



# **Photovoltaic Solar Installation Guidelines Updated August 2018**



**Have Questions? Contact us at (209) 333-6762**

## **INTRODUCTION**

These guidelines have been created to help LEU customers navigate the procedural and permitting requirements for the installation of solar photovoltaic (PV) electric generation equipment of 1 MW or less within the City of Lodi.

As you consider the installation of a solar PV system, it is recommended that you verify both current and anticipated future electric rates with LEU to accurately evaluate your potential savings. Please note that some electric charges on your bill are non-bypassable and are charged regardless of your power generation source. The LEU does not allow Power Purchase Agreements whereby vendors retaining ownership of a system sell power from the solar PV system to an LEU customer within LEU's service territory. Leased systems are allowed whereby the lease structure is set up as a financing mechanism for the system itself with lease payments identified accordingly.

### **Residential Solar Installations**

#### Lodi Electric Utility – (Pre-approval Required)

All residential solar installations require pre-approval from LEU **prior to** applying for a City of Lodi building permit from the Community Development Department – Building and Safety Inspection Division.

To obtain pre-approval from LEU, you must file all required documents to LEU in accordance with the [PV System Submittal Checklist](#). Upon receipt of all items on the checklist, LEU will conduct a review of the proposed system size and analyze impact to the distribution system.

Contact: LEU Engineering (209) 333-6762; 1331 S. Ham Lane, Lodi, CA 95242

#### Community Development Department – Building and Safety Inspection Division (Permit)

Contact: Building & Safety Inspection Division (209) 333-6714; 221 West Pine Street, Lodi, CA 95241

To obtain a permit for a residential system, you must file an application and request inspection in compliance with the [Minor Residential Rooftop Photovoltaic \(PV\) Permit Procedure](#).

### **Commercial Solar Installations**

#### Lodi Electric Utility

Contact: LEU Engineering (209) 333-6762; 1331 S. Ham Lane, Lodi, CA 95242

All customers shall file a complete [PV System Submittal Checklist](#) packet with LEU for review and approval.

#### Community Development Department – Building and Safety Inspection Division (Permit)

Contact: Building & Safety Inspection Division (209) 333-6714; 221 West Pine Street, Lodi, CA 95241  
File an application in compliance with the [Commercial permit application package](#).

### **System Sizing**

PV systems may be sized so that the amount of electricity produced by the system meets, but does not exceed the previous 12 months of electric energy usage at the site of installation. Customers may request their energy usage history from LEU by calling (209) 333-6762. LEU will review the previous 12 months of energy usage at the installation site to determine an average annual energy use for the site. If the customer does not have 12 months of historical usage, LEU reserves the right to use all information available at the time and make a determination as to the maximum allowable size of the PV system.

PV system production will be based on the California Solar Initiative Expected Performance Based Buydown (EPBB) Calculator.

Go to [www.csi-epbb.com/default.aspx](http://www.csi-epbb.com/default.aspx) and enter system array data into EPBB Calculator. Enter the following:

- Zip Codes = (95240; 95241; 95242)
- Utility = PG&E
- Incentive Type = EPBB. An accurate EPBB Calculator for each array is required. **If the estimated annual kWh production of the system (as indicated on the EPBB results page) exceeds the average annual usage of the home/business, then the application will be rejected.**

### **Metering and Data Collection**

Metering shall be accomplished using one meter to register both energy delivered to the customer and energy received and exported to Lodi's electric distribution system. Proper configuration is referenced in Lodi Engineering Standard 942 0240. Lodi may install, at its expense, additional metering equipment; LEU's avoided cost will be updated annually.

### **Electrical Interconnection Requirements**

All customers will be required to enter into an Electrical Interconnection Agreement with LEU prior to the system being energized. By signing the agreement, the customer acknowledges that connection and operation of the generating facility is subject to the terms and conditions set forth in the agreement and in City of Lodi's rates, standards, rules, and regulations. The customer is responsible for all current application, permit inspection fees and all costs associated with the interconnection of their system and installation of a solar meter. Modifications to the service entrance must be approved by LEU. All service entrance and disconnects must be Electric Utility Service Equipment Requirements Committee (EUSERC) approved.

### **System Operation**

**Please note Lodi will not issue a "Permit to Operate."** Customer may operate system upon completion of the following:

- Approval of final inspection by Lodi Building Department;
- Full execution of Interconnection Agreement; and
- Installation of metering equipment.

### **Metering and Interconnection Fees**

Metering and interconnection fees will be updated annually for each Fiscal Year (July 1 – June 30).

Effective September 1, 2017 – June 30, 2018

<b>Single Phase (60 to 200 Amp):</b>	<b>\$ 627</b>
<b>Three Phase (200 to 400 Amp):</b>	<b>\$1,041</b>
<b>Three Phase (&gt;400 Amp):</b>	<b>Actual cost based on time and material</b>

Effective July 1, 2018 – June 30, 2019

<b>Single Phase (60 to 200 Amp):</b>	<b>\$ 634</b>
<b>Three Phase (200 to 400 Amp):</b>	<b>\$1,017</b>
<b>Three Phase (&gt;400 Amp):</b>	<b>Actual cost based on time and material</b>

## **Schedule EP – Energy Purchase (Billing and Compensation)**

Effective September 1, 2017, Lodi residents and businesses installing customer-owned generation facilities such as solar will be subject to the City's new Energy Purchase (EP) Schedule, the details of which can be found in [Lodi Municipal Code Section 13.20.290](#). The customer will not be billed or credited for energy consumed on-site. Energy delivered to the customer will be billed at the applicable retail service rate. For a schedule of retail rates by customer class, visit [Lodi Municipal Code Article Chapter 13.20, Article III](#). Any credit(s) remaining at the end of each billing month shall carry forward and be applied to the customer's next monthly electric bill. Any outstanding charges will be due and payable at the end of each billing month.

Energy exported to the grid will be credited at Lodi's avoided cost.

The avoided cost will be updated annually for each Fiscal Year (July 1 – June 30).

Effective September 1, 2017 – June 30, 2018

**Avoided Cost: \$0.06428/kWh**

Effective July 1, 2018 – June 30, 2019

**Avoided Cost: \$0.0687/kWh**

## **Renewable Energy Credits**

The customer agrees that the Renewable Energy Credits (RECs) generated by the system belong to LEU in accordance with Schedule EP – Energy Purchase, found in Lodi Municipal Code Section 13.20.290. LEU may use or sell the RECs at their discretion in accordance with all applicable laws, regulations, etc.

## **Selecting an Installer**

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. LEU also recommends that the installer be registered with Go Solar California and meet their pre-screening criteria. LEU cannot provide contractor recommendations, but advises customers to obtain more than one contractor bid, references and contractor licensing status. Customers can search for solar installers, contractors and retailers at [www.gosolarcalifornia.ca.gov/](http://www.gosolarcalifornia.ca.gov/).

## **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](http://www.gosolarcalifornia.ca.gov/equipment).

*Modules:* Only PV modules listed at [www.gosolarcalifornia.org/equipment/pv\\_modules.php](http://www.gosolarcalifornia.org/equipment/pv_modules.php) will 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](http://www.gosolarcalifornia.org/equipment/inverters.php) will be considered eligible. All inverters must be certified to UL 1741 standards by a NRTL. Inverters must 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 must measure and display ongoing

system kW output, as well as cumulative energy produced and retain production data during power outages. All performance meters must be easy to read and accessible to meter readers and LEU PV system inspectors. Customers may be required to provide cumulative production data from their performance meter on an annual basis.

*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 1-800-227-2600. 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 undesirable consequences.

In all cases, systems must be installed in conformance with the manufacturer's specifications and all applicable electrical and building codes and standards and LEU standards and specifications. LEU reserves the right to reject a system from interconnection if it is deemed unsafe.

*Energy Storage Facilities:* If an energy storage facility (battery) is installed, the inverter output shall automatically disconnect from Lodi source upon loss of Lodi voltage and not reconnect until Lodi voltage has been restored by Lodi.

#### **Grandfathering Provision – Existing Solar Customers**

Customers currently on Lodi's Net Energy Metering (NEM) Schedule will continue to receive compensation under the NEM Schedule until 20 years from the date of the system's original interconnection to the Lodi distribution system. This date will be determined based on the system's original meter set date.

#### **Expansion of Existing Systems**

Current Net Energy Metering (NEM) customers opting to expand their existing system prior to the expiration date associated with the Grandfathering Provision noted above will be required to change to Schedule EP for billing purposes in addition to meeting all requirements set forth in this Guidebook, Interconnection Agreement and Lodi rates, standards, rules, and regulations. Customers will not be permitted to have a portion of their system on NEM and a portion of their system on Schedule EP.