How California Is Democratizing Solar For The 99%

California has become the first U.S. state to install more than 1,000 megawatts of solar panels on homes and businesses and the boom is on track to continue in 2012 despite upheaval in the solar market and declining incentives, according to a report

[1] released Monday by state regulators.

[2]

The California Public Utilities Commission estimates that the state is generating 1,255 megawatts of electricity from 122,516 rooftops. (At peak output, that's the equivalent energy production of a big nuclear power plant.) In 2011 alone, the state's rooftop solar capacity jumped 38% from the previous year while the number of rooftops boasting photovoltaic arrays grew by 29%.

But that milestone is less notable than the trend toward democratizing solar in the Golden State as the California Solar Initiative [3], or CSI, hits the midpoint of the program's decade-long run. Launched in 2007, the initiative seeks to install 1,940 megawatts of rooftop solar by 2017 by offering incentives for customers of the state's three big investor owned utilities – Pacific Gas & Electric, Southern California Edison and San Diego Gas & Electric. (The solar initiative is part of a larger $3.3 billion effort to bring 3,000 megawatts of distributed renewable energy online by 2017.

In the solar initiative's early years, Californians going solar tended to be affluent homeowners who could fork over the five-figure cost of a typical photovoltaic

system. Now the big growth in the market is coming from lower and middle incomes residents.

According to the report, solar program applications in areas with a medium income of less than $50,000 has grown 364% since 2007 while applications from neighborhoods with median incomes between $50,000 and $100,000 spiked 445%.

Falling prices for solar systems have surely helped – the cost of solar arrays installed under the California program has declined 28% since 2007, according to the public utilities commission.

But the game changer has been a financial innovation – leases offered by installers such as SolarCity, Sungevity and SunRun that let homeowners avoid the steep upfront costs of a photovoltaic array and instead pay a monthly fee that often will be less than the cost of the electricity generated by the solar system. Those leases are financed by banks and other institutions that create funds for the solar installers and which on turn receive state and federal tax breaks and incentives.

“The upward trend in CSI participation [in] lower and middle income areas is likely due to a sharp increase in third party owned systems that have received CSI incentives,” the report states. “Third party ownership models, such as solar leases and power purchase agreements (PPAs), allow households who cannot afford to own a PV system to go solar.”

The change has been dramatic. In 2007, 93% of residential solar systems were purchased by homeowners; by 2011 nearly two-thirds of new solar arrays were leased.

Also spreading solar to the masses are state policies designed to provide bigger incentives for low-income residents and to put solar on apartment buildings and other multi-family dwellings so tenants can participate in the program. For instance, through “virtual net metering,” tenants in a building the sports a solar array can receive a credit on their utility bill for the electricity generated.

“The intent of [virtual net metering] is to help low income multifamily residents receive direct benefits of the building’s solar system, and is available to all tenants and meters in a defined affordable housing property,” according to the report.

Despite a rocky year for solar manufacturers [4] and California’s struggling economy, the number of solar installations continues to soar. Installations jumped nearly 60% in 2011 from the previous year to a record 311 megawatts and just in the first quarter of this year 97 megawatts of rooftop solar have been installed.

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