



Item 7

Evolution of Net Energy Metering: Key Issues

July 1, 2021

Executive Summary

- Net Energy Metering (NEM) has been an important subsidy to spur the growth of local clean energy adoption. California leads the nation in rooftop solar installation, which has created thousands of clean energy jobs.
- As the cost of rooftop solar continues to decline, the current level of subsidy may not be necessary. As California's electricity grid evolves, subsidies may be better directed towards resources such as storage that are needed in the evening to replace fossil fuel resources.
- While the NEM proceeding at the CPUC does not directly impact CPA's own ratemaking, the results could impact our competitive position and spur a redesign of CPA's NEM tariff.
- CPA staff have put together a set of principles for NEM re-design for **discussion and feedback**, which will inform CPA's own rate design deliberations after the CPUC decision has been issued.

NEM Background

History of NEM in California

- Established in 1995 as a subsidy to facilitate the installation of small, customer-sited renewable generation
- Subsidy is in rate design; customers receive credit based on **retail rates** for excess energy generated and fed back to the grid
- NEM has played an important role in encouraging the growth of rooftop solar, which has led to decline in technology cost
- California leads the nation in rooftop solar generation at 8,500 MW, creating thousands of local clean energy jobs
- Rising electricity costs and mandate for solar on all new low-rise housing will continue to drive installations

NEM 2.0

- NEM 2.0 was adopted in 2016 by the CPUC and made modifications to the original NEM tariff to align with policy objectives
 - **Rates:** New NEM customers were required to be on TOU rates, still at the retail level
 - **Fees and charges:** New NEM customers must pay an interconnection fee, a minimum bill, and other applicable non-bypassable charges (such as Public Purpose Program Charge and DWR bond)
- CPUC designated 2019 as the year to re-examine NEM tariff structure
 - Proceeding opened in 2020; costs, technology, grid needs have evolved significantly since 2016

Legislative and Regulatory Updates

Reasons for Revisiting NEM

- As the cost of installing rooftop solar has gone down, the subsidy may not need to be as generous as it used to be in order to encourage continued adoption
- A new rate design should appropriately value the benefits of distributed generation, and ensure that the cost of serving distributed generation customers is not disproportionately borne by low-income customers
- The CPUC adopted the below principles for NEM re-design:
 - Ensure equity among customers
 - Enhance consumer protection measures
 - Coordinate with other California energy policies, including SB 100, Integrated Resources Planning, building energy efficiency standards, etc.

AB 1139

- Authored by Assemblywoman Lorena Gonzalez (D-San Diego); sponsored by the Coalition of Utility Employees
- Original bill would have lowered the compensation NEM customers receive from the **retail rate to the wholesale rate**, reduced how long a customer can remain on the retail rate, and removed sustainable solar growth as a state policy goal
- Amended bill removed discussion of compensation rate, maintained legacy treatment for 20 years
- Original bill opposed by over 50 groups, in some cases due to the process (circumventing a CPUC proceeding) rather than the policy
- Moved to inactive file after it failed to get off the Assembly floor

CPUC NEM 3.0 Issues

Key issues under consideration at the CPUC include:

- **Legacy treatment** for existing NEM customers, and timeline for transition to new NEM tariff
- **Export compensation:** compensation for NEM customers when they export excess energy to the grid
- **Non-bypassable Charges:** include existing non-bypassable charges such as Public Purpose Program Fund, DWR Charge; fixed charge for distribution/transmission services
- **Incentives for low-income and disadvantaged customers**

CPA Objectives and NEM Proposals

CPA's Principles for NEM Re-Design

Staff has drafted the following NEM principles based on adopted CPA policy platforms:

- **Support Grid Reliability:** NEM is clean, local capacity that can be an important tool to reduce fossil fuel dependency and contribute to grid reliability
- **Invest in Energy Storage:** NEM incentives can further California's decarbonization goals by targeting investments in storage to meet the evolving needs of California's electricity grid
- **Expand Access for Low-Income Customers:** NEM incentives are underutilized by low-income households and communities, and a redesign of the tariff should increase adoption in underserved communities

Legacy Treatment for Existing NEM Customers

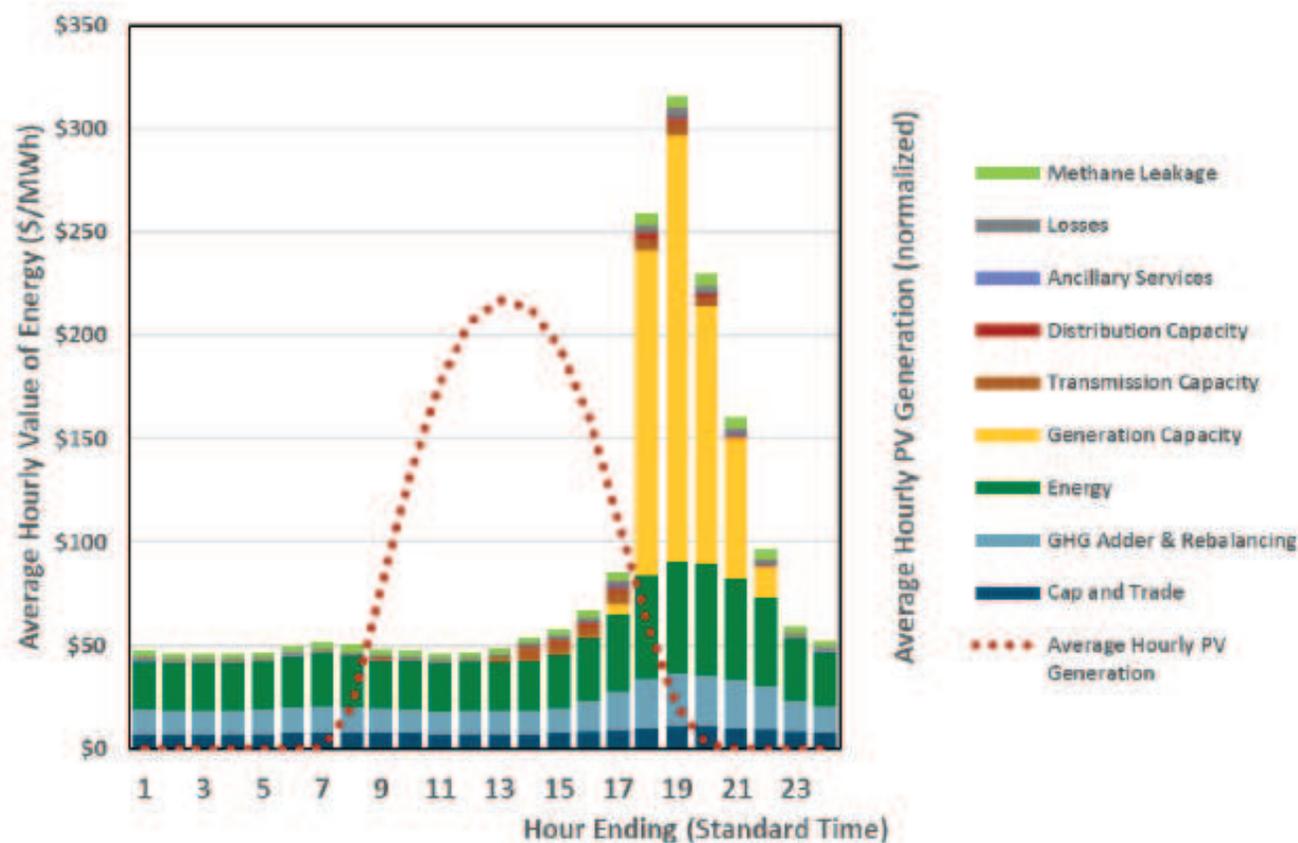
- **Proposal:** NEM 1.0 and 2.0 customers should maintain the existing legacy treatment of 20 years (NEM 1.0 already received this treatment when NEM 2.0 was adopted). Energy storage rebates could be provided to NEM 1.0 and 2.0 customers as an incentive to default to NEM 3.0 compensation schedule
- **Alignment with CPA principles:**

Support Grid Reliability	Invest in Energy Storage	Expand Access for Low-Income Customers
Encourage storage adoption	Incentivize storage by providing rebates	N/A

Compensation Rate for New NEM Customers

- **Context:** California's greatest energy need is between 4-9 pm, and this need is largely met by natural gas resources. The value of distributed resources increases significantly if they can be used during these hours

Figure 4. 2020 Hourly Average Avoided Costs and Solar Generation, Annual Averages



Source: E3 NEM Whitepaper

Compensation Rate for New NEM Customers

- **Proposal:** Export compensation should be based on “avoided cost” to send price signals to customers to incentivize shift energy consumption during towards daytime hours and/or to encourage energy storage adoption that can shift energy export to the evening. The avoided cost-based rate value is between retail rate and wholesale rate
- **Alignment with CPA principles:**

Support Grid Reliability	Invest in Energy Storage	Expand Access for Low-Income Customers
Encourage energy export behavior that aligns with grid needs	Incentivize storage by providing higher value export rate during critical peak hours	Additional revenues can be utilized to subsidize low-income NEM customers

Non-Bypassable Charges and Fixed Charge

- **Proposal:** Non-bypassable charges, including the Public Purpose Program Charge (PPPC), should continue to be assessed based on usage. A fixed charge may be introduced to fund the cost of serving customers based on the size of the installation.
- **Alignment with CPA principles:**

Support Grid Reliability	Invest in Energy Storage	Expand Access for Low-Income Customers
Compensate the utilities for cost of service of maintaining the distribution and transmission grid	Potentially frees up more funds to fund storage rebates	Directly contribute to PPPC, and generate additional revenues to fund incentives for low-income customers

Incentives for Low-Income Customers

- **Context:** Although there has been a slight increase in NEM adoption in lower income zip codes, expanding rooftop solar access for low-income customers would likely require further subsidization
- **Proposal:** Compensate low-income customers at retail rate, and broaden the definition of low-income to include customers with income below 80% of the area median income
- **Alignment with CPA principles:**

Support Grid Reliability	Invest in Energy Storage	Expand Access for Low-Income Customers
N/A	A more generous compensation for low-income customers could incentivize storage adoption	Maintain a more generous compensation rate for low-income customers

Summary: CPA's NEM Objectives and Goal Alignment

	Support Grid Reliability	Invest in Energy Storage	Expand Access for Low-Income Customers
Legacy Treatment: Existing NEM customers should maintain their rates for 20 years from interconnection date. Existing NEM customers would be eligible for storage rebates, and in turn default to the new NEM tariff.	X	X	
Export Compensation: For new NEM customers, the compensation schedule should be set based on the value of customer-sited generation's contribution to the grid, at the time of export.	X	X	X
Non-bypassable and Fixed Charges: Customers should continue to pay other non-bypassable charges; a cost-of-service based distribution/transmission charge may be assessed.	X	X	X
Low-Income Incentives: Maintain a more generous compensation schedule for customers from underserved communities for the first 10 years to incentivize distributed energy resource adoption.		X	X

Next steps

- Today: Board feedback on principles and/or requests for information the Board would like to see in future discussions of NEM
- CPUC Proceeding
 - Settlement discussions finalized by August 27
 - Decision will likely be issued in Q4 2021
- CPA will revisit NEM with the Board once the CPUC decision has been issued to evaluate rate-setting from both a policy and competitive perspective