

State and Local Incentives for Solar Power

Solar Power Project Development
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Center for Resource Solutions

- CRS is an NGO, U.S. 501.c.3;
- Established in 1997;
- We work in the US and internationally, including advising National Government of China on renewables policies.

CRS creates policy and market solutions to advance sustainable energy.

Center for Resource Solutions

- Green-e[®] Certification Programs



- **Green-e Energy** – National standard for quality renewable energy. Certified 13 million MWh of unique sales in 2008.
- **Green-e Marketplace** – Over 60 companies and organizations use Green-e logo on over 300 products and in promotions to show their use of 100 percent renewable energy and RECs.
- **Green-e Climate** – Certifies retail carbon offsets from variety of project types. 10 sellers and 135,000 tons of CO₂ reductions in 2008.

State and Local Incentives

- Direct: Rebates and Buydowns
- Solar Set-Asides
- Feed-in Tariffs
- Property/Income Tax Deductions
- Permitting & Fee Supports
- Property Tax Financing

Direct: Rebates and Buydowns

California Solar Initiative

Created in 2006 to install 3,000 MW of on-site solar by 2016 with \$2.167 billion budget.

Evolved from previous programs

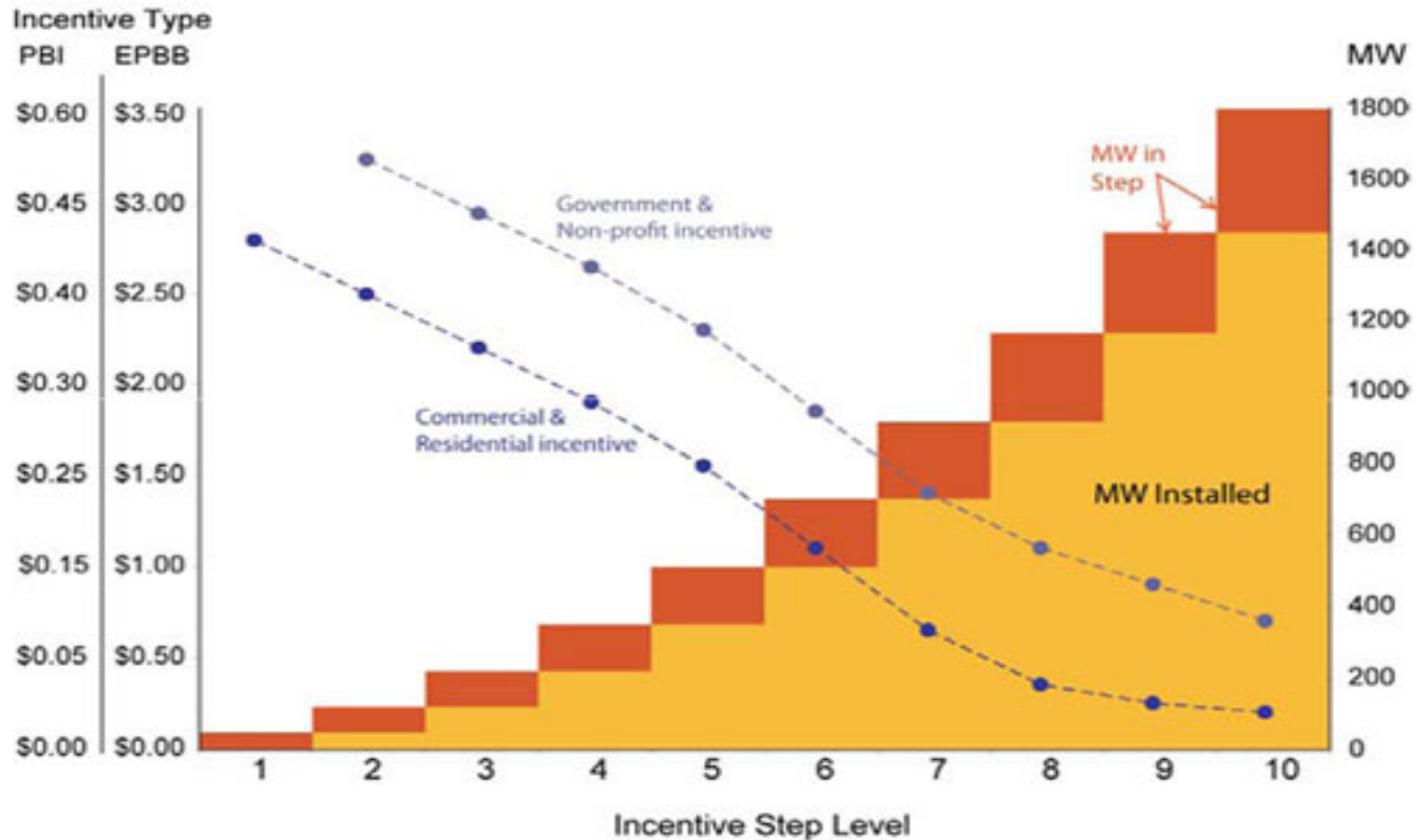
- 1998 [Emerging Renewables Program \(ERP\)](#) at the California Energy Commission.
- 2001, [Self-Generation Incentive Program \(SGIP\)](#) administered by California Public Utilities Commission.

Currently, 13 percent of goal installed = 390 MW

Another 8 percent pending = 240 MW

With 22,000 applications for another = 373 MW

Direct: Rebates and Buydowns



PBI: Performance Based Incentive, paid over 5 years, in \$ / kWh
 EPBB: Expected Performance Based Buydown, paid upfront, in \$ / W

Direct: Rebates and Buydowns

Incentive rates set at time of reservation.

Initially **\$2.50/watt** to **\$3.25/watt** (govt/NGO)

installed capacity, or

\$0.39/KWh to **\$0.50/KWh** (govt/NGO) for output.

Currently, utilities at various incentive steps:

PG&E **\$1.10/watt**; \$0.15/KWh (Step 6 res/comm.)

Edison **\$1.90/watt**; \$0.26/KWh (Step 4 residential)

\$1.55/watt; \$0.22/KWh (Step 5 commercial)

Center for Sustainable Energy (Sempra territory)

\$1.55/watt; \$0.22/KWh (Step 5 res/comm)

Solar Set-Asides

16 states have special consideration for solar or distributed generation as component of a renewable portfolio standard (RPS).

New Hampshire - 0.3% by 2014	North Carolina - 0.2% by 2018
New York - 0.13% by 2013	Illinois - 1.5% by 2025
New Jersey - 2.12% by 2021	Missouri - 0.3% by 2021
Pennsylvania - 0.5% by 2020	Colorado - 0.8% by 2020
Delaware - 2% by 2019	Arizona - 4.5% DG by 2025
Maryland - 2% in 2022	New Mexico - 4% by 2020
Dist. Columbia - 0.4% by 2020	Nevada - 1.5% by 2025
Ohio - 0.5% by 2025	Oregon - 20 MW by 2020

Source: NC Solar Center/IREC

Solar Set-Asides

New Jersey Class 1 RECS July 2009 (biomass)	\$3.25/MWh Evolution Markets
New Jersey Clean Energy Program April 2009	\$490/MWh DSEIR
NJ SRECS 2009 Vintage August 2009	\$688/MWh Flett Exchange

Solar Set-Asides

City of Austin, Texas

Austin Energy public utility

Originally set at 5% RPS by 2004, Austin in 2007 approved a goal of 30% renewables by 2020, with 100 MW set-aside for solar.

Variety of means, including rebates, contracts and utility development have brought current level to 12%.



Feed-in Tariffs



2,973 MW of solar capacity by
end of 2008.



5,308 MW of solar installed
by end of 2008.

United States 1,547 MW installed by end of 2008

Source: SEIA US Solar Industry Year in Review 2008

Feed-in Tariffs

- Proven effective in spurring installation of solar PV in Germany and Spain.
- Now implemented in >45 nations and being explored in US at state, federal and city level.
- Gainesville, FL, limited pilot immediately subscribed when offered in 2008.

Feed-in Tariffs

California current

AB 1969 (2008) provides for standardized contracts (10, 15 or 20 years) for eligible renewables up to 1.5 MW, capped at 480 MW.

Market Price Referent (MPR) based on avoided cost of natural gas, set by CPUC.

Very low participation to date
~ 12 MW.

California possible

AB 1106, would increase threshold to 20 MW

Set price on cost plus return.
Transformed to two-year bill.

SB 32, tweaks current program, raised size to 3 MW and applies to municipal utilities. Signed by Governor October 10, 2009.

Property/Income Tax Deductions

New York City

Offers 8.75% deduction to real estate property taxes for PV installations, up to 35% of system cost.

Clean Renewable Energy Bonds (CREBs)

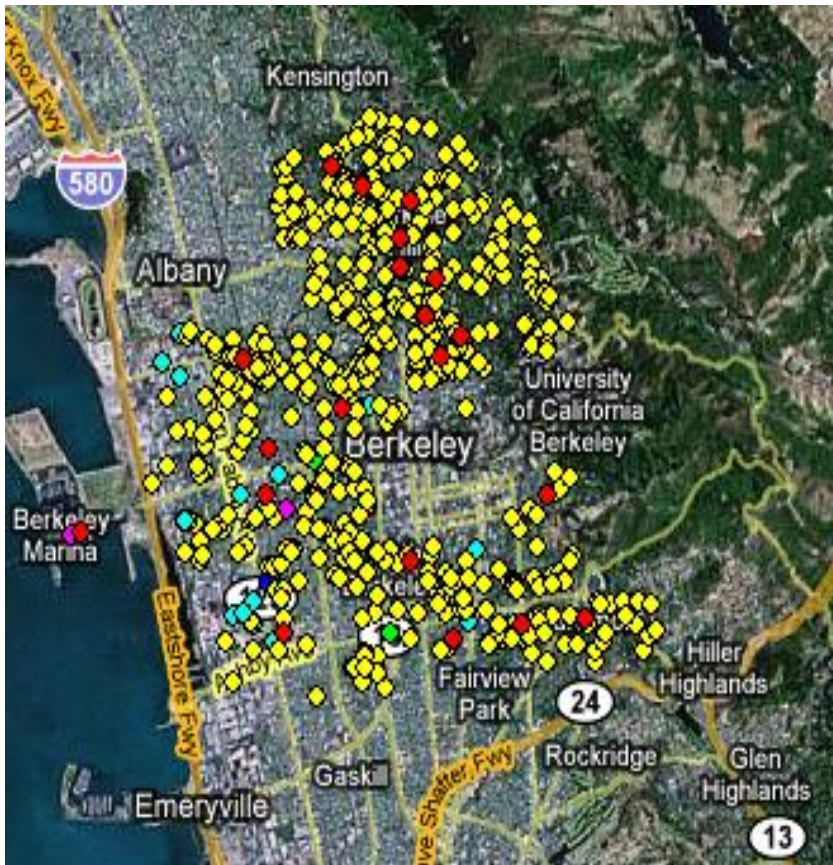
Energy Policy Act of 2005 authorized up to \$800 million

Interest-free loan to qualifying solar facilities funded through sale of special-purpose tax credit bonds. Investors do not receive interest, but a tax credit.

Permitting & Fee Supports

- Fees waived or reduced for local permits for installing PV system.
- Wide variation in permit fees charged across jurisdictions \$0 to \$1,000 for residential unit.
- State of Arizona in May 2008 rationalized fee structure, such that any building permit fee for solar must directly correspond to cost of providing related service. Owner may request itemized list of costs associated with permit fees.
- Equal benefit comes from streamlined permitting fee/inspection process, as in San Francisco one-stop permit application.

Property Tax Financing



City of Berkeley, CA

Introduced Nov. 2007

Berkeley FIRST model for attaching cost of PV and installation to property taxes to be paid over 20 years.

Loans to homeowners funded by special district and through municipal bond sales.

More than three dozen other cities have since adopted similar incentives.

Property Tax Financing

- Berkeley model has now expanded nationally under name *CityFIRST* and mechanism is now called *Property Assessed Clean Energy* (PACE) to include energy efficiency.
- DOE ARRA funding announced October 19, includes about \$87 million for pilot programs around the country.

Some Resources

- Berkeley FIRST www.ci.berkeley.ca.us/
- California Solar Initiative www.gosolarcalifornia.org
- Database of State Incentives www.dsireusa.org
- Dept. of Energy's Solar America Cities www.solaramericacities.energy.gov

New publication:

Solar Powering Your Community: A Guide for Local Governments
(July 2009) Dept. of Energy/Solar America Cities

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