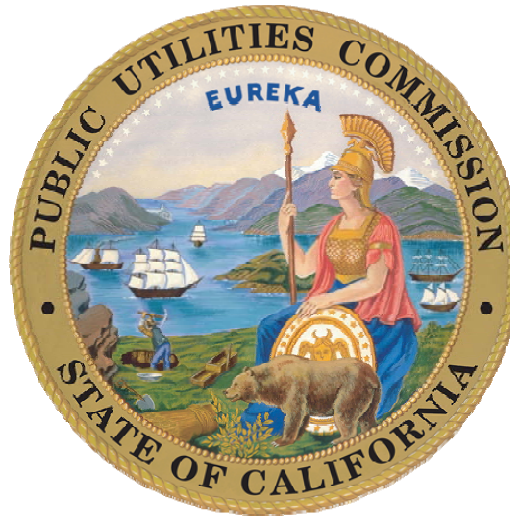




The Need for Market Innovations to Promote Policy Innovations



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Director, Energy Division

California Public Utilities Commission

May 2, 2013





RPS Programs

	Program Size (MW)	Participating Buyers and Sellers	Eligible RPS Technologies and Project Size	CPUC Status	Market Opportunity
Annual RPS RFO	Defined in annual procurement plan	3 large IOUs	All technologies, all sizes	Authorized by CPUC approval of annual RPS procurement plan	Annual RFO
Bilateral Contracts	As negotiated	3 large IOUs	All technologies, all sizes	Authorized by CPUC approval of annual RPS procurement plan	As negotiated
Feed-In Tariff (AB 1969)	500	3 large IOUs	All technologies Up to 1.5 MW	Fully Implemented (D.07-07-027)	Contracts accepted until cap reached
Revised FIT / ReMAT (SB 32)	Expands AB1969 FIT to 750 MW	IOUs and municipal utilities	All technologies Up to 3 MW	Rules adopted last year (D.12-05-035), Full Implementation pending	Contracts accepted until cap reached
RAM	1,299	3 large IOUs	All technologies 3 MW to 20 MW	Fully Implemented (D.10-12-048)	RAM4: June 2013
SCE Solar PV Program (SPVP)	250	125 MW UOG 125 MW IPP	Solar PV (Primarily rooftop 1-2 MW)	Fully Implemented (D.09-06-049, Resolution E-4299)	1 auction per year
PG&E Solar PV Program	500	250 MW UOG 250 MW IPP	Solar (Primarily ground-mount 1-20 MW)	Fully Implemented (D.10-04-052, Resolution E-4368)	1 auction per year
SDG&E Solar PV Program	26 MW	26 MW UOG	Solar PV Primarily ground-mount 1-5 MW	Fully implemented (D.10-09-016, Approved AL 2210-E)	n/a





Overview of Customer-Side Solar

- Solar in California: 1,500+ MW installed PV at 130,000+ locations
 - Nearly 1,200 MW installed in CSI Program
- California is over 2/3rds of nation's solar market and nation's largest rebate program
- California supports solar self-generation with four interrelated state policies: Rebates, net energy metering (NEM), interconnection policies, and rate structures (e.g. tiered rates, time of use rates)



Stone Brewing Co., North County
San Diego
Courtesy: Stone Brewing Co.



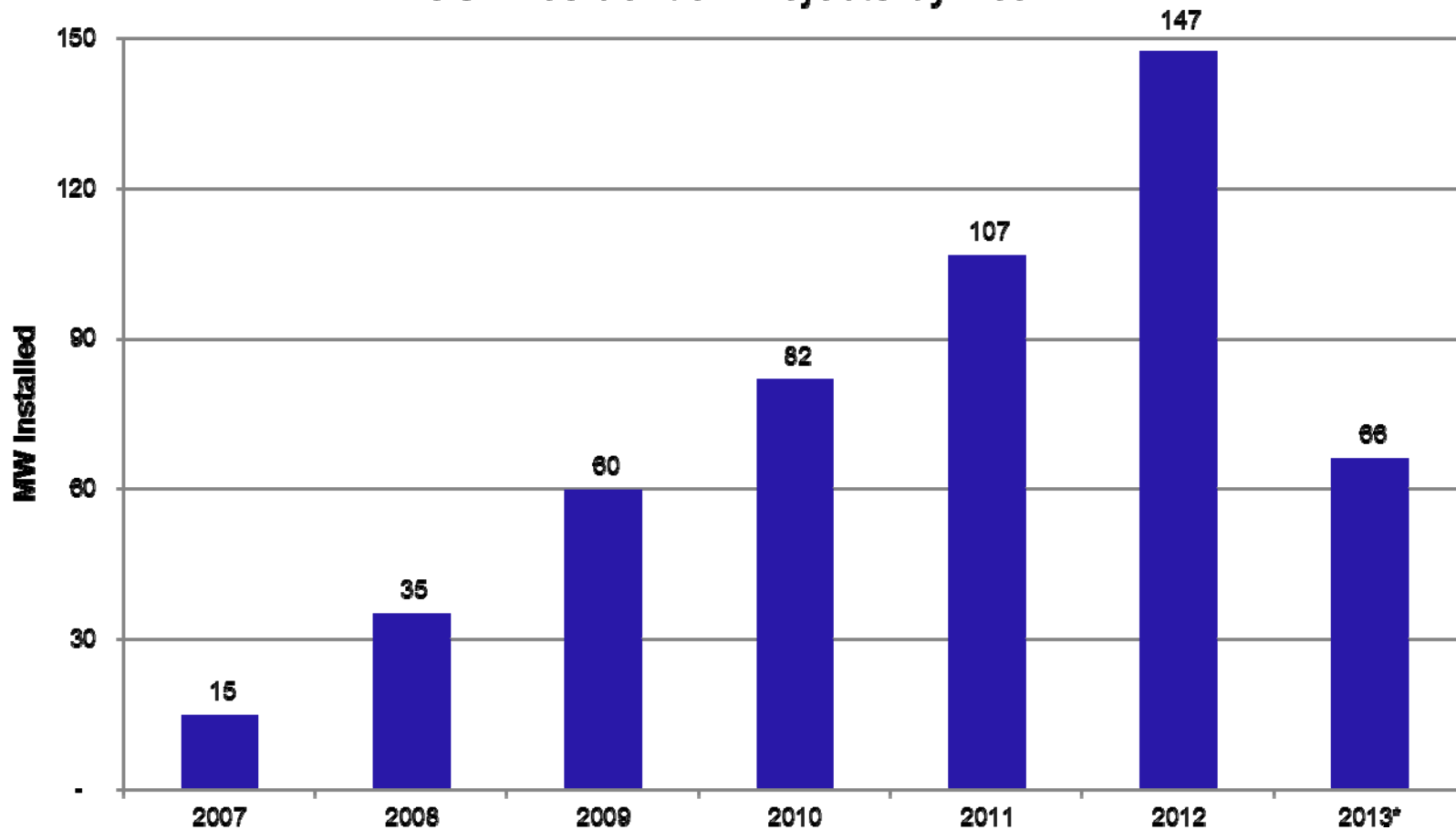
San Diego County Water Authority
Courtesy: Borrego Solar





California's Residential PV Market

CSI Residential Projects by Year



4

*2013 data is through April.

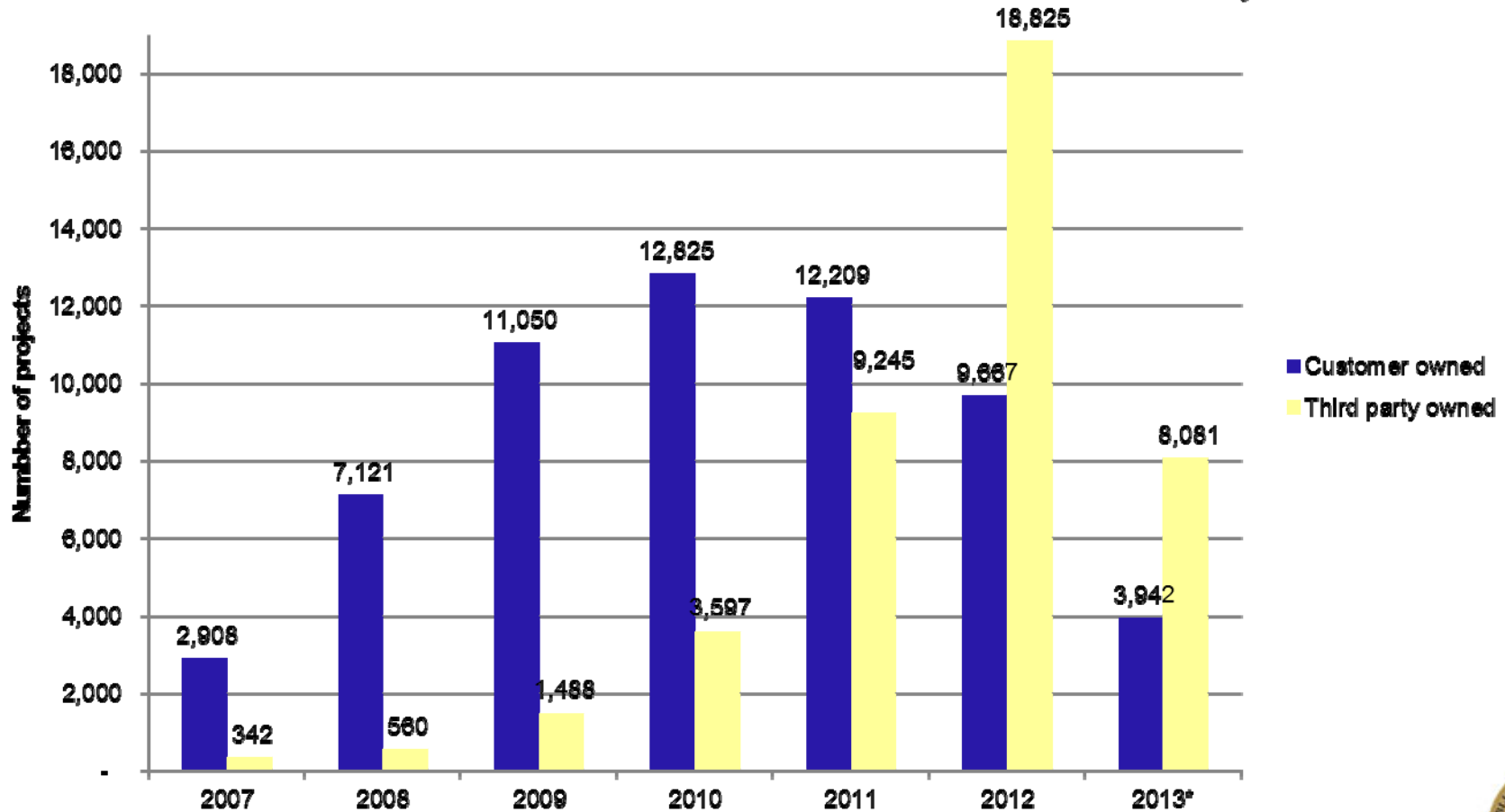
Source: www.californiasolarstatistics.ca.gov. Data through April 24, 2013





The Rise of Residential Leases and PPAs

Installed Residential PV: Customer Owned vs. Third Party Owned



*2013 data is through April.

Source: www.californiasolarstatistics.ca.gov. Data through April 24, 2013





US PV costs vs Germany PV costs

- The installed cost of residential solar in Germany is significantly lower.
 - Germany was \$3.54/watt AC in 2011 (\$14,160 for a 4 kW system)
 - US was \$6.78/watt AC in 2011 (\$27,120 for a 4 kW system)
- A recent LBNL study* cited various reasons, including the regular reductions to the residential German feed-in-tariff (FiT), more efficiently encourage German installers, and **lower prices to attract customers.**

*Source: "Why Are Residential PV Prices in Germany So Much Lower Than in the United States? A Scoping Analysis". Joachim Seel, Galen Barbose, and Ryan Wiser, Lawrence Berkeley National Laboratory





Thank you!

