

# Local Government Webinar Series

## Innovative Clean Energy Financing

March 27, 2014



# Local Government Webinar Series: Clean Energy Financing

## Welcome



Tamara Gishri,  
Senior Manager  
California Center for  
Sustainable Energy

- Financing and Clean Energy
- DOE SunShot Rooftop Solar Challenge
- Feedback



# Local Government Webinar Series: Clean Energy Financing

*Host:* California Center for Sustainable Energy

- Mission-driven non-profit accelerating adoption of clean energy
- Integrated approach - on the ground market development + barrier reductions
- California and beyond
- First in a series of local government webinars;  
[www.energycenter.org/localgov](http://www.energycenter.org/localgov)



# Local Government Webinar Series: Clean Energy Financing

## Today's Agenda

- Innovative Financing and Revenue Generation  
Terry Vernon, Deputy Director of General Services  
Yolo County, CA
- Online Investment Marketplace for Investments and Loans  
Greg Rosen, Chief Investment Officer  
Mosaic
- Loss Reserve and PACE Financing Update  
Jeff Wheeland, Project Manager  
California Center for Sustainable Energy
- Q& A







# ENERGY FREEDOM AND REVENUE GENERATION

Terry Vernon, Deputy Director  
Yolo County General Services

# Yolo County Solar Projects



- Own and operate 7 megawatts of solar energy
- Net energy metering/ bill crediting/sell power to utility
- Zero capital investment
- Zeroed out Yolo County \$1.4 million electric bill
- Yolo County produces 152% more power than used

✓ Generates about \$500,000 annually in cash revenue

✓ \$60 million in revenue over thirty-five years

# Solar Project Process



## Project Partners

- Assess in-house talent and project champion
- Select the right project team
- Develop Goals & Objectives

## Project Development

- Work with partners to refine right mix of projects
- Develop projects around net energy metering, bill crediting, sell power to utility company under existing tariffs
- Develop tariff selection
- Get through interconnection process

## Finances

- Develop financial options/ alternatives
- Select final projects and implement

# Solar Project Team



- Program Sponsor: Yolo County
- Manufacture/Design/Install/ O&M: SunPower
- Solar Advisor
- Government Financial Strategies: Financing Advisor
- Yolo County Office of Education: Education Partner
- PG&E: Grid interconnection, Energy contracts (PPA)



# Goals and Objectives



- Offset reverse effects of recession, layoffs and budget reductions
- Develop a zero capital investment project with positive revenue for every year of operation
- Zero out Yolo County Electric bill
- Use existing legislation (AB 2466) bill crediting
- Sell power to PG&E under existing tariffs programs
- Use AB 4217 for procurement/or RFP
- Complete project within 1-3 years

# Yolo County Projects



1. Justice Center:  
1MW Solar Project NEM
2. Beamer/Cottonwood Campus:  
0.8MW NEM
3. County Road 104 :  
5MW Bill Crediting & Sell Power  
to Utility



# Justice Center Project Financing

## Inputs

Total Contract Price	\$ 7,206,759.00
O&M Paid in 2012 (Est Aug)	\$ 262,000.00
Costs of Issuance / Rounding	\$ 78,000.38
<b>Total Project Cost</b>	<b>\$ 7,546,759</b>
CEC Energy Loan Amount	\$ (2,500,000.00)
QECBs Financed Amount	\$ (2,019,214.38)
CREBs Financed Amount	\$ (2,000,000.00)
TELP Financed Amount	\$ (765,545.00)
CEC Energy Loan Interest Rate	3.00%
TELP Interest Rate	4.75%
QECBs /CREBs Supp Interest Rate	3.90%

## Estimated Savings:

15 Year NPV Savings	\$945,455
25 Year Gen Fund Benefit	\$ 8,760,336
25 Year NPV Savings	\$ 3,522,726
Gross Value of RECs =	\$ 484,071

**(Final estimate based on actual debt service)**

If sold at \$10 per REC\*

# Justice Center Project: Savings and Revenue

YR	ENERGY SAVINGS (Fiscal Yr)			DEBT SERVICE					GEN FUND	
	Gross	Less: O&M	Net Savings	CEC Loan	QECBs	CREBs	TELP	Total D/S	BENEFIT	Cumulative
2011	\$ 848,133		\$ 848,133	\$ -	\$ 295,000	\$ 295,000	\$ 165,000	\$ 755,000	\$ 93,133	\$ 93,133
2012	\$ 974,428	(262,000)	\$ 712,428	\$ 214,708	\$ 124,000	\$ 110,000	\$ 172,275	\$ 620,983	\$ 91,445	\$ 184,578
2013	\$ 984,877		\$ 984,877	\$ 214,708	\$ 354,000	\$ 170,000	\$ 154,549	\$ 893,258	\$ 91,619	\$ 276,198
2014	\$ 995,728		\$ 995,728	\$ 214,708	\$ 366,000	\$ 170,000	\$ 154,549	\$ 905,258	\$ 90,470	\$ 366,668
2015	\$ 1,006,992		\$ 1,006,992	\$ 214,708	\$ 376,000	\$ 170,000	\$ 154,549	\$ 915,258	\$ 91,734	\$ 458,402
2016	\$ 560,138		\$ 560,138	\$ 214,708	\$ 54,000	\$ 130,000	\$ 77,275	\$ 475,983	\$ 84,155	\$ 542,557
2017	\$ 512,028		\$ 512,028	\$ 214,708	\$ 64,000	\$ 150,000	\$ -	\$ 428,708	\$ 83,320	\$ 625,877
2018	\$ 527,197		\$ 527,197	\$ 214,708	\$ 80,000	\$ 150,000	\$ -	\$ 444,708	\$ 82,489	\$ 708,365
2019	\$ 542,816		\$ 542,816	\$ 214,708	\$ 84,000	\$ 160,000	\$ -	\$ 458,708	\$ 84,108	\$ 792,473
2020	\$ 558,898		\$ 558,898	\$ 214,708	\$ 100,000	\$ 160,000	\$ -	\$ 474,708	\$ 84,189	\$ 876,662
2021	\$ 575,456	(36,552)	\$ 538,903	\$ 214,708	\$ 70,000	\$ 170,000	\$ -	\$ 454,708	\$ 84,195	\$ 960,857
2022	\$ 592,504	(37,466)	\$ 555,038	\$ 214,708	\$ 88,000	\$ 170,000	\$ -	\$ 472,708	\$ 82,330	\$ 1,043,187
2023	\$ 610,058	(38,403)	\$ 571,655	\$ 214,708	\$ 104,000	\$ 170,000	\$ -	\$ 488,708	\$ 82,946	\$ 1,126,133
2024	\$ 628,131	(39,363)	\$ 588,768	\$ 214,708	\$ 120,000	\$ 170,000	\$ -	\$ 504,708	\$ 84,060	\$ 1,210,193
2025	\$ 646,740	(40,347)	\$ 606,393	\$ 214,708	\$ 140,000	\$ 170,000	\$ -	\$ 524,708	\$ 81,685	\$ 1,291,878
2026	\$ 665,900	(41,355)	\$ 624,545	\$ 214,708	\$ 137,649	\$ 176,555	\$ -	\$ 528,912	\$ 95,633	\$ 1,387,511
2027	\$ 685,628	(42,389)	\$ 643,239						\$ 643,239	\$ 2,030,750
2028	\$ 705,941	(43,449)	\$ 662,492						\$ 662,492	\$ 2,693,242
2029	\$ 726,855	(44,535)	\$ 682,320						\$ 682,320	\$ 3,375,562
2030	\$ 748,389	(45,649)	\$ 702,740						\$ 702,740	\$ 4,078,302
2031	\$ 770,561	(46,790)	\$ 723,771						\$ 723,771	\$ 4,802,073
2032	\$ 793,389	(47,960)	\$ 745,430						\$ 745,430	\$ 5,547,503
2033	\$ 816,894	(49,158)	\$ 767,736						\$ 767,736	\$ 6,315,238
2034	\$ 841,095	(50,387)	\$ 790,708						\$ 790,708	\$ 7,105,946
2035	\$ 866,014	(51,647)	\$ 814,367						\$ 814,367	\$ 7,920,313
2036	\$ 891,670	(51,647)	\$ 840,023						\$ 840,023	\$ 8,760,336
Total	\$ 19,076,461	\$ (969,096)	\$ 18,107,364	\$ 3,220,627	\$ 2,556,649	\$ 2,691,555	\$ 878,197	\$ 9,347,028	\$ 8,760,336	



# Project Financing and Revenue Benefits

- Financing: QZAB & COP \$23,096,049  
Zero capital investment

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- Revenue Benefits: \$48-61 million  
over 35 years

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- 1st Year Revenue: Elimination of \$1.4  
million electric bill  
*plus* \$438,351  
positive cash flow  
savings above  
debt service and  
operation cost

# Debt Service versus Electric Bill

20 years debt service, this project:

**(\$23,096,049)**

20 years electric bills (currently \$1.4 million/year)  
(not counting escalation)

**\$28,000,000**

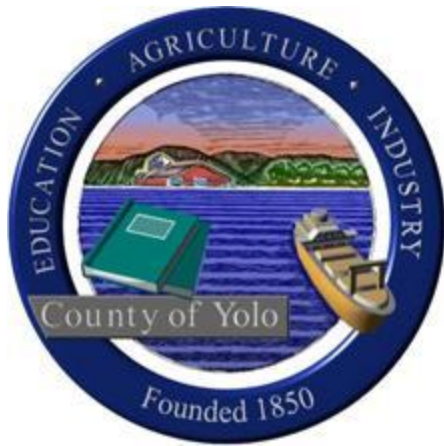
DIFFERENCE

**\$4,903,951**





# Thank You!



Terry Vernon  
Deputy Director, General Services  
Yolo County  
[terry.vernon@yolocounty.org](mailto:terry.vernon@yolocounty.org)

# Financing Resources for Local Governments

## Clean Energy Financing

- Using programs or products to fund the costs of system installation

## Examples

- Tax-Exempt Lease Purchase (TELP)
- On-Bill Financing (OBF)
- California Energy Commission 1% Energy Efficiency and Generation Loans
- Energy Project Lease Financing
- California Lease Finance Program (CaLease)



# Revenue Generation Tariffs

## Revenue Generation Tariffs

- Revenue generation tariffs are electricity pricing structures that can be used to enhance the financial viability of a renewable energy generating system

## Examples

- ✓ Net Energy Metering (NEM)
- ✓ Renewable Energy Self-Generation Bill Credit Transfer Program (RES-BCT)
- ✓ California SB 32 Feed-in Tariff (FIT) Program - Renewable Market Adjusting Tariff (ReMAT)



# MOSAIC: CROWDSOURCING CLEAN ENERGY


Greg Rosen, Chief Investment Officer, Mosaic



# THANKS

**Greg Rosen**

**[greg.rosen@joinmosaic.com](mailto:greg.rosen@joinmosaic.com)**



# Property Assessed Clean Energy (PACE)

## California's PACE Loss Reserve Program

Jeff Wheeland, Project Manager  
California Center for Sustainable Energy



# PACE Loss Reserve

- Created by CA Senate Bill 96 (2013)
- \$10 million fund
- CA Alternative Energy & Advanced Transportation Financing Authority (CAEATFA) is program administrator
- Loss Reserve addresses FHFA's concerns for residential PACE programs in two ways:
  1. If a mortgage lender forecloses on a home that has a PACE lien, the reserve can be used to cover PACE payments during the foreclosure period
  2. Local government sells a home for unpaid taxes and the sale price falls short of the outstanding tax and first mortgage amounts, the reserve can be used to cover the shortfall

# Benefits of PACE to Local Governments

- Reach RPS clean energy goals
- Offers affordable clean energy to residents
- Reduces GHG emissions
- Creates jobs
- No funding liability for local governments(funded through bonds)
- Increases tax revenue for local governments



# How to Implement PACE

1. Mello-Roos Act (SB 555)
2. Improvement Act (AB 811)

## Both authorize creation of special tax districts for:

- ✓ Financing between an authorized entity and the property owner
- ✓ Use of available funding from any source including existing bond issuing statutes
- ✓ Attachment of the assessment for payment of the loan to the property

# Thank You!



Center for  
**Sustainable Energy**<sup>®</sup>  
CALIFORNIA

**Jeff Wheeland**  
Project Manager  
Rooftop Solar Challenge

# Thank You for Participating!

## Resources

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

**Tamara Gishri**

Senior Manager

818.687.3064

[tamara.gishri@energycenter.org](mailto:tamara.gishri@energycenter.org)

[localgov@energycenter.org](mailto:localgov@energycenter.org)



# Questions?

