

In-depth feature

California considers Net Energy Metering, Again

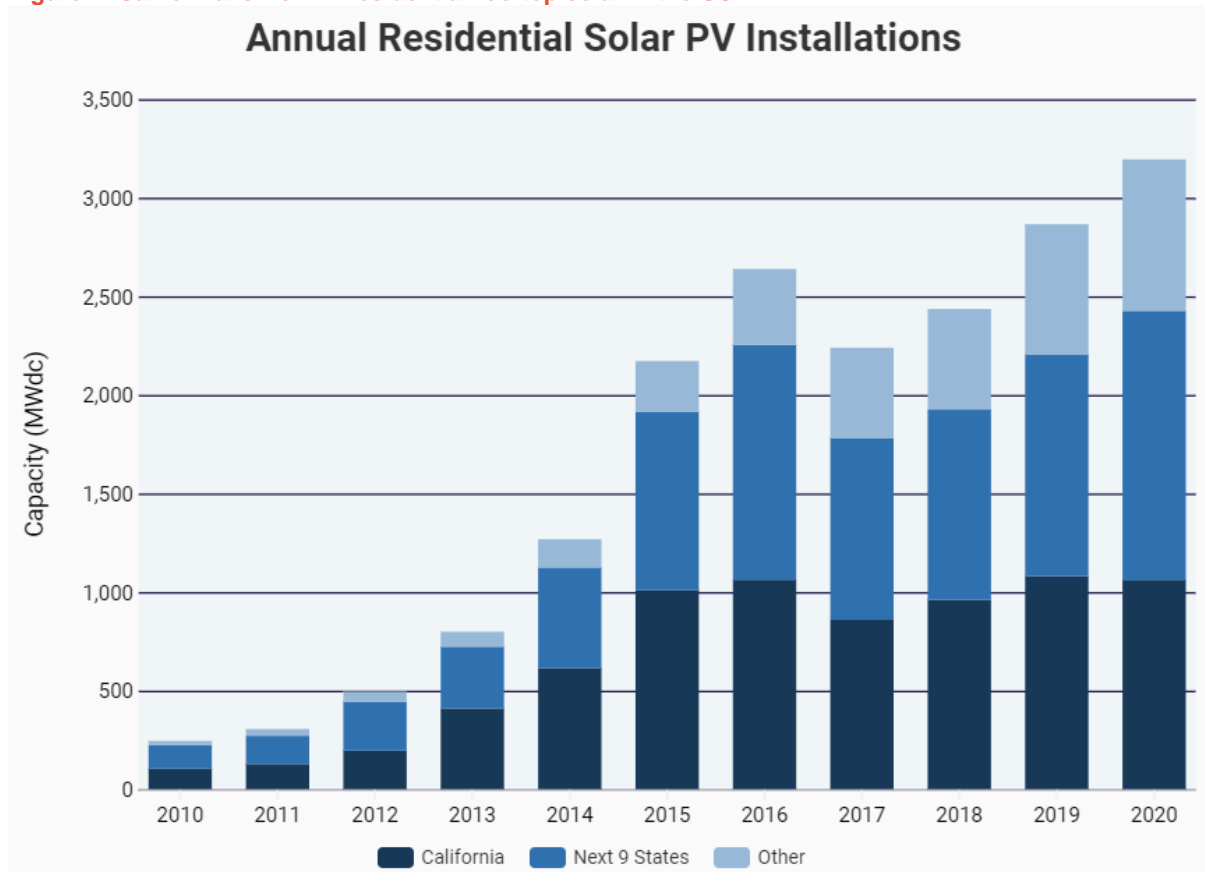
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This article is from the latest issue of *EEnergy Informer*, a newsletter edited by Fereidoon Sioshansi of [Menlo Energy Economics](#) and editor of *Variable Generation, Flexible Demand*.

Depending on where you stand on the issue, California's **net energy metering (NEM) law**, introduced in 1996 when rooftop solar panels were expensive and exotic, has been a great success, a massive subsidy for the solar customers paid by the non-solar ones, or a combination of the two; a mixed blessing. It has resulted in over 1.3mn solar roofs with a generation capacity of 1.3GW providing more than 25% of mid-day demand on many sunny days. California has more solar rooftops than any state in the country (visual). For **San Diego Gas & Electric Company (SDG&E)**, the smallest of the 3 investor-owned utilities (IOUs) and the one with the highest retail rates, it has resulted in 17% of its residential customers to install solar, the highest rate per capita in the continental US. That, NEM's critics contend, explains why the scheme is too generous and unsustainable.

After years of debate and prior adjustments, in mid Dec 2021, the California Public Utilities Commission (CPUC) issued a **proposed decision (PD)** for a successor to NEM to be voted on by the end of Jan 2022 assuming no delays. The *proposal* – it is only a proposal until approved by the commission – shifts from a net-metering regime to a net-billing one by adjusting the value of credits given to the excess solar exported to the grid – to be set at a different level than the energy taken from the grid. This is a major departure from the credit formerly given to solar owners, which was equal to the full retail price of electricity – which is high in California compared to the national average.

Figure 1: California is No 1 in residential rooftop solar in the US



Source: SEIA, WoodMackenzie

Additionally, the commission has proposed to add a controversial **Grid Participation Charge** for solar customers and a long-term **Market Transition Credit** to encourage them to pair storage with solar systems.

In its proposal, the commission decided to make the switch based on findings that the current net-metering tariff negatively impacted non-solar customers and harmed low-income ratepayers. Both arguments can be questioned depending on whose analysis one believes. Moreover, low-income customers in California already receive a generous 30% discount in retail rates.

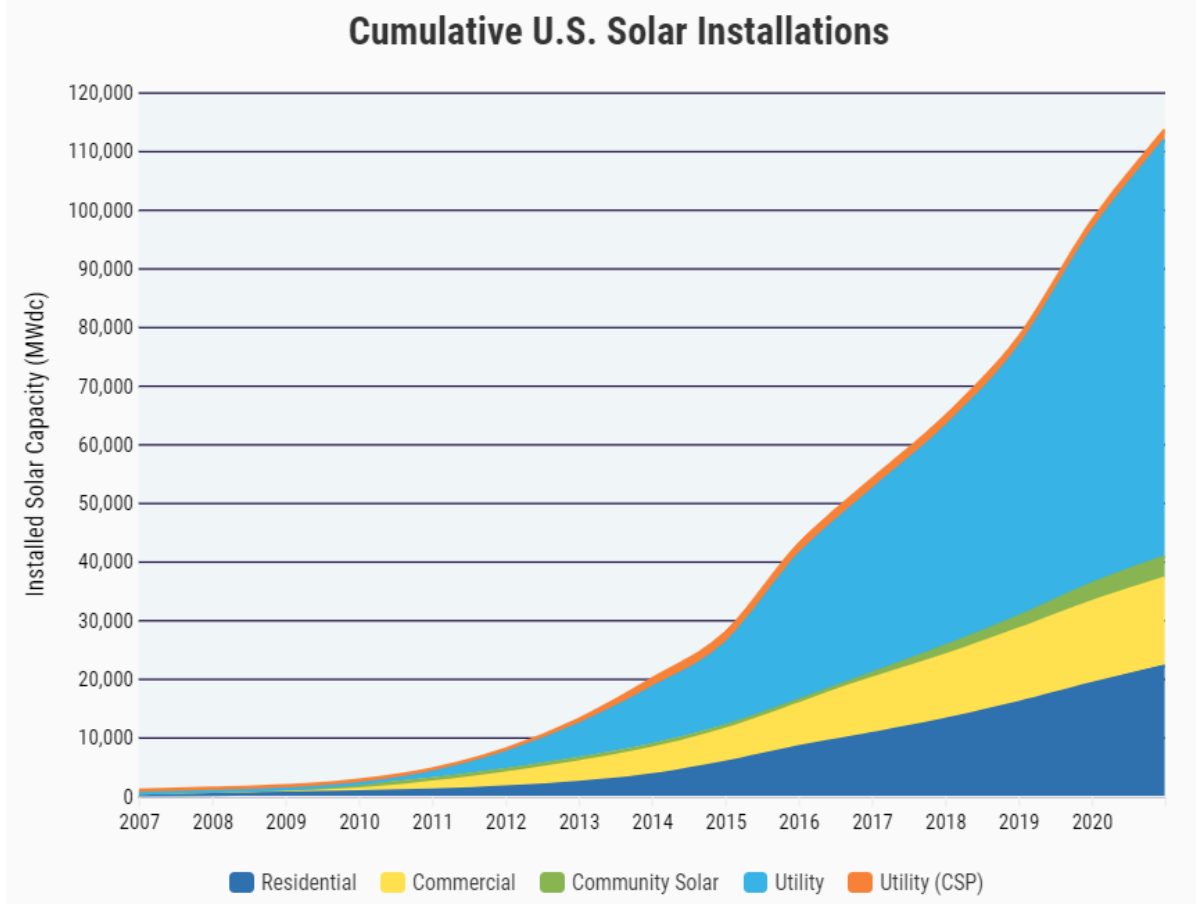
The CPUC noted that the prior NEM 1.0 and the current 2.0 created “equity concerns due to the misalignment between costs and value,” which created “revenue under-collections that must be recovered by nonparticipating customers” – arguments advocated by the investor-owned utilities – and said the new scheme is an “improved version of net billing” that provides an export compensation rate “aligned with the value behind-the-meter energy generation systems provide to the grid based on avoided cost values and import rates that encourage electrification and solar paired with storage.”

Given California’s ambitious push toward electrification, the CPUC said, Net Billing customers can oversize their systems by up to 150% of historical load to allow for future home electrification.

The Net Billing credit for the first 5 years following a customer’s solar installation will be based on the most recent **Avoided Cost Calculator**, basically following avoided cost values for each hour for each climate zone. This “lock-in period” is meant to ensure customer-sited solar continues to grow and offer some level of consumer protection. Following the 5 years, export compensation will be based on average monthly avoided cost of energy.

The commission has also proposed a new time-of-use rate and a fixed monthly grid access charge of **\$8.00/kW**, called the Grid Participation Charge and says this “sends a clear message to the customer that they are paying to use the grid.” Low-income households are exempt from the charge. It is not clear why solar customers are singled out to pay the Grid Participation Charge since all customers are connected to the grid and rely on its services. A homeowner with a large air conditioning load operating at full blast in early evening hours, for example, exerts more stress on the grid than a solar homeowner exporting extra generation to the

Figure 2: Residential and commercial solar (bottom 2 wedges) affected by net energy metering policies



Source: SEIA, WoodMackenzie

grid in mid-afternoon.

Not everyone was pleased with the *proposal*. **California Solar and Storage Association (CALSSA)** figures that the proposal would add a \$57/month **solar penalty fee** for the average residential solar system. The \$15/month credit for the first 10 years would only partially offset the fee – leaving California with the highest solar penalty fees in the country. It said the proposal to slashing the export credits to approximately 5¢/kWh on all solar users, including public schools, churches and civic organisations, represents an 80% reduction from the 20-30¢/kWh credited previously given – namely the full retail price of electricity for residential customers.

Pointing to over 120,000 comments flooding the CPUC and Gov. **Gavin Newsom's** office, the **Save CA Solar Coalition**, which includes CALSSA and more 600 member organisations, accused the commission of succumbing to the investor-owned utilities, boosting utility profits at the expense of energy consumers. **Bernadette Del Chiaro**, CEO of CALSSA said, “What is there to like? It is an absolute disaster.”

The proposed decision is the result of months of negotiations and proposals submitted by many interested parties including the **Solar Energy Industry Association (SEIA)** and the CALSSA as well as California's three largest utility companies **Pacific Gas & Electric Company (PG&E)**, **Southern California Edison Company (SCE)** and **San Diego Gas & Electric Company (SDG&E)**, who submitted a joint proposal. Others, including **The Utility Reform Network (TURN)** and the **Natural Resources Defense Council (NRDC)**, also offered proposals.

Studies suggest that under the existing NEM law, typical California rooftop solar systems with and without storage have payback periods in the 7-11 years and longer depending on the specifics. There is little debate that solar customers cut their electric bills substantially – which is why so many are doing it. If solar owners were to be credited at the utility's avoided costs, as proposed, the payback period would be considerably longer, as long as 25 years.

The IOUs favoured the avoided cost calculator approach which would extend the typical payback to 21 years. Solar advocates argued that the avoided cost method undervalues energy exports, reduces compensation to solar customers who are, after all, making significant investments, leads to longer payback periods and makes solar rooftops unaffordable for most customers just when it was becoming within reach of nearly all including middle and low-income households.

“Retail rates do not reflect the actual costs of the exports or the benefits the exports provide to the utilities and the grid, both of which we need to ensure are approximately equal,” the Commission said in its proposal.

Clearly a lot is at stake, and it is a controversial issue. The Commission is faced with a tough decision. No matter what it does at the end, it will probably make both sides equally displeased. Perhaps that is the best that can be expected?

“The proposal has attracted some controversy and opposition, and therefore may be substantially changed in January.”

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