

Policy Issues Associated with the Development of Renewable Energy in the US-Mexico Border Region

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Good Neighbor Environmental Board Meeting



About CCSE

- Independent non-profit 501 (c)(3) organization
- Core activities
 - **Program Administration:** State and utility programs promoting clean generation, energy efficiency, alternative fuel vehicles
 - **CA Solar Initiative**, SGIP – Retrofit Programs in SDG&E service territory
 - Clean Vehicle Rebate Program – for the CA Air Resources Board
 - Whole-Home Retrofit / Energy Upgrade California – part of IOU EE programs
 - **Clean energy technical assistance** for:
 - Local governments, other public entities
 - Private entities: companies and non-profits
 - Market support: contractors, manufacturers and other industry stakeholder
 - **Policy Support:** regional planning; legislative & regulatory support
 - **Education:** efficiency, renewables, climate, green building, transportation
- Emphasis on serving local jurisdictions, market stakeholders, end users
- www.energycenter.org

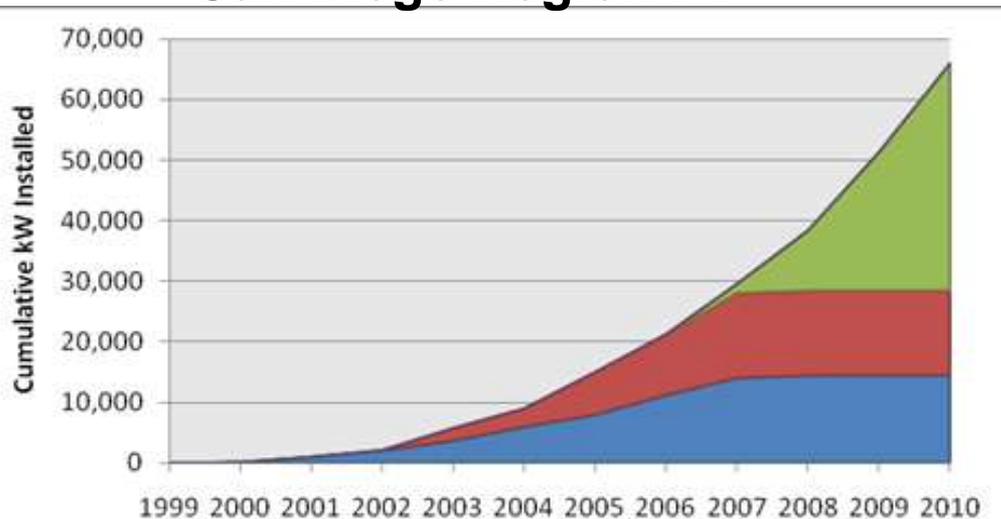
California Policy Drivers (1)

1. Net Energy Metering (“behind the meter”)

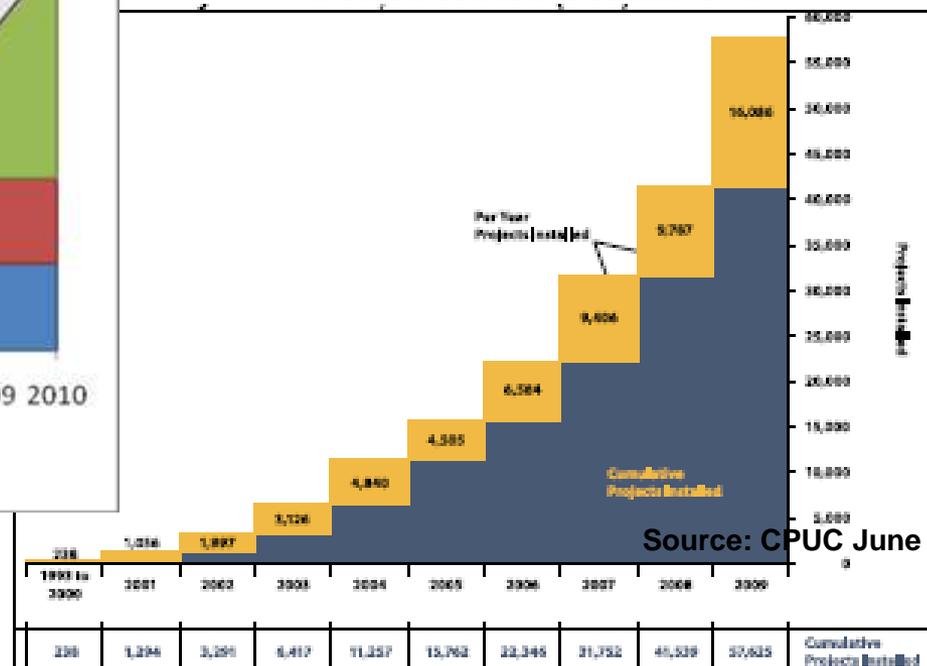
- Up to 1MW
- Growing, established markets for solar
- Other technologies making headway
 - wind, fuel cells, storage, others
- Directed biogas is on a learning curve....
- NEM systems are not automatically eligible for Renewable Portfolio Standard

California NEM PV Installations

San Diego Region PV



Statewide NEM PV



Source: CPUC June 2010

- San Diego region: ~75+ MW installed; well over 10,000 systems.

Data: April 2010. Includes CSI, NSHP, ERP, and SGIP. Does not include POU or RPS.

NEM Solar: Growing, Evolving Markets



SAN DIEGO SOLAR MAP
Solar Activity Around the City

Solar Map | Blog | Forum | Electric Rate Analyzer | Map Type

Tools

Solar Installation Markers

- Residential PV
- Residential SWH
- Commercial PV
- Government/Non-Profit PV
- Commercial & Government/Non-Profit SWH
- Areas with Detailed Solar Estimates
- Installed PV by Zip Code

Get A Detailed Solar Estimate

Detailed rooftop estimates have been completed for three areas in San Diego. To retrieve these estimates:



SAN DIEGO SOLAR MAP
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Electric Rate Analyzer

Electric Rate: Climate Zone: Best

PV System (kW):

Monthly Usage...

Bar chart showing monthly usage (kWh) from Jan to Dec. Legend: Tier 1 (Green), Tier 2 (Yellow), Tier 3 (Red), Tier 4 (Blue).

Month	Usage (kWh)	Tier 1	Tier 2	Tier 3	Tier 4
Jan	100	100	0	0	0
Feb	100	100	0	0	0
Mar	200	200	0	0	0
Apr	300	300	0	0	0
May	400	400	0	0	0
Jun	500	500	0	0	0
Jul	600	500	100	0	0
Aug	700	600	100	0	0
Sep	600	500	100	0	0
Oct	500	500	0	0	0
Nov	400	400	0	0	0
Dec	300	300	0	0	0

Current Rate Schedule

Month	Summer	Winter
Tier 1	\$0.134	\$0.134
Tier 2	\$0.155	\$0.155
Tier 3	\$0.288	\$0.303
Tier 4	\$0.308	\$0.353

Annual Usage (kWh)

Pie chart showing annual usage distribution by tier.

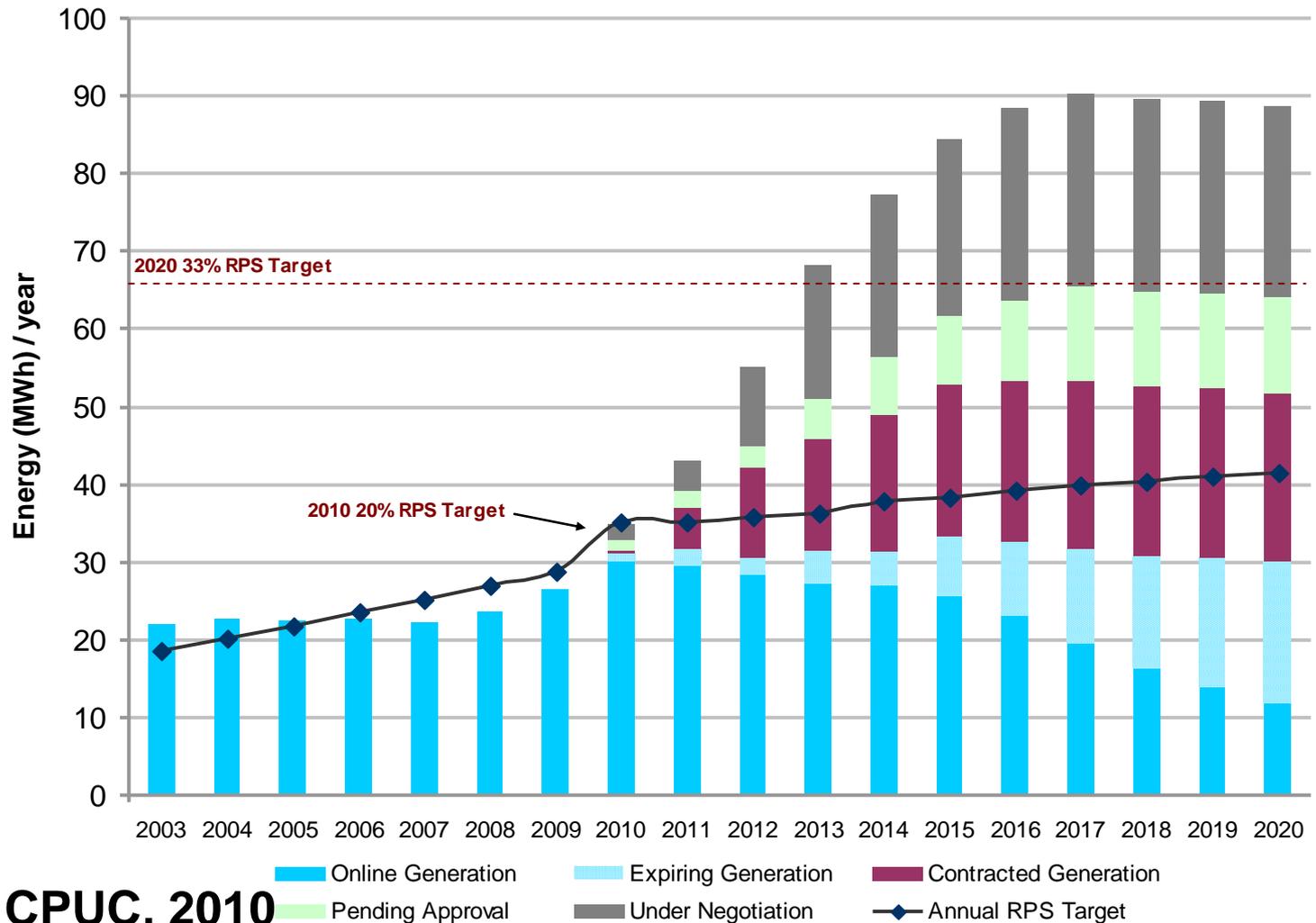
Month	Usage (kWh)	Tier 1	Tier 2	Tier 3	Tier 4	Total
Jan	100	100	0	0	0	\$44.49
Feb	100	100	0	0	0	\$44.55
Mar	200	200	0	0	0	\$27.34
Apr	300	300	0	0	0	\$15.47
May	400	400	0	0	0	\$17.31
Jun	500	500	0	0	0	\$12.75
Jul	600	500	100	0	0	\$44.35
Aug	700	600	100	0	0	\$44.56
Sep	600	500	100	0	0	\$45.85
Oct	500	500	0	0	0	\$46.03
Nov	400	400	0	0	0	\$43.45
Dec	300	300	0	0	0	\$44.89

California Policy Drivers (2)

2. Renewable Portfolio Standard (RPS)

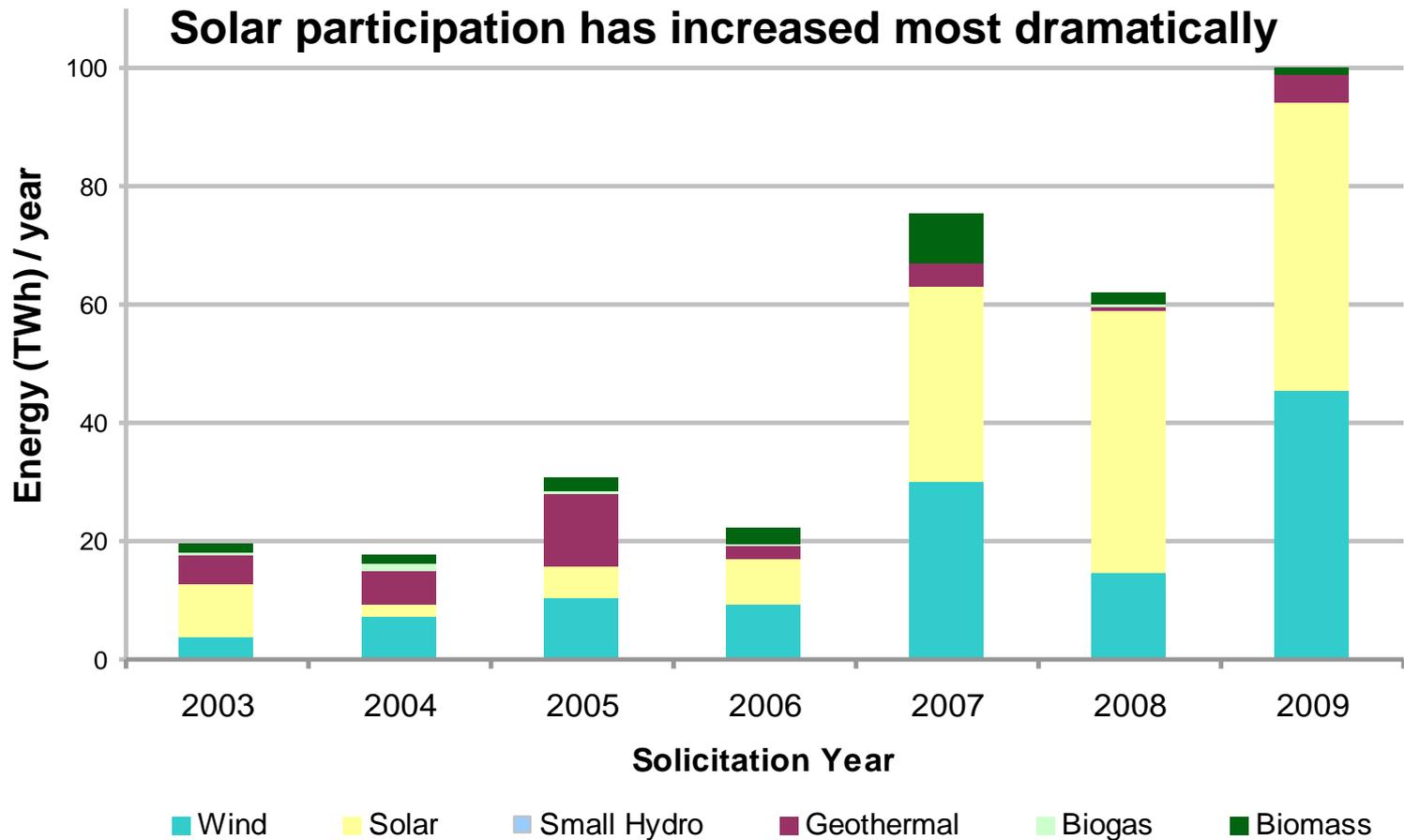
- Current RPS requirement: 20% by 2010
 - Retail energy sellers must procure 20% renewable energy by 2010
- As of January, 2011:
 - 75% must consist of (bundled) MWh generated on the system side of the meter and delivered to CA (ISO)
 - Many out-of-state projects to date
 - 25% can be REC purchases: must be registered and tracked through WREGIS

Utilities on Track for RPS Targets....



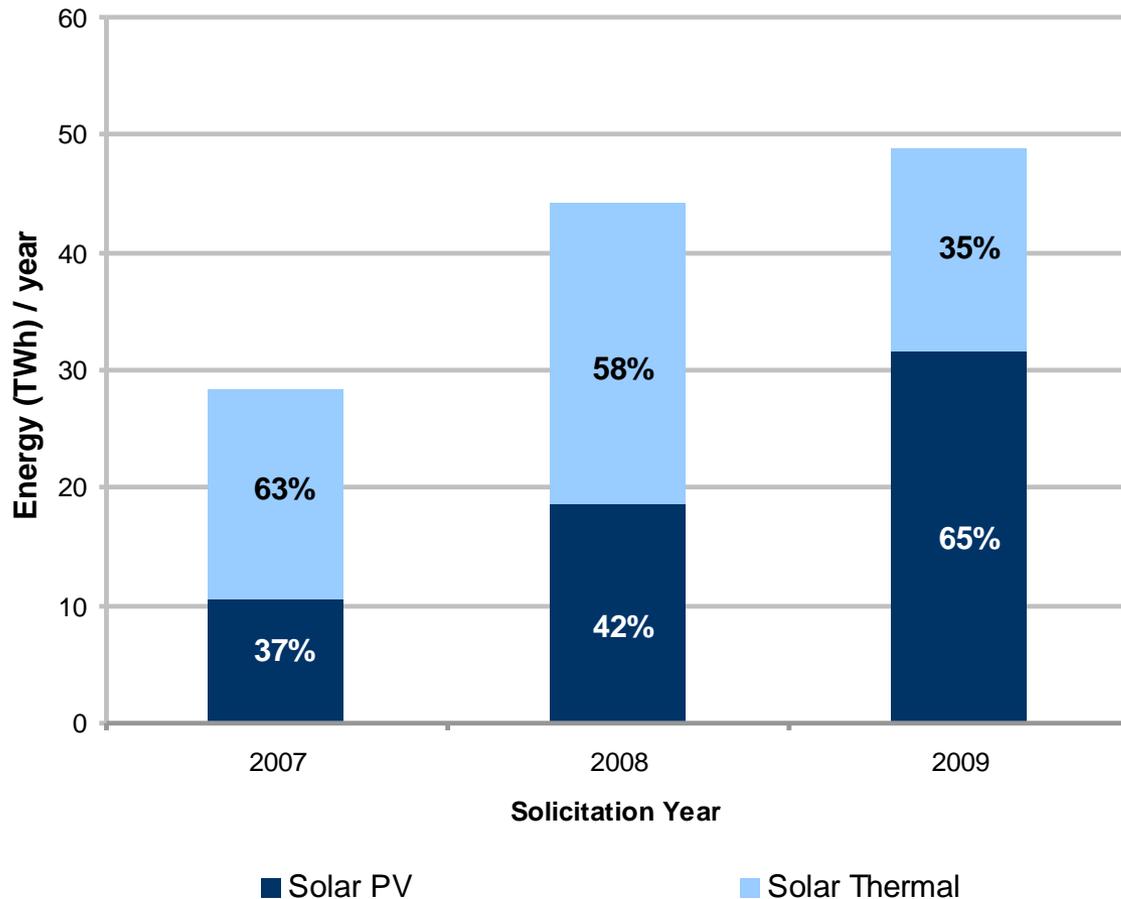
Almost at 33% on a contract basis – but some face risk

RPS Solicitation Bids by Fuel Type



Source: California Public Utilities Commission, 1st Quarter 2010

Breakdown of Solar Bids by Technology



RPS Moving to 33%.....

- SBX1 2 (Simitian, 2011): 33% RPS.
 - Signed by Gov. Brown
 - Will become law 90 days after close of the current Special Session of the CA legislature
 - Creates a lot of work for the CPUC!
 - Must revisit the January, 2011 TREC decision to align existing REC rules with SBX1 2.
 - Grey area regarding treatment of existing REC contracts
 - Possibly limited opportunity for new REC contracts
- Much talk about moving to a 40% RPS world!

Supporting Programs for RPS

1. Feed-In Tariff: SB 32, currently in implementation
 - Up to 5 MW; 750 MW statewide cap
2. IOU PV Programs: “In-basin” Utility / 3rd-party-Owned
 - 1100 MW statewide. Competitive bid w/ price cap
 - In SDG&E territory, generally up to 5 MW per project; total of 100 MW (26 utility-owned, 76 Independent Power Producers)
3. Renewables Auction Mechanism (RAM)
 - up to 20 MW per project; 1000 MW statewide cap)
4. Qualifying Facilities (QFs)
 - All RPS-eligible technologies (and CHP)
 - No size limit, but contracts for increments of 20MW
5. Governor Brown’s 20GW renewable/12GW DG goal

Barriers to Bringing RPS-eligible Projects Online

- High rate of project termination/delay due to:
 - Permitting (CEC and/or County)
 - Site Control (e.g. federal lands)
 - Project financing
 - Equipment supply & procurement
 - Transmission limitations (for some projects)
 - Developer experience
 - Fuel supply
 - Contracting enforcement, due diligence
 - For REC purchases from projects in Mexico, would require jurisdictional alignment around contracting and enforcement



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Thank You!

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