the road to making use of renewable energy.

LMUD's PV Program uses utility revenues to provide these solar incentives. To obtain the best value for our customers, Lassen MUD's PV 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 is 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 performs this conversion.

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

HOW DOES THE BUYDOWN PROGRAM WORK?

Lassen MUD electric customers that meet the PV program terms and conditions, install a qualifying PV system and enter into an Interconnection Agreement with Lassen MUD are eligible for a rebate. 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 residential rebate amount for 2012 is $3.22 per AC watt for systems up to a maximum size of 4 kilowatts, or $10,000 not to exceed 50% of the total cost of the installation. The commercial rebate amount is $2.26 per AC watt up to a maximum size of 50 kilowatts or $25,000 not to exceed 50% of the total cost of the installation. LMUD's yearly budgeted amount is $140,000 for all installations. Rebates are available on a first come, first served basis.(limited by the annual program budget).

Customers may apply for multiple incentives over the 10-year lifetime of the program. (1/1/2007 to 1/01/2017) LMUD does not allow "Private Power Agreements." Grid-tied photovoltaic systems are limited to no more then 50 kilowatts. LMUD retains all rights to "Renewable Energy Credits" (REC's). Customers who wish to forfeit the solar rebate may retain the REC's generated from their systems.

Lassen MUD PV Buy Down Program

Customer Participant Qualifications

To qualify for the rebate you must:

1. Be a customer receiving electricity distributed by Lassen MUD.

2. Have an LMUD Energy Efficiency Audit.

3. Obtain and submit the required building and electric permits to install the PV system from the appropriate County or City Building Department.

4. Complete and submit a signed application for the Lassen MUD PV Buy Down Program to reserve a rebate for installation of a PV system. An application is available from Lassen MUD.

5. Complete and sign two copies of the Interconnection Agreement with Lassen MUD. The Interconnection Agreement spells out the terms and conditions of your responsibilities as a power producer and delineates the terms of Lassen MUD net metering rate. A copy of the Interconnection Agreement is available from Lassen MUD.

6. Install the PV system that is compliant with the terms and conditions of Lassen MUD's PV Buy-Down 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.

7. Request a PV Buydown Program inspection from Lassen MUD after the installation has been completed and *after* the system has successfully passed the City/County Building/Electrical Inspection.

8. Submit the following documents to Lassen MUD: 1) two signed originals of the 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 Agreement.

9. After the required documents have been submitted to Lassen MUD, have been approved by Lassen MUD and the system installation has been verified you will receive your rebate check. Please allow 6 to 8 weeks for processing.

Program and System Requirements

Eligible generating systems must meet all of the following requirements:

1. Certified Components or Systems

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 been 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.ca.gov/equipment/pvmodule may be considered eligible for rebates. 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.ca.gov/equipment/inverter may be considered eligible for rebates. 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 cumulative energy produced and retain production data during power

outages. All performance meters shall be easy to read and accessible to meter readers.

Ground-mounted systems: If system is *not* roof mounted, the system must meet National Electric Safety Code ("NESC") clearances and all property easements must be disclosed. Rebate applications must include a plot plan denoting system location in relation to existing electrical service and existing easements. Additionally, if trenching is required, installers are required to call for an Underground Service Alert ("USA") to locate underground utilities. If you don't "Call Before You Dig," you may disrupt service to an entire neighborhood, harm you and those around you and potentially result in fines and repair costs. Calling USA is free and helps prevent undesired consequences.

Lassen MUD reserves the right to reject a system from interconnection if it is deemed unsafe by the District.

2. System Size

The minimum system size requirement for Lassen MUD's SB1 Program rebate is 1 kW and maximum system size is 50 kW. SB1 Program rebates are capped according to rate class.

To be eligible, the system must be sized so that the amount of electricity produced by the system primarily offsets part or all of the customer's annual electrical needs at the site of installation. 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 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. Lassen MUD will verify load calculations.

3. Qualified/Registered Contractors must meet all Installation Codes/Standards

To be eligible for a rebate, 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"). Lassen MUD 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/installers

4 Grid Connected

Eligible systems in the PV Buy Down program must be grid-connected. This means simply that the system must be electrically connected (on the customer's premises) to Lassen MUD electrical grid serving the customers 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 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.

5. Ten-year Full Warranties

All retailers of generating systems that receive a PV Buy Down 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 of the components of the generating system that are eligible

for the PV Buy Down against breakdown or degradation in electrical output of more than ten percent from their originally rated electrical output. The warranty shall cover the full cost of repair or replacement or 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 Lassen MUD with a copy of the full 10-year warrantee (s) in order to process the PV Buy Down incentive.

6. Terms

In order to receive a PV Buy Down incentive the customer must agree to the terms of, and enter into, an Interconnection Agreement with Lassen MUD.

7. Retailer/Installer Information Provided

Provide all information on the Retailer and/or Installer as requested. Your Federal Tax Identification number is required if you are going to receive a third party rebate.

8. Calculating Array Performance

Please refer to the application instructions (CSI – EPBB Input) – the Estimated Performance Based Capacity is the total array output multiplied by the Peak Inverter Efficiency (e.g., 94%) multiplied by the Design Factor (the multiple of the orientation factor and the shading factor)

(8. A)

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.

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)

(8. B)

A **Shading Analysis** is required and must be attached to all applications, unless a site has 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. Landscaping should be evaluated at the expected mature height. For shading from existing obstructions, shading conditions shall be verified using a solar assessment tool, such as a Solar Pathfinder or Solmetric report. Monthly shading derate factors must be recorded for the system (100% = no shading, 0% = total shading).

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.

9. Rebate Calculation

The **Rebate** is equal to the **Estimated Performance** multiplied by $2.26 / wattAC ($3.22 per watt residential)

> Rebate = Total Array Output x Peak Inverter Efficiency x Design Factor x $2.26 ($3.22 per watt residential)

Note: The rebate per system is limited to $10,000 (4 kW) for residential customers and $25,000 (50kW) for commercial customers, rebates will not exceed 50% of the total cost of the installation.

10. Application Process

The customer submits the SB 1 Application, with required attachments. If the application is incomplete, Lassen MUD will return the Application. If the Application is complete and rebate funds are available, Lassen MUD will provide a Rebate Reservation Confirmation Letter to the customer. Once the system is complete, the customer must schedule a System Interconnection Inspection with Lassen MUD so that the system can be interconnected and energized. All Building Permit processes must be adhered to. The PV System must pass all required City/County Building Official inspections prior to the Interconnection Inspection. Once the system has passed all required inspections, Lassen MUD will review the application and process the rebate if complete system matches the pre–approved rebate application.

11. Site Inspection and System Verification

To be eligible for Lassen MUD's SB1 Program rebates, customers must agree to provide Lassen MUD, and/or third parties contracted by the District, to access the site and any available data and information collected on the system.

The District 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 District's SB1 Program and the Interconnection Agreement. At the District's discretion, the installer may be required to be present at the interconnection inspection. The District 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.

12. Rebate Payments

Rebate Payments will be made to the customer or other party, as designated in the Rebate Application. The District shall process the rebate and send a check to the designated party within 6 to 8 weeks of project completion. 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 SB1 Program rebate to net-producers of energy, the customer agrees that the Renewable Energy Credits ("RECs") generated by the system belong to the District. The District may use or sell the RECs at their discretion.

13. System Changes Affecting Rebate Amount

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