

California Solar Initiative

CPUC Status Update



California Solar Initiative
Go Solar California!

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California Public Utilities Commission
American Solar Energy Society

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Cleveland, Ohio

California Solar Initiative (CSI)

Goals:

- State: 3000 MW of new distributed solar distributed generation by 2016
 - CPUC: 1940 MW
- Self-sustaining solar industry free from ratepayer subsidies after 2016
 - Incentives optimally-sited and maintained systems to ensure performance, maximize ratepayer ROI
 - 10-year commitment



CSI Structure

Program Authority	CPUC	California Energy Commission	Publicly Owned Utilities
Budget	\$2.167 billion	\$400 million	\$784 million
Pro-rata MW Solar	1940 MW	360 MW	700 MW
Scope	All in IOU areas except new homes	New homes, IOU areas	All in POU areas
Audience	Various	Builders, buyers	Various
Begins	January 2007	January 2007	January 2008

3 CPUC Program Administrators:

PG&E

Southern California Edison

California Center for Sustainable Energy

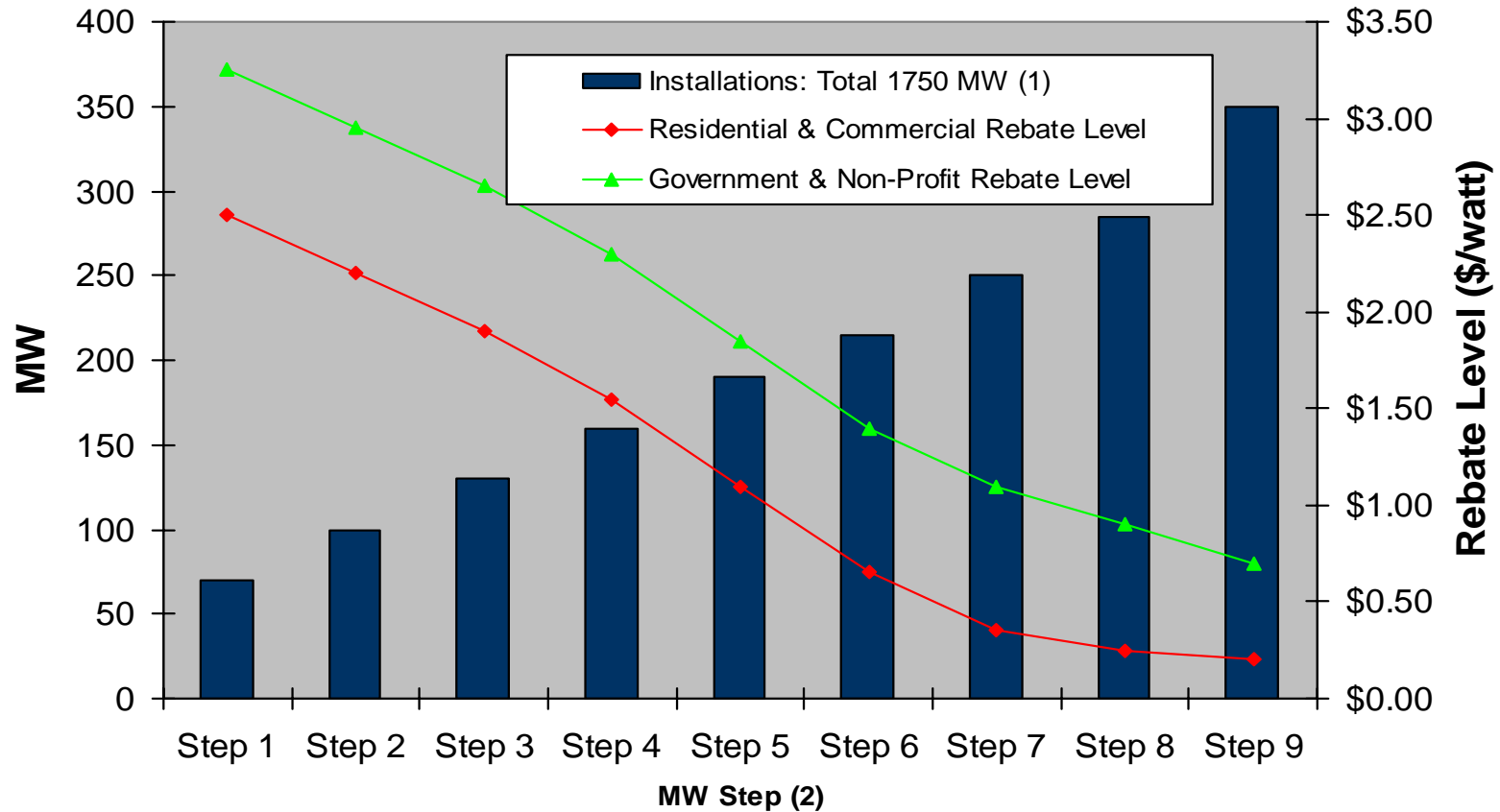


CPUC CSI Budget 2007-2016

Program Category	Budget (\$ in millions)
General Market Program	1,897
Administration, Marketing, Evaluation (10%)	190
Direct Incentives	\$1,707
Low Income Budget (10%)	217
Research, Development, Demonstration & Deployment	50
San Diego Regional Energy Office Solar Hot Water Pilot	3
Total CPUC CSI Budget	\$2,167



CPUC Incentives Decline As Market Grows



¹The total refers to the MW goal of the program not including the MW that will be installed under the low-income program.

²Rebate reductions are triggered by MW steps, such that the incentive declines once the capacity installed reaches a pre-specified level, rather than on an annual basis.



Two CSI Incentive Paths

Common Incentive Base starting at:

- \$2.50/watt residential & taxable commercial (+ 30% federal tax credit)
- \$3.25/watt government & non-profit entities (no tax credit eligibility)

#1 Performance-Based Incentive (PBI):

- Initially systems >100 kW; phase-in smaller systems by 2010
- Paid monthly over 5 years based on metered output
- Can return higher incentive than EPBB

#2 Expected Performance Based Buydown (EPBB):

- Initially <100kW
- Paid up-front based on site-specific installation aspects

Objectives achieved:

- Predictable
- Market-driven pace of incentive decline
- Recognize break-even needs of different market segments
- Reflects Federal tax credits; higher incentive for non-taxable entities



EPBB Payments Vary

Example for 3.8 kW residential system in San Francisco
EPBB Incentive = \$2.50/W x 3,794 W x 96.9% = \$9200

	Reference System	Proposed System	Site's Design Factor
	(1)	(2)	
Location	Orange, CA	San Francisco, CA	(2)/(1) Installation x
Tilt	17 Degrees	20 Degrees	(2)/(1) location
Azimuth	South	South	
Shading	5%	5%	
Incentive	\$2.50	\$2.42	
Annual Output (kWh)	6293	6496	96.9%
Incentive	\$9,484	\$9,188	



Systems with better expected performance will get paid more.

CSI Resources

- CPUC core decisions and resources:
 - Program design guidelines: Decision August 24, 2006 (revised December 2006)
 - Website info and program announcements: www.GoSolarCalifornia.ca.gov
 - [Program Handbook](#) (April 2007, revised)
 - [EPBB Calculator](#)
 - Incentive Trigger Tracker: www.sgip-ca.com
 - On-line Application Tool: July 2007

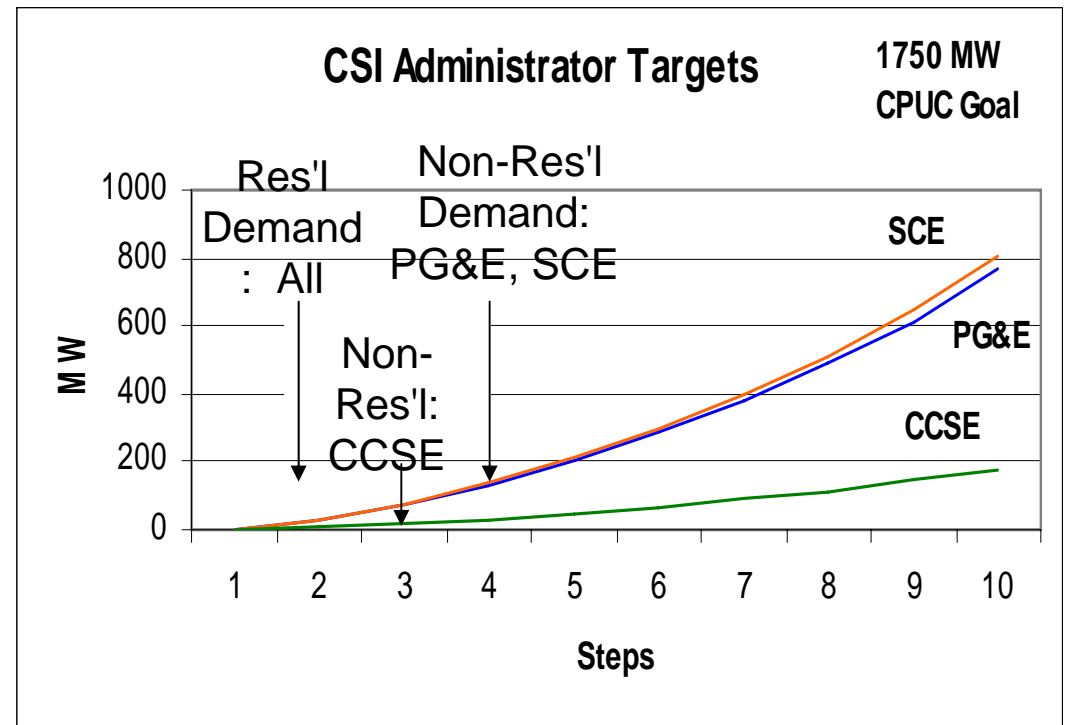


Here Comes the Sun...

Jan 1- Jun 27, 2007:

- 2587 total App'ns
 - 2158 Res'l
 - 429 Comm'l
 - 117.6 MW
 - \$359 mn in rebates

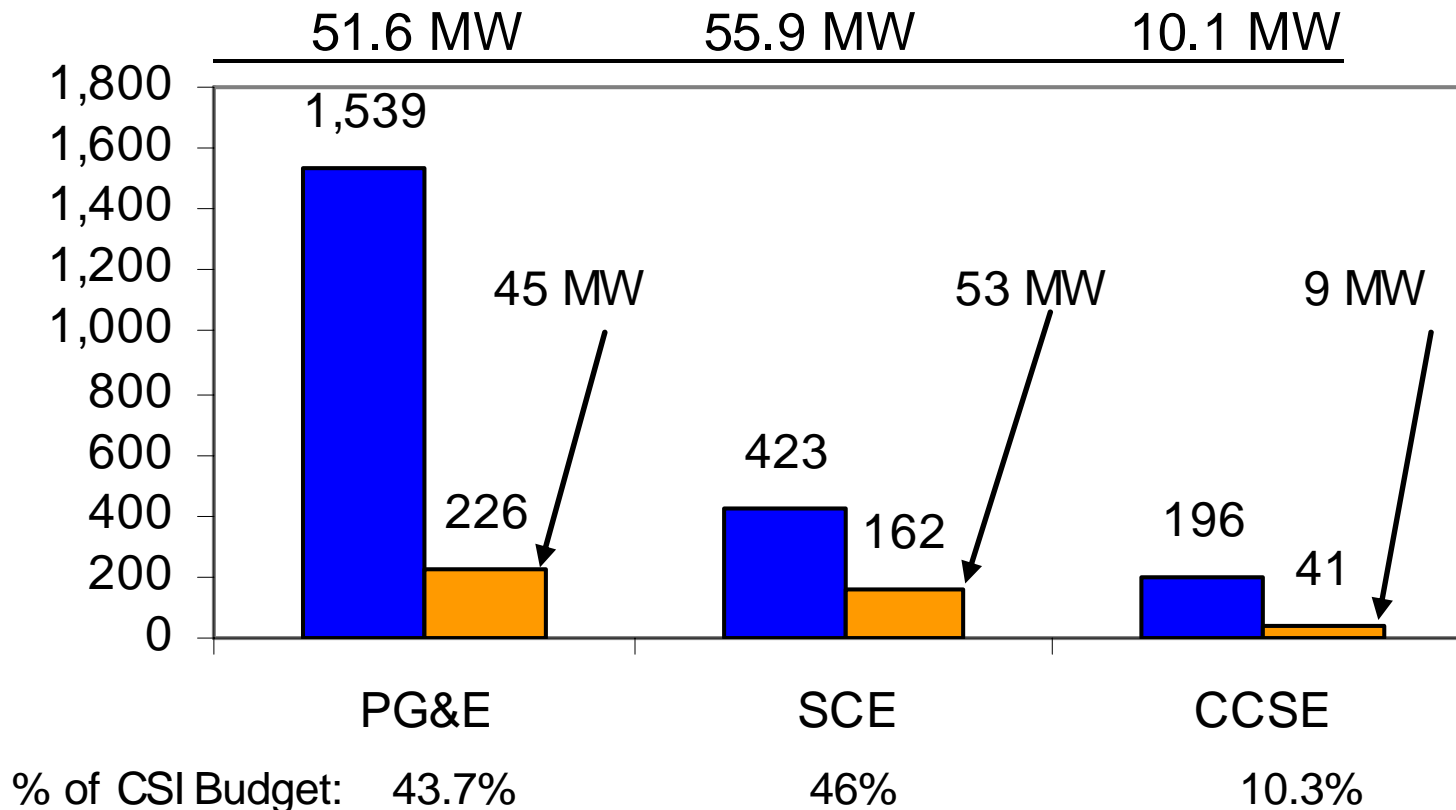
- Completed: 62 Commercial, 59 Residential
 - 442 kW
 - \$1.25 mn in rebates



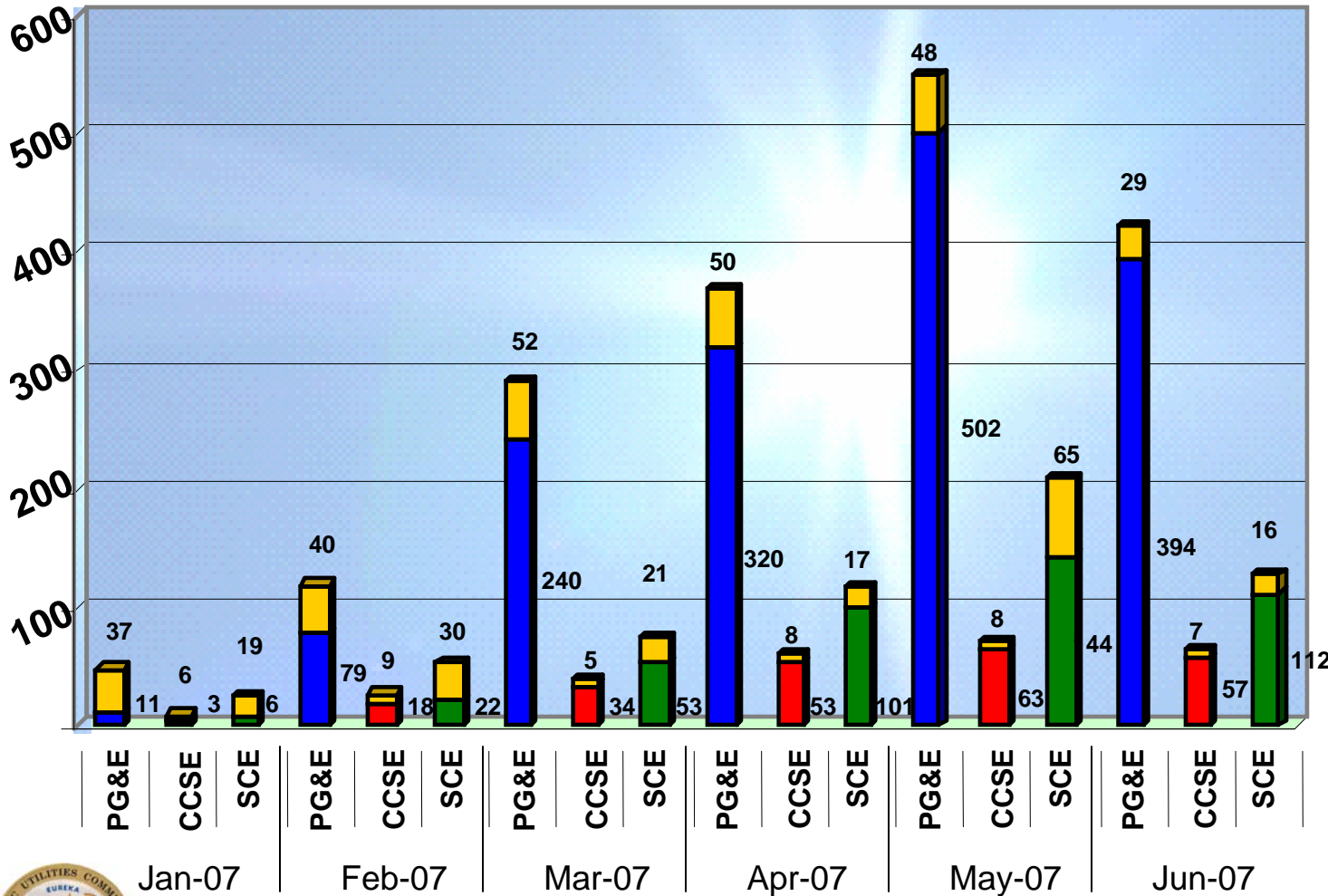
CSI Demand

CSI Applications, June 2007

Total:
 - 2587 Apps;
 - 117.6 MW;
 - \$360 mn rebates



Residential Demand Grows



PG&E

Non-Res'l: 256
Res'l: 1,546

SCE

Non-Res'l: 168
Res'l: 438

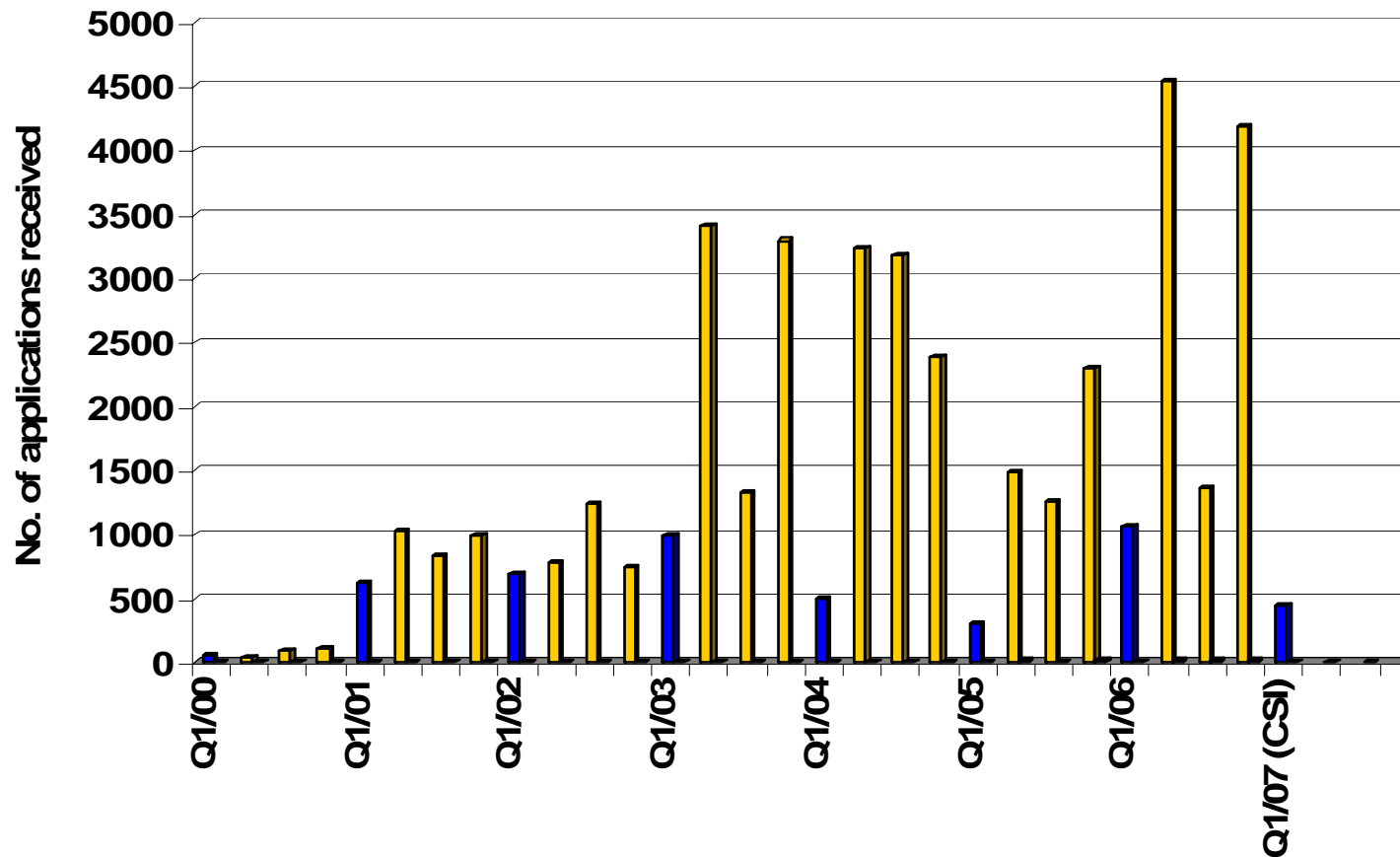
CCSE

Non-Res'l: 43
Res'l Total: 228



CSI Demand vs Earlier Rebates

ERP vs CSI <30 kW Appns



How Are We Doing?

- Reviewing app'ns: 8 days-6 wks
- % of app'ns w/ problems: 35-80%
- Inspection stage: 1-3 wks
- Inspection time: 1-4 hrs
- % of failed inspections: 17-60%
 - mostly shading, orientation, tilt; most pass with more doc'n
 - Administrators working on inspection, shading guidelines, training
- Drop-outs since Jan 1, 2007:
 - CCSE: 2 app'ns (5 kW)
 - PG&E: 37 app'ns (8.4 mW)
 - SCE: 22 app'ns (1.2 mW)



What's Worked?

- Public awareness of rebates
- Strong Commercial Demand:
 - Leaders: Google, Walmart, Macy's
- Quarterly Program Forums>> public input
- Very public process on adm've decisions
- City/county solar promotion



Early Issues

- Delayed tools
- Metering accuracy requirements
- Access for BIPV to up-front incentive
- Paperwork
- Energy efficiency: on-line audits
- Residential Demand:
 - Awareness of new performance requirements
 - Incentive drop from CEC program
 - Time of Use Rates for some customers



Update on Metering Req'ts

IF PASSED BY CPUC:

- EPBB: all @ 5% accuracy; affirms all EPBB systems above cost cap can be exempted from PMRS
- PBI: all @ 2% accuracy; Remove cost cap
- PMRS independence: TBD
- PAs develop Inv-Int cert'n process by 12/07 and mkt research

Incentive	System Size	Min Accuracy	PMRS	Cost Cap
EPBB	< 10 kW	+/- 5%	Yes	1%
EPBB	10 kW to 30 kW	+/- 5%	Yes	1%
EPBB	30 kW and greater	+/- 5%	Yes	.5%
PBI	< 10 kW	+/- 2%	Yes	No Cost Cap
PBI	10 kW to 30 kW	+/- 2%	Yes	No Cost Cap
PBI	> 30 kW	+/- 2%	Yes	No Cost Cap



Upcoming CSI Elements

- \$217 mn Incentives for Low Income Residents
- \$50 mn R&D grant program
- 1/08 Energy Efficiency Requirements
- Cost-Benefit Methodology
- Program Measurement and Evaluation
- Marketing and Outreach Plan
- Non-PV Solar (electric-displacing)
- SDG&E rates (TOU and general)





Thank You!

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For Additional Information:

www.cpuc.ca.gov

www.GoSolarCalifornia.ca.gov

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