

California Solar Update



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Topics

- SB1 - Million Solar Roofs Bill
- CSI - California Solar Initiative
- SCE - New Edison Tariff



SB1

- \$3.35B over 10 years
 - \$3.2B for incentives and administration
 - \$100M for solar thermal
 - \$50M for RD&D
- Incentives
 - Decline by ***average*** of 7%/year
 - \$0/Watt by 12/31/2016
- Net Metering Cap to 2.5%
 - ~ 1263 MW of Solar in California



SB1

- **Municipal Utility Requirements**
 - Adopt solar program by 1/1/08
 - Offer solar incentives of *at least* \$2.80/W
 - Incentives decline by average of 7%/year
 - Targets based on % of statewide load
- **Production Home Builders**
 - Required to offer solar on developments of 50 or more for homes “constructed on land for which an application for a tentative subdivision map has been deemed complete on or after January 1, 2011”
- **Require ‘cost-effective’ energy efficiency with solar rebates**



SB1 - CHANGES

- Note that the following CSI figures will be modified in response to SB1
- MW targets will be changed to accommodate MUNI provisions and loss collections from gas customers
- CPUC will issue subsequent decision



CSI – Incentive Levels



- 1/1/2007
 - \$2.50/Watt Residential Customers
 - \$2.50/Watt Commercial Customers
 - \$3.25/W Government/Non-Profits
- Currently \$2.8/W SGIP, \$2.6/W CEC
- Incentive reductions tied to market trigger – ***not calendar***
- Incentive level may vary by utility and customer type
- 33% reserved for residential customers



– Market Based Trigger



Step	MW in Step	PG&E (MW)		SCE (MW)		SDG&E (MW)		So Cal Gas (MW)	
		Res	Non-Res	Res	Non-Res	Res	Non-Res	Res	Non-Res
1	50 ⁴⁴	--	--	--	--	--	--	--	--
2	70	10	21	8	16	3	6	2	4
3	100	15	29	11	23	4	9	3	6
4	130	19	38	15	30	6	11	4	8
5	170	25	50	19	39	7	15	5	10
6	230	33	68	26	52	10	20	7	14
7	300	44	88	34	68	13	26	9	18
8	400	58	118	45	91	17	35	12	24
9	500	73	147	56	114	21	44	15	30
10	650	94	192	73	148	28	57	19	39
Totals		1122		867		332		230	
Percent		44%		34%		13%		9%	

CSI MW Targets by Utility and Customer Class

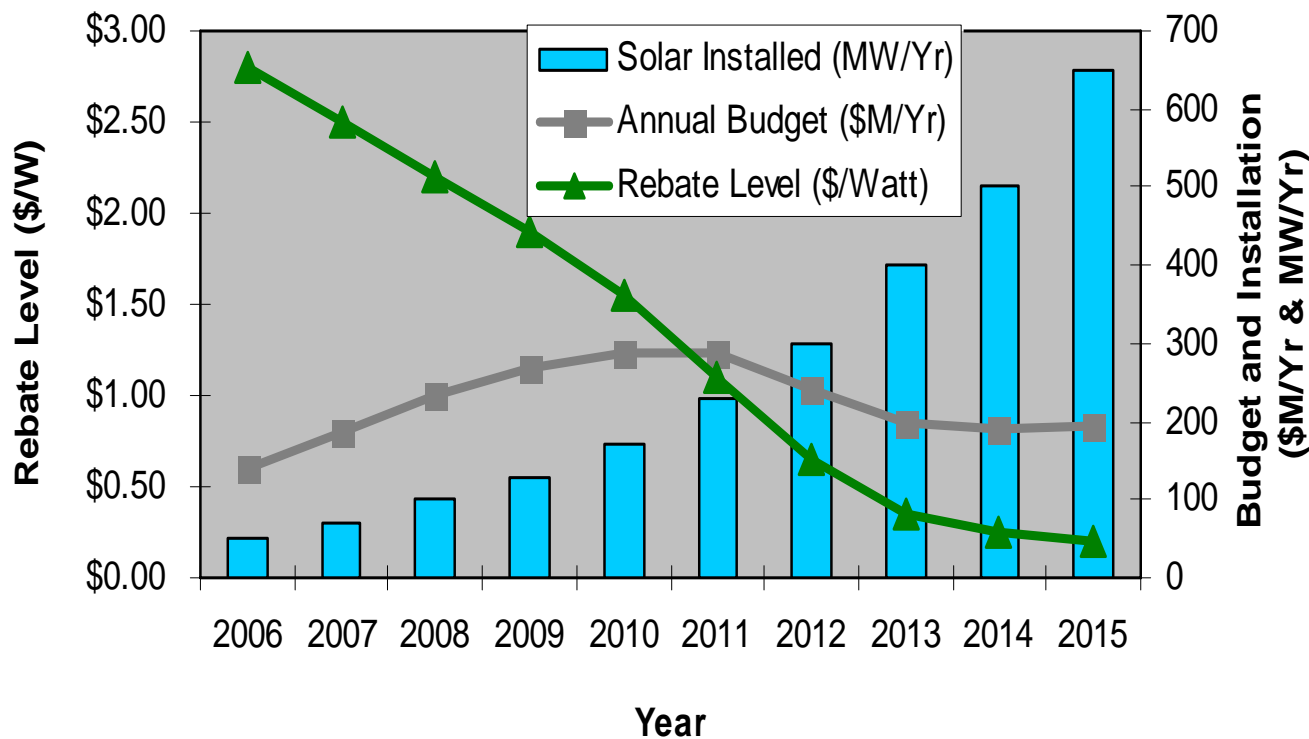


CSI

Market Based Trigger



California Solar Initiative Schedule and Budget





CSI

– Performance Based Incentives



- For systems above 100kW
- Paid over 5 years, 8% discount rate, monthly payments
- Based on 18% CF → 1576kWh/kW
- Any customer can choose PBI
- Transition to PBI for systems >30kW
- All BIPV will receive PBI
- All new construction exempt from PBI
- No cap for high production systems





CSI

– Performance Based Incentives



MW Step	MW in step	PBI payments (per kWh)		
		Residential ¹⁹	Commercial	Government Non-Profit
1 ²⁰	50	n/a	n/a	n/a
2 ²¹	70	\$0.39	\$0.39	\$0.50
3	100	\$0.34	\$0.34	\$0.46
4 ²²	130	\$0.26	\$0.26	\$0.37
5	170	\$0.22	\$0.22	\$0.32
6	230	\$0.15	\$0.15	\$0.26
7	300	\$0.09	\$0.09	\$0.19
8	400	\$0.05	\$0.05	\$0.15
9	500	\$0.03	\$0.03	\$0.12
10	650	\$0.03	\$0.03	\$0.10



Levelized PBI Monthly Payment Amounts at 8% Discount Rate



Expected Performance Based Incentive

- EPBB for systems <30kW
- EPBB = \$/Watt x CEC-AC x Design Factor
- Design Factor = $\frac{\text{Simulated solar output of customer's proposed system}}{\text{Simulated solar output for optimal reference system}}$
 - Orientation 180 - 270 degree treated =
 - TBD → optimal ref. tilt & optimal latitude tilt
 - Include geographic location
- Administrators shall issue solicitation to contract with technical expert to design “single design factor and estimation tool”
- Verification – all systems 30 – 100 kW, spot inspections for <30 kW, 3 strikes you're out!



CSI

Expected Performance Based Incentive



MW Step	MW per step	EPBB payments (per watt)		
		Residential	Commercial	Government/ Non-Profit
1 ²⁵	50	n/a	n/a	n/a
2	70	\$2.50	\$2.50	\$3.25
3	100	\$2.20	\$2.20	\$2.95
4	130	\$1.90	\$1.90	\$2.65
5	170	\$1.55	\$1.55	\$2.30
6	230	\$1.10	\$1.10	\$1.85
7	300	\$0.65	\$0.65	\$1.40
8	400	\$0.35	\$0.35	\$1.10
9	500	\$0.25	\$0.25	\$0.90
10	650	\$0.20	\$0.20	\$0.70

Maximum EPPB Payment Amounts



CSI – Program Administration

- Current SGIP Administrators retain administration
- CPUC still “Endorse the concept” of a 3rd party administrator
- CPUC will not request IRS Ruling on 3rd party tax issues
- Statewide Online Application
- Convene a CSI Handbook Workshop
- Create CSI Program Forum



CSI

Handbook Development



Workshop and initiation of subsequent working group activities to propose Handbook revisions	15 days after Phase I decision adopted by Commission
Energy Division forwards draft CSI Handbook to ALJ and ALJ issues ruling with proposed revisions for comment	45-60 days after workshop
Written Comments on Proposed Revisions	15 days after ruling
Reply Comments	10 days after comments
Ruling or Draft Decision Adopting Handbook	No later than 60 days after reply comments (possibly sooner if approved by ruling)

9/7/06

~11/7/06

~11/22/06

~12/1/06

~2/1/07





Metering Requirements

- Accurate meters required for all CSI installations
 - +/- 5% accuracy for systems <10kW
 - +/- 2% accuracy for systems >10kW
 - Installed at customer's expense
- TBD → specs, standards, certification, communication protocols, information dissemination...
- Meters must have comms. Capability
- Cost → <1% for systems <30kW
 - <0.5% for systems >30kW





SCE – New Solar Tariff



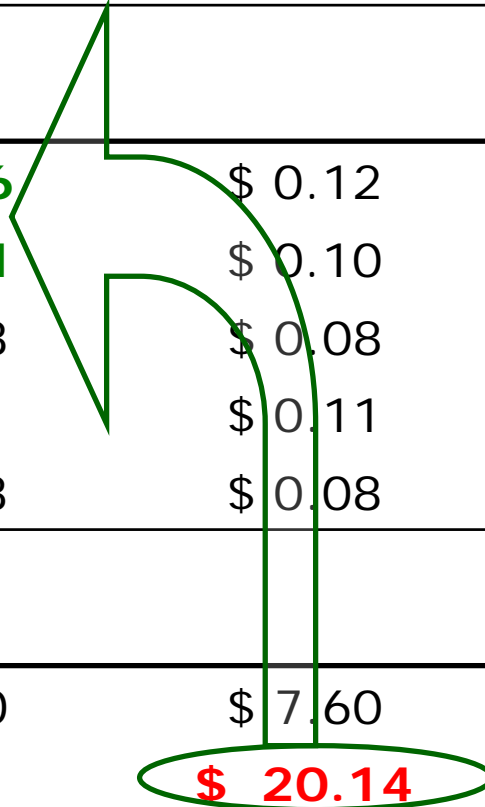
- Vote Solar intervened in SCE 2005 GRC
- Asked for commercial tariff similar to PG&E A-6, TOU, no demand charges
- Filed testimony, settled with all parties
- New tariff, ~30% better for solar customers





SCE – New Solar Tariff

Southern California Edison	GS2 Tariff	
Fixed Charges (\$/day)	“Energy Only”	“TOU”
Customer Charge	\$ 2.39	\$ 2.39
Meter Charge	\$ 0.46	\$ 0.46
Energy Charges - \$/kWh		
Summer On-Peak	\$ 0.26	\$ 0.12
Summer Mid-peak	\$ 0.21	\$ 0.10
Summer Off-Peak	\$ 0.08	\$ 0.08
Winter Mid-peak	\$ 0.11	\$ 0.11
Winter Off-Peak	\$ 0.08	\$ 0.08
Demand Charges (\$/kW)		
Facilities Charge	\$ 7.60	\$ 7.60
Summer On-Peak	\$ -	\$ 20.14





Information

- SB1 text
 - www.leginfo.ca.gov
 - Search “bill Info” for SB1
- CSI decision -
http://www.cpuc.ca.gov/word_pdf/AGENDA_DECISION/59105.pdf
- SCE rates –
[http://www.sce.com/AboutSCE/Regulatory/tariffbooks/GS2-TOU “Energy Only” \(20-200kW\)](http://www.sce.com/AboutSCE/Regulatory/tariffbooks/GS2-TOU%20%E2%80%9C%20Energy%20Only%E2%80%9C%20(20-200kW).pdf)
TOU-GS3 “Option A” (200-500kW)



THANKS



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