



# Intro to Multifamily Affordable Solar Housing



Center for  
Sustainable Energy  
CALIFORNIA

# California **Solar** Initiative

## Agenda

- California Solar Initiative Background
- MASH Background
- Track 1
- Application Process
- Virtual Net Metering
- Track 2



# California **Solar** Initiative

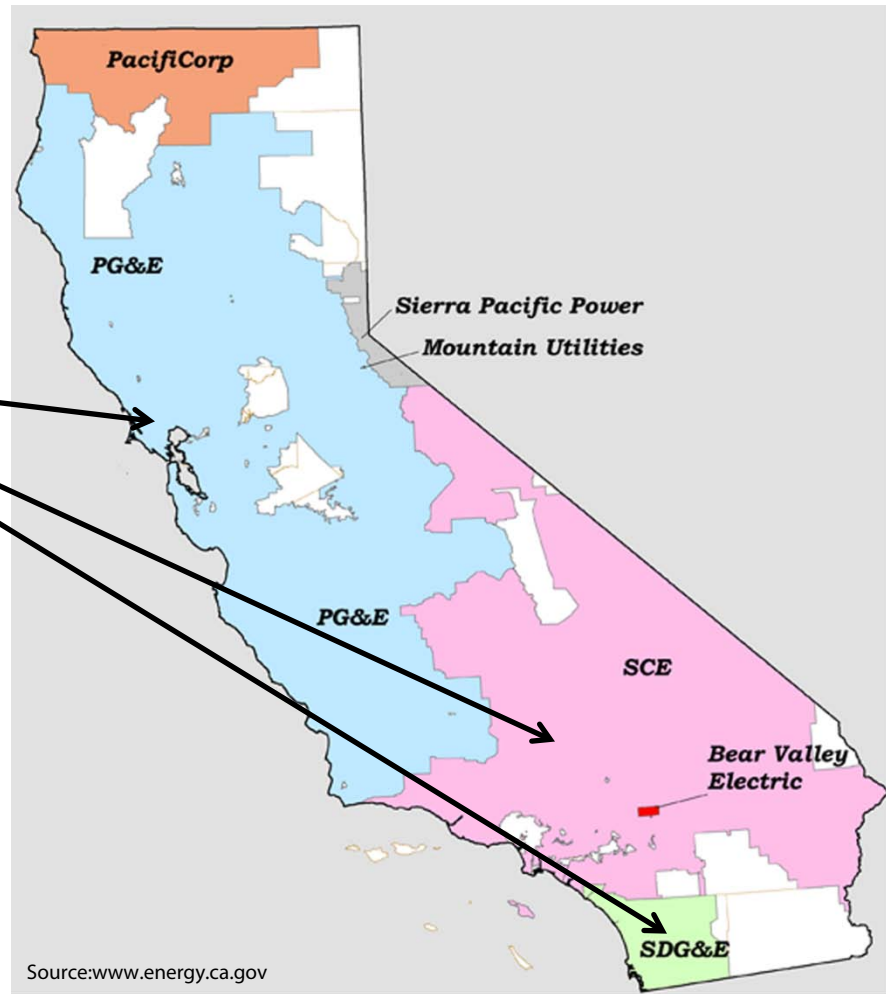
## California Solar Initiative

- \$2.1 Billion Incentive Program
- Provides rebates for solar PV
- Designed to last either up to 10 years (2007-2016) or until all funds are used



# California **Solar** Initiative

Available to customers in PG&E, SCE and SDG&E territories



# California **Solar** Initiative

## California Solar Initiative – General Market

- **Goal: Create a sustainable solar industry**
- Rebates are offered on a declining scale
- The more solar that gets installed, the lower the rebate gets
- Option of up front rebate (EPBB) or monthly payment over 5 year period based on system performance (PBI)



# California **Solar** Initiative

## CSI Budget

Program Category	Budget (\$ Million)
General Market Program Subtotal	\$1,897
<b>Low-Income Programs (10%)</b>	<b>\$217</b>
Research, Development, Deployment and Demonstration (RD&D)	\$50
San Diego Solar Water Heating Pilot Program	\$2.6
<b>Total California Solar Initiative Budget</b>	<b>\$2,167</b>

Source: [www.gosolarcalifornia.com](http://www.gosolarcalifornia.com)



# California **Solar** Initiative

## Multifamily Affordable Solar Housing



Source: [www.cooperativecommunityenergy.com](http://www.cooperativecommunityenergy.com)



# California **Solar** Initiative

## MASH Program Goals

- **Stimulate adoption of solar power** in the affordable housing sector
  - **Improve energy utilization** and overall quality of affordable housing through application of solar and energy efficiency technologies
  - **Decrease electricity use and costs** without increasing monthly household expenses for affordable housing building occupants
  - **Increase awareness and appreciation** of the benefits of solar among affordable housing occupants and developers
- Applications have been available since February, 2009



# California **Solar** Initiative

## What buildings qualify for MASH rebates?

- Multifamily Affordable Housing as defined in Pub. Util. Code 2852.a.2 (<http://law.onecle.com/california/utilities/2852.html>)
  - Financed with Low-Income Housing Tax Credits, Tax Exempt Mortgage Revenue Bonds, or General Obligation Bonds
  - Financed with Local, State or Federal Loans and Grants and meets Health and Safety Code Section 50079.5
  - At least 20% of units are rented to lower income households and are subject to a deed restriction or affordability covenant for at least 30 years
- Buildings that have an occupancy permit for at least **two** years



# California Solar Initiative

## What buildings do not qualify for MASH rebates?

- New Construction (occupancy permit <2 years)
  - New Solar Homes Partnership (NSHP)
  - Administered by SDG&E
    - [www.sdge.com](http://www.sdge.com)
    - [newsolarhomes@sdge.com](mailto:newsolarhomes@sdge.com)
    - 866-631-1744
- Single Family Low-Income Homes
  - Single Family Affordable Solar Housing (SASH)
  - Administered by GRID Alternatives
    - [www.gridalternatives.com](http://www.gridalternatives.com)
    - [infosd@gridalternatives.org](mailto:infosd@gridalternatives.org)
    - 510-652-4730



# California Solar Initiative

## MASH Program Overview

- Statewide Budget: \$108,340,000 (5% of the total CSI Budget)

Utility	% of MASH Budget	Budget
PG&E	43.7%	\$47,344,580
SCE	46.0%	\$49,836,400
<b>SDG&amp;E (CCSE)</b>	<b>10.3%</b>	<b>\$11,159,020</b>
Total	100%	\$108,340,000



# California Solar Initiative

## MASH Rebate Format

- Two Tracks
  - Track 1 – Very similar to General Market CSI
    - 80% of incentives = \$7,759,938
  - Track 2 – Competitive grant style application
    - 20% of incentives = \$2,060,000



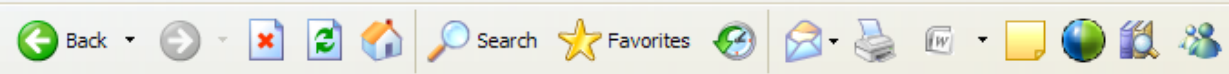
# California Solar Initiative

## Track 1

Provides rebate based on the size of the system installed

- 1A Offset Common Area Load = \$3.30/Watt
- 1B Offset Tenant Area Load = \$4.00/Watt
  
- Incentives are not subject to MW Triggers = Not set to decrease
- Projects can be a combination of Track 1A and Track 1B
  - MASH Calculator - [www.csi-ebpp.com](http://www.csi-ebpp.com)





Address <http://www.csi-epbb.com/mash.aspx>



- Calculation Type**
- Standard PV
  - Other Solar Generating Technologies
  - MASH**
- Documentation**
- What's New
  - PV User Guide
  - Other Solar Generating Technologies User Guide

[Get Adobe Reader](#)  
[Calculator Source Code](#)

- Links & Resources**
- [PG&E](#)
  - [SCE](#)
  - [CCSE](#)
  - [Go Solar California](#)

**Site Specifications:**

Project Name:

ZIP Code:

Utility:

Customer Type: Residential

Incentive Type: EPBB

**PV System Specifications:**

PV Module:   
165W Crystalline Silicon Based Photovoltaic Module (146.20W PTC)

Number of Modules:

Mounting Method:

Inverter:   
333 kW 480 Vac Three Phase Utility-Interactive Inverter (97.5% efficiency)

Number of Inverters:

Shading:  Minimal Shading

Array Tilt (degrees):

Array Azimuth (degrees):

Common Load Allocation %:

Tenant Load Allocation %:

**www.CSI-EPBB.com**



# California **Solar** Initiative



Source: sdres.org/img/borregos-aff-h-600.jpg

## Villa Nueva , San Ysidro



# California **Solar** Initiative

## Track 1 – How to Apply for MASH Rebates

- 3-step Application Process

- Step 1: Reservation (Reservation lasts for 18 months)

- Reservation Request Form + Supporting Docs

- Step 2: Proof of Project Milestone

- Proof of Project Milestone Form + Supporting Docs

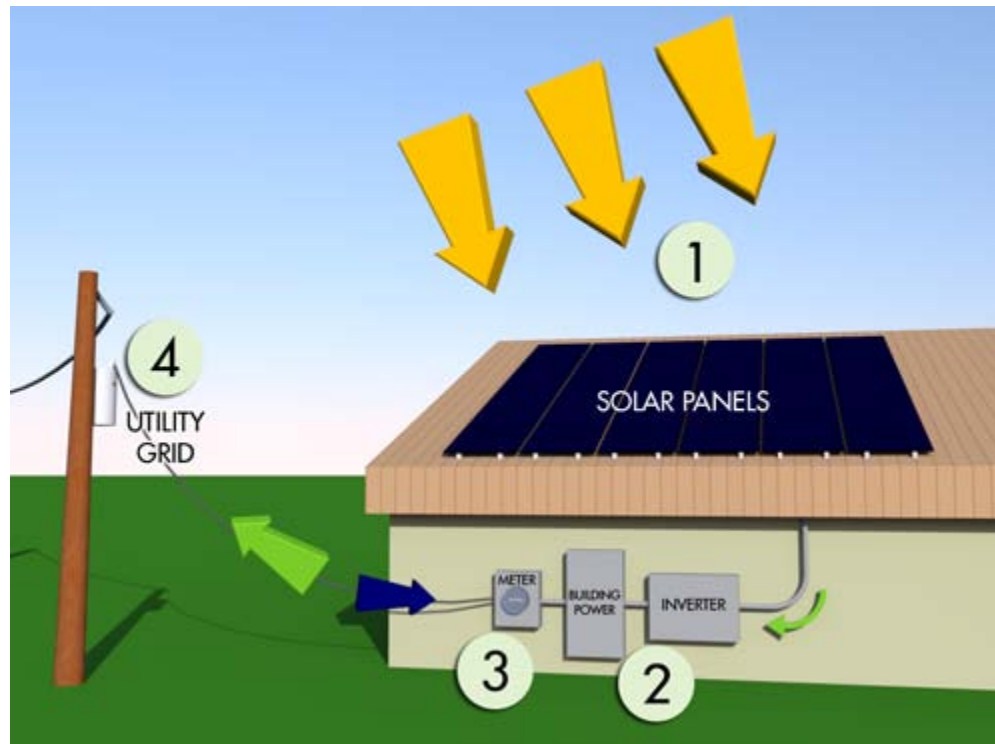
- Step 3: Incentive Claim

- Incentive Claim Form + Supporting Docs

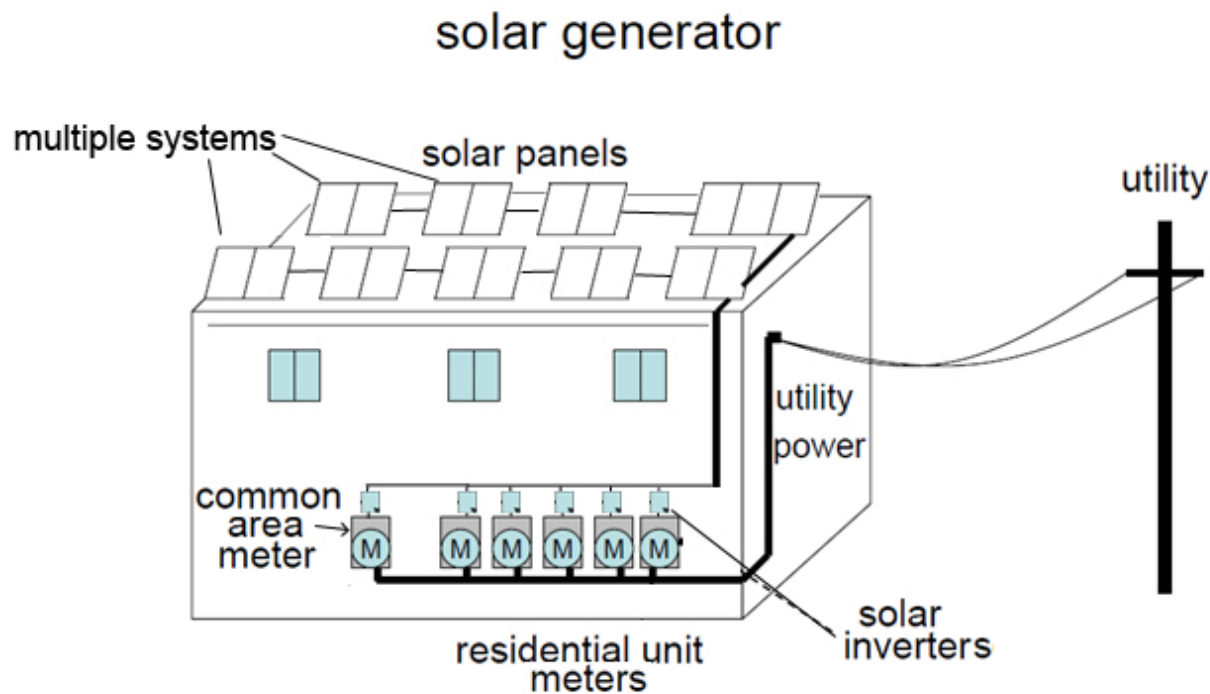
- All forms are available on CCSE's Website ([www.energycenter.org](http://www.energycenter.org))



# California Solar Initiative

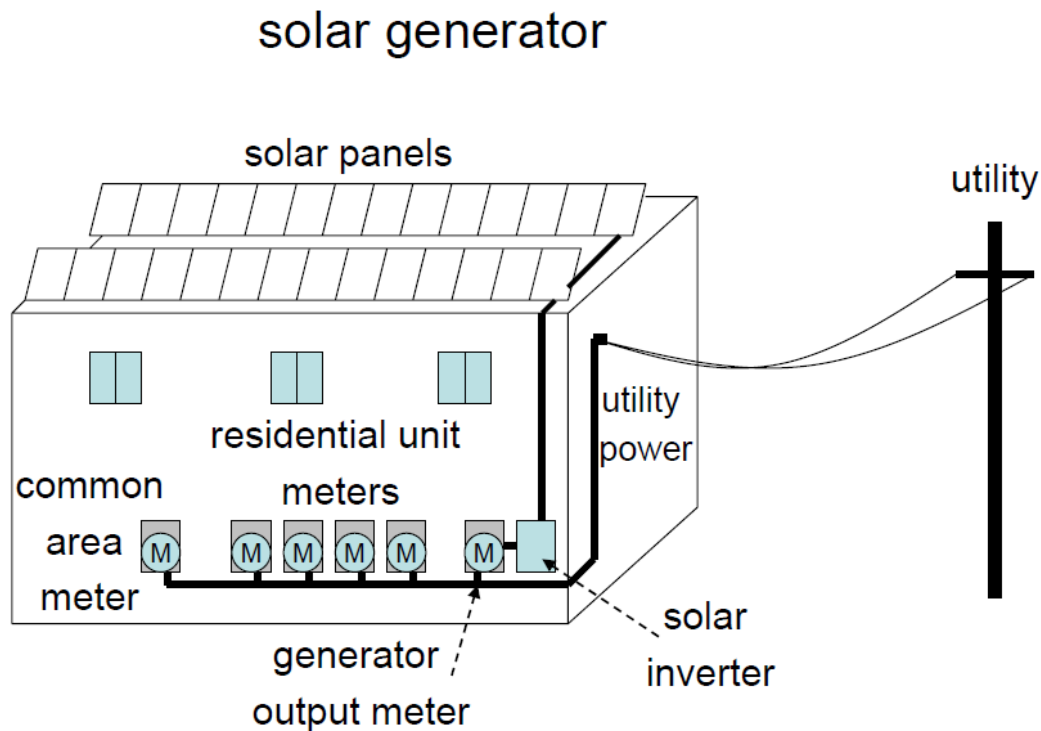


# California Solar Initiative



# California Solar Initiative

## Virtual Net Metering System



Source: [www.cpuc.ca.gov](http://www.cpuc.ca.gov)



# California **Solar** Initiative

## Virtual Net Metering (VNM or VNEM)

- VNM allows the benefit of on-site solar generation without requiring the generator to be physically connected to each billing meters
- Credits from one solar system can be distributed to meters throughout a site.
- Building owner decides how to allocate credits
  - Must submit a “VNM Interconnection Agreement” and a “PV Generation Credit Allocation Request Form”
- The whole building participates regardless of individual unit’s income status
- All meters are allowed to stay on original tariff while participating in VNM
- **VNM Workshop August 14 at CCSE**



# California Solar Initiative

## Track 2

- Incentive amount varies
- Allows applicants to compete for higher incentives above the track one level if additional tenant benefit is demonstrated in the following categories:
  1. Direct financial benefit
  2. Energy efficiency upgrades
  3. Outreach and education
  4. Green job training or creation
- Grant style application format



# California **Solar** Initiative

## Track 2 – Application Process

- 2 cycles per year
  - Q1 and Q3 Applications Accepted
  - Q2 and Q4 Incentives Awarded
- Only 20% of Track 2 funds can be awarded per cycle
  - \$412,000 in SDG&E territory
- **Track 2 Workshop August 20 in San Francisco**
  - **Call-in access available**





**MASH MENU**

- [MASH Home](#)
- [FAQs about MASH](#)
- [Application Process and Required Documents](#)
- [MASH Workshops](#)

**Greening Your World**

- Climate Change
- Energy Efficiency
- Green Building
- Renewables
- Transportation

Home > Incentives > Multifamily Affordable Solar Housing

**Multifamily Affordable Solar Housing**

MASH provides solar incentives on qualifying existing multifamily affordable housing. The goals of the program are to:

- Stimulate the adoption of solar power in the affordable housing sector;
- Improve energy utilization and overall quality of affordable housing through the application of solar and energy efficiency technologies;
- Decrease electricity use and costs without increasing monthly household expenses for affordable housing building occupants; and
- Increase awareness and appreciation of the benefits of solar among affordable housing occupants and developers.



Image courtesy of Cooperative Community Energy

For background information on MASH read the [final CPUC Decision](#)

**Eligible Properties**

To qualify for MASH incentives, a property must have an occupancy permit for at least two years and meet the definition of "low-income residential housing" per [Public Utilities Code 2852](#). This includes the following:

- Projects financed with Low-Income Housing Tax Credits, Tax Exempt Mortgage Revenue Bonds, or General Obligation Bonds.
- Projects financed with Local, State or Federal Loans and Grants and meets Health and Safety Code Section 50079.5 (Must have at least 20% of units rented to lower income households and be subject to a deed restriction or affordability covenant for at least 30 years.)

**CSI TESTIMONIAL**

*"It's been great! My 'little' 1.9KW system is on its way to generating over 2900KWH for the year, more than 100% of our consumption. The State rebate was of great assistance in getting the system installed."*  
-Robert Hingtgen

**GET THE FACTS**



[DOWNLOAD](#)

# California **Solar** Initiative

## Websites

- MASH Homepage - [www.energycenter.org/mash](http://www.energycenter.org/mash)
- CPUC's CSI Website - [www.gosolarcalifornia.com](http://www.gosolarcalifornia.com)
- CSI Public Data - [www.californiasolarstatistics.com](http://www.californiasolarstatistics.com)
- MASH Incentive Calculator - [www.csi-epbb.com/mash.aspx](http://www.csi-epbb.com/mash.aspx)
- San Diego Housing Federation - [www.housingsandiego.org](http://www.housingsandiego.org)
- San Diego Housing Commission - [www.sdhc.net](http://www.sdhc.net)



# California **Solar** Initiative

## Contact Information

California Center for Sustainable Energy  
8690 Balboa Ave., Suite 100  
San Diego, CA 92123

Jeremy Hutman, Program Manager  
Multifamily Affordable Solar Housing

858-244-7281

[Jeremy.Hutman@energycenter.org](mailto:Jeremy.Hutman@energycenter.org)

[www.energycenter.org](http://www.energycenter.org)



# California Solar Initiative

## MASH Budget

	PG&E	SCE	CCSE	Total
Budget %	43.7%	46%	10.3%	100%
Track 1A and 1B	32,923,230	34,656,032	7,759,938	75,339,200
Track 2 (20%)	8,740,000	9,200,000	2,060,000	20,000,000
Administration (12%)	5,681,350	5,980,368	1,339,082	13,000,800
Total	47,344,580	49,836,400	11,159,020	108,340,000

