



September 15, 2021

Holly R. Anderson, Clerk
Vermont Public Utility Commission
112 State Street – 4th Floor
Montpelier, VT 05620-2701

Re: Case No. 19-0855-RULE
Sunrun Presentation for September 16, 2021 Workshop

Dear Ms. Anderson:

As requested in the agenda for the September 16, 2021 workshop on net-metering compensation, Sunrun submits the attached slides for its presentation regarding a residential solar installer perspective on net metering compensation structures that have been considered and implemented both regionally and nationally, increasing equitable access to solar, and other topics. The presenter for Sunrun will be Kyle Wallace.

Respectfully submitted,

/s/ Kyle Wallace

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SUNRUN

Rule 19-0855: Net Metering Workshop

Kyle Wallace
Sr. Manager, Public Policy
September 16, 2021



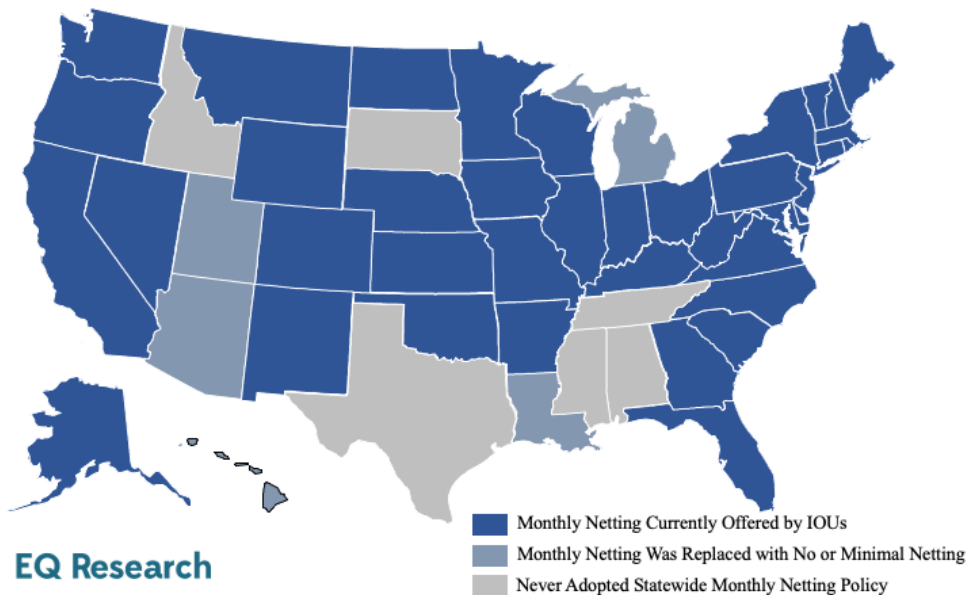
www.sunrun.com

Net Metering

- Net metering is a foundational policy that other DER programs can build upon. Moving away from a net metering structure is likely to cause significant market disruption.
- The electrification of transportation and heating will significantly increase electric demand, and DER's must play a critical role in managing and meeting this increased demand. What is the value of DERs installed today in that electrified future?
- In order to be successful, any solar compensation structure must match the sophistication of the customers it serves. Net metering's simplicity is critical for customer adoption.
- Uncertain compensation values or complex structures introduce significant perceived risk for customers. This can make it near impossible for solar installers to provide an accurate value proposition.
- The value proposition for solar customers must be considered in order to maintain a strong solar industry. A low value proposition will lead to less equitable access to solar as only those who do not need to realize savings will be able to install it.
- If value and compensation are found to be out of balance, the focus should first be on *increasing* the value of DERs (i.e. encourage storage and grid-beneficial discharge, time-of-use rates, smart thermostats or other devices, electrification, etc).

NEM Across the Country

Availability of Monthly Netting for Residential and Small Commercial Customers



California

- NM 2.0 retained a net metering structure but introduced mandatory TOU rates and small non-bypassable charges for certain public purpose programs.

Hawaii

- Only moved away from NM after reaching an extremely high penetration rate.
- Due to their solar resource and high utility rates, battery storage was cost effective which enabled full self-consumption of solar.

South Carolina

- Compromise maintains monthly netting with TOU rates.
- Includes upfront rebate for participation in a smart thermostat program.
- The upfront rebate covers the minimum bill and TOU impacts so that total compensation for a customer is roughly equivalent to retail NM.

New York

- Developed a Value of Distributed Energy Resources Tariff (“VDER”) in 2017 which provides a monetary credit for grid injections for projects larger than 750 kW. “Mass market” customers (residential & small commercial systems) retained the net metering structure under Phase One NEM.
- After exploring options for mass market customers such as time-of-use rates, demand charge-based rates, and applying VDER, the PSC retained the retail net metering structure with a small monthly charge to recover funds for public purpose programs.
- “Phase One NEM remains a simple and effective mechanism for smaller DER projects. As discussed in the whitepaper, applying the Value Stack or a similarly complex mechanism to these projects would, in many cases, require expensive metering and would require mass-market customers to understand a complex crediting framework that is very different from the billing models they are familiar with. Furthermore, unlike in the case of CDG, it would be difficult or impossible for a third party, like a CDG sponsor, to act as an intermediary and take responsibility for reviewing credits received and ensuring that customers benefit.”

Case 15-E-0751, Order Establishing Net Metering Successor Tariff, pgs. 14-15, July 16, 2020.

Connecticut

- SB 9 (2018) passed which would have replaced NM with 2 options for customers: a feed-in tariff and a tariff which would provide a monetary value for all energy exported to the grid. In 2019 NM was extended through 2021 and allowed PURA to consider retaining monthly netting in the successor tariff.
- At the start of the regulatory process PURA established 5 objectives of the Successor Tariffs:
 - a. The sustained, orderly development of the state's solar industry, ensuring at a minimum that Connecticut's annual historic deployment of residential solar is maintained.
 - b. Achieve a 100% zero carbon electric grid by 2040.
 - c. Balance participant costs and benefits with non-participant costs and benefits and electric system costs and benefits.
 - d. Ensure program accessibility for customers, by providing customer protections both explicitly through resources and disclosure forms, and also through simplified program and tariff designs.
 - e. Encourage increased inclusivity overall, as well as program participation by LMI customers and customers in environmental justice communities.

- On February 10, 2021, PURA issued an order which adopted monthly net metering with the export rate set at the retail rate. A REC incentive value or non-bypassable charge may be included in the tariff as determined by an annual rate setting process to ensure solar customers receive a “reasonable rate of return.” A non-bypassable charge will not be authorized until program year 2023 at the earliest.
- The NM 2.0 structure Includes low income and environmental justice community adders to increase access.
- “Based on the foregoing, the Authority finds that **an instantaneous netting tariff currently presents a significant barrier to the deployment of behind-the-meter solar PV systems for residential customers** in Connecticut. Further, the implementation cost and timeline for instantaneous netting is similar to monthly netting. In accordance with the fourth Residential Tariff objective, the netting interval should not only seek to minimize costly changes to the EDCs’ billing systems and metering infrastructure, but **should also be easy for customers to understand and provide customers with the ability to reasonably estimate the economics of their solar PV system** before purchase or signing a lease. Indeed, a netting interval that is not compatible with estimating system economics and individual customer benefits would likely impede, if not entirely prohibit, robust customer participation. Finally, a **monthly netting interval preserves the ability to send customer price signals to change their intraday usage through time-varying rates and to incentivize the deployment of electric storage through a performance-based incentive program.**”

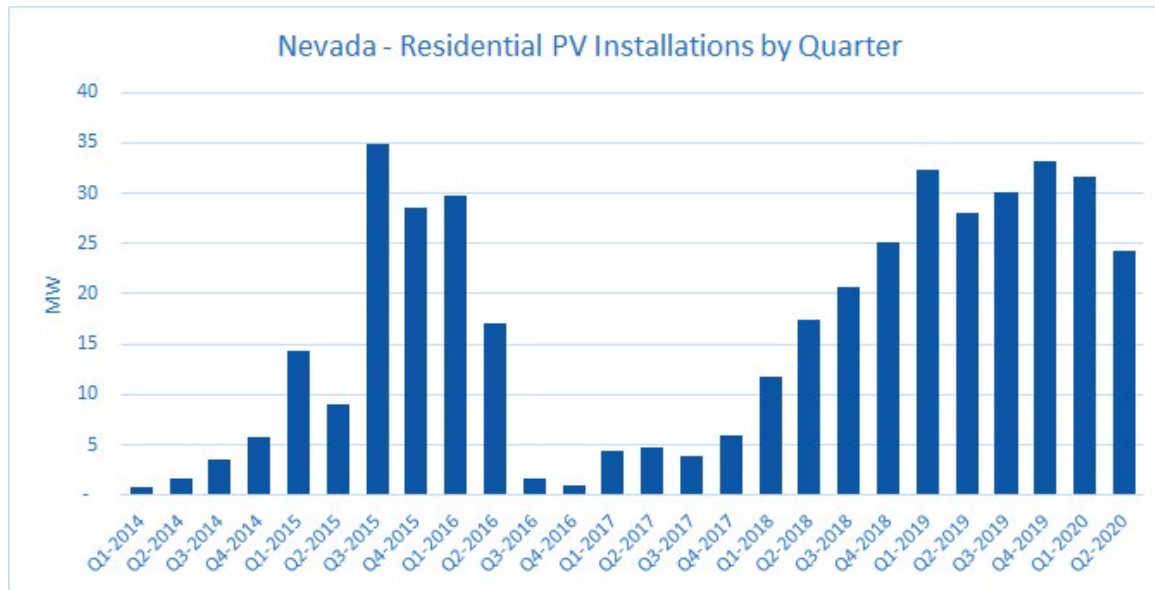
Docket 20-07-01, [Interim Decision](#), pg. 12, February 10, 2021.

Massachusetts & New Hampshire

- **MA:** Systems 10 kW-AC or less are exempt from the statewide net metering capacity limits and receive retail net metering. Larger systems which are subject to the net metering capacity limits now receive monthly export credits worth 60% of the retail rate. While the overall compensation for these larger systems is lower, they still retain monthly netting and a value tied to the retail rate structure.
- The legislature nullified the imposition of demand charges for net metering customers in Eversource territory and the DPU rejected a proposed monthly fix fee for solar customers in National Grid territory.
- **NH:** The 2017 net metering order retained monthly netting.

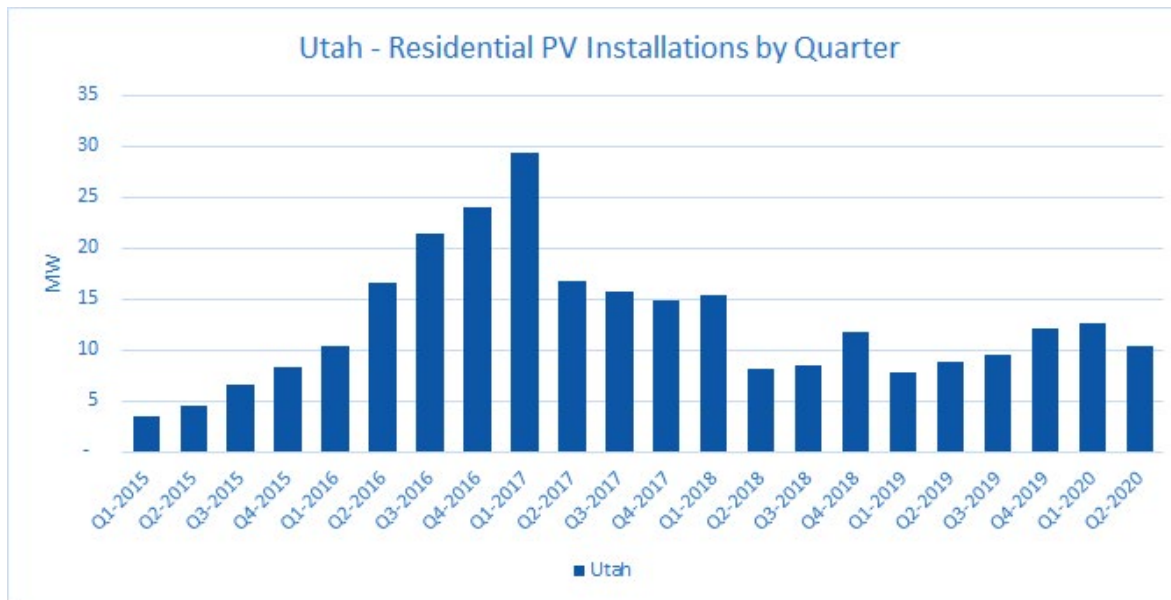
“We are persuaded by the record evidence that a near-term **transition from monthly netting to instantaneous netting is likely to result in significant customer confusion, project marketing and development complications, and potentially inefficient customer price signals.** For example, instantaneous netting may be confusing to customers who lack real-time data about their electricity usage . . . We find that those would be adverse consequences that **should be avoided in order to continue reasonable opportunities for electric customers to invest in and interconnection customer-generator facilities** and receive fair compensation for such locally produced power.”
State of New Hampshire Public Utilities Commission, DE 16-576, Development of New Alternative Net Metering Tariffs and/or Other Regulatory Mechanisms and Tariffs for Customer Generators, [Order No. 26,029](#) (June 23, 2017).

Nevada



Source: Wood Mackenzie Power & Renewables/SEIA U.S. Solar Market Insight Report
Note: Data reflects completed projects, thus policy changes are reflected 1-2 quarters after they occur.

- In December 2015, the PUCN replaced net metering with instantaneous export crediting at the utility's avoided costs and imposed an increased monthly fixed charge for solar customers.
- Residential solar installations decreased by over 90% and an estimated 2,600 jobs were lost.
- In June 2017 AB 405 was signed into law which reinstated monthly net metering with a declining block structure for the monthly export value (with the last block set at 75% of the retail utility rate).
- With AB 405 implemented in the second half of 2017, the solar market has rebounded to pre-2016 installation levels.



Source: Wood Mackenzie Power & Renewables/SEIA U.S. Solar Market Insight Report
 Note: Data reflects completed projects, thus policy changes are reflected 1-2 quarters after they occur.

- In late 2016 Rocky Mountain Power proposed compensating solar customers at avoided costs for electricity exported to the grid along with being placed on a demand-based rate schedule.
- In November 2017 a settlement went into effect which transitioned compensation to instantaneous export crediting with an export value at approximately 90% of the retail rate.
- The uncertainty regarding RMP's proposal, the settlement, and the complexity of instantaneous netting chilled the market substantially despite the 90% of the retail rate export value.

Conclusion

- Major changes to the net metering structure are not necessary at this time.
- Most states that have made changes to their solar policies have built upon the retail net metering structure through time-of-use rates, optional dynamic pricing tariffs, or small non-bypassable charges. Nearly all states provide monthly netting for residential and small commercial customers.
- Moving to a complex value of DER or avoided costs compensation structure would be out of step with other states in the region.
- States that have moved to complicated compensation structures usually see a substantial contraction in their solar markets.