

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Revisit
Net Energy Metering Tariffs Pursuant to
Decision D.16-01-044, and to Address
Other Issues Related to Net Energy
Metering

Rulemaking 20-08-020
(Filed August 27, 2020)

**CLEAN COALITION COMMENTS IN RESPONSE TO ADMINISTRATIVE LAW
JUDGE'S RULING SETTING ASIDE SUBMISSION OF THE RECORD TO TAKE
COMMENT ON A LIMITED BASIS**

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I. INTRODUCTION

Pursuant to the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”) the Clean Coalition respectfully submits these comments in response to the questions posed in the Administrative Law Judge’s (“ALJ”) Ruling Setting Aside Submission of the Record to Take Comment on a Limited Basis, filed at the Commission on May 9, 2022. We appreciate that the Commission is taking the time to explore solutions that go beyond the December Proposed Decision in order to craft a Net Billing Tariff capable of reaching all segments of the population. The Net Billing Tariff is part of a broader conversation about how California can best use the trio of incentives, pilots, and rates to guide industry and the population to decarbonize in time to meet its climate goals. The Clean Coalition believes that a successful Net Billing Tariff should make it feasible for as many Californians to deploy renewable energy systems as is possible.

Self-generation and self-consumption are necessary to increase the pace of electrification, particularly transportation electrification. Conveying to Californians that self-generation is a right, not a threat to the grid that must be managed, is part of a shift in consciousness to think of each built environment as an energy system, ideally equipped with energy efficiency measures, generation, a dynamic rate/tariff, and some sort of energy storage (whether that is a behind-the-meter, front-of-meter, or vehicle-to-grid). While each of these facets is connected as part of a broader energy vision, the policy and regulation implemented must be nuanced enough that there are separate value streams for each area, so long as there is no double counting. The Clean Coalition strongly believes that energy needs to be valued from the bottom-up so that all

resources can be evaluated on a level playing field, based on the cost of producing the energy, the precise amount of infrastructure used to transmit the energy, and time-differentiated multipliers that reflect grid conditions.

The questions contained within the ALJ's Ruling demonstrate a willingness to craft a more flexible Net Billing Tariff, although worrying troupes about taxing behind-the-meter ("BTM") generation for self-consumption purposes still persist. Our comments will demonstrate:

- The Commission must not tax NEM facilities by extending nonbypassable charges to gross consumption.
- Self-generation that is consumed on-site is similar to energy efficiency because it never utilizes grid infrastructure.
- Façade-Integrated Solar is a pertinent case study about generation resources that are intended only for self-consumption.
- Façade-Integrated Solar should be labelled as "energy efficiency" and exempt from the Net Billing Tariff.
- Community Solar is a good idea to help NEM reach a greater range of ratepayers. However, the RECs must be guaranteed to ensure the energy content is as clean as promised.
- A successful Net Billing Tariff should include other innovative proposals for Community DG, including front-of-meter ("FOM") energy storage.

II. DESCRIPTION OF PARTY

The Clean Coalition is a nonprofit organization whose mission is to accelerate the transition to renewable energy and a modern grid through technical, policy, and project development expertise. The Clean Coalition drives policy innovation to remove barriers to procurement and interconnection of distributed energy resources ("DER") — such as local renewables, demand response, and energy storage — and we establish market mechanisms that realize the full potential of integrating these solutions for optimized economic, environmental, and resilience benefits. The Clean Coalition also collaborates with utilities, municipalities, property owners, and other stakeholders to create near-term deployment opportunities that prove the unparalleled benefits of local renewables and other DER.

III. COMMENTS

A. Nonbypassable Charges should not be collected on gross consumption

If the Commission adopts the approach of collecting NBCs on gross consumption from Tariff customers, should the Commission consider collecting from all Tariff customers or only a subset of Tariff customers? For example, should the Commission consider collecting from all nonresidential and residential customers; only residential customers; only non-low-income residential customers; or all residential customers plus non-residential customers on certain rates? Explain your rationale.

The Clean Coalition does not support the Sierra Club proposal to collect nonbypassable charges (“NBCs”) based on gross consumption. NBCs, which were added to the cost of energy imports as part of NEM 2.0, accurately reflect how much a ratepayer needs to contribute to public purpose programs based on usage of the electrical grid. NEM is intended to be an incentive program that promotes the sustainable growth of renewable energy systems; adding applying NBCs to all consumption would send a price signal that disincentive new NEM deployments. The Commission should not be taxing ratepayers just for the right to self-generate and consume energy on-site. Doing so ignores the needs of the grid and the amount of clean energy that needs to come online over the next decade in order for California to achieve its decarbonization goals.

Currently, NBCs cost about 2-3 cents per kWh. If the full list of proposed NBCs is applied, the total amount will likely be close, if not higher than, the Avoided Cost export compensation rate. Such a change would all but nullify the total savings from installing a NEM system as compared to a non-export system, which is the same fundamental problem that existed in the initial PD. If the Net Billing Tariff makes it more cost-effective to deploy a non-export system than a NEM system, the tariff cannot be considered a success.

Moreover, without relitigating the Avoided Cost Calculator in this proceeding, it is worth acknowledging that the avoided cost rate does not encompass all of the value that distributed energy resources (“DER”) provide. In the most recent Decision passed by the Commission, approving the 2022 ACC, the Commission either requested methodological changes or declined to act (while stating that action does need to be taken) on subjects including the Avoided Transmission value for SCE and SDG&E and greenhouse gas rebalancing. Moreover, while the ACC does include an avoided transmission value, it does not currently

include an unspecified avoided transmission value (based on projects that never trigger a capacity upgrade due to reduced congestion caused by DER), nor does it consider the fact that DER should avoid Transmission Access Charges.

Between a significantly reduced export compensation rate — based on an incomplete ACC, rates that continue to rise statewide, and inflation, extending NBCs to all gross consumption would be excessive taxation that diminishes the value of NEM altogether.

If NBCs on gross consumption are collected from Tariff customers, which of the following list of electric program and securitization charges should be considered as NBCs for Tariff customers, and why? If there are any additional existing electric program or securitization charges that parties believe should be collected as NBCs that are not on this list, please include them and explain your rationale. Utilities are instructed to clarify which of these charges do and do not apply to their customers.

In addition to opposing the proposal to collect NBCs on gross consumption, the Clean Coalition opposes adding new NBCs to the Net Billing Tariff. The nonbypassable charges currently collected — the public purpose program charge, the Nuclear Decommissioning Charge, the Competition Transition Charge, and the Department of Water Resources bond charge — are generally related to public purpose charges paid by all ratepayers. In D. 16-01-044, the Commission specified, “these charges are typically specified as nonbypassable for departing load,” and include the PCIA for community choice customers.¹ Adding infrastructure and generation-related charges is going far beyond the precedent set in the first Successor Tariff. Moreover, given that rates are designed with embedded infrastructure and generation charges, it is certainly not the right direction to take.

B. Self-Generation and self-consumption are consistent with energy efficiency.

When it comes to applying NBCs to NEM projects, it is important to characterize self-generation properly. When a facility self-generates and consumes the energy on-site, the real effect is a reduction in the net load, making it much more like energy efficiency than importing energy from the grid. While the debate surrounding NEM has centered around an appropriate rate of return and bill savings from energy exports, the primary function of NEM is the

¹ D. 16-01-044 at page 89

deployment of a renewable energy system that reduces the amount of energy a facility needs to import from the grid every day via self-consumption. This locally generated energy helps create a more efficient grid; transmitting energy over shorter distances before it is consumed results in less line losses and less stress on the grid. Therefore, each NEM generator reduces, albeit by a small amount, the energy imported from the transmission grid to meet local distribution needs. As discussed above, some of this value is captured by the Avoided Cost Calculator (“ACC”), but not all, given the ongoing nature of the calculator and the numerous methodologies that have not been fully flushed out.²

Based on cost causation principles, customers should be charged rates that reflect approximate costs and benefits of a NEM system. Charges for public purpose programs and use of grid infrastructure make sense when grid infrastructure is actually being utilized. Applying NBCs to gross consumption would disrupt this balance and would be tantamount to taxing installations of LED lightbulbs. From a grid standpoint, there is no different between installing LED lightbulbs and a solar+storage NEM system capable of meeting a certain percentage of the facility load throughout the day. In both instances the result is reduced strain on the grid and a lower amount of demand for grid energy.

C. Façade-Integrated Solar is a perfect example of a generating resource that should be labeled as an energy efficiency measure.

The term “Façade-Integrated Solar” encompasses a number of generating technologies that are deployed directly into the building envelope. These resources — like solar windows and solar shades — help maximize the efficiency of a facility as a generating resource, without increasing grid usage due to increased energy exports. Façade-Integrated Solar can only sustain a fraction of the real-time load at any given time, meaning that all energy generated will be used on site with no export/back feed. Even during periods of peak solar production, a facility that has fully integrated Façade-Integrated Solar will not produce enough energy to completely net zero the property. Therefore, Façade-Integrated Solar is a great complement to rooftop solar and other traditional generating resources, particularly when paired with energy storage that can provide a layer of resilience.

² Methodologies have not yet been implemented for avoided transmission (for SCE and SDG&E) and GHG rebalancing in the 2022 ACC.

Although Façade-Integrated Solar are generating resources, they fit the definition of energy efficiency. For example, replacing the windows in an existing facility is a standard energy efficiency measure that increases insulation, reducing heat loss and lowering the facility’s annual carbon footprint by around 12%.³ Solar windows are insulated windows coated with layers of glaze that enable a small amount of generation. Effectiveness varies based on the amount of sunlight, positioning of the windows, and the transparency of the glazes used. In addition to retrofits for existing buildings, for new constructions, since all load is incremental load, Façade-Integrated Solar reduces the load that comes online when construction is complete and the building is occupied, thereby reducing the amount of standby generation the incumbent utility needs to reserve. The city of Boulder, CO provides a good example of treating Façade-Integrated Solar as an efficiency measure in their Energy Efficiency Code, which states, “On-site renewable energy generated by a system installed as part of this project that is used by the building shall be subtracted from the proposed design energy consumption prior to calculating the proposed building performance.”⁴ In other words, if applied to a facility taking service under a NEM tariff, the Façade-Integrated Solar production would be zeroed out before sizing the rooftop PV array to net zero the property, in accordance with NEM guidelines.

D. Despite generating energy for self-consumption, Façade-Integrated Solar should be labelled “energy efficiency” and exempt from NEM

As mentioned above, due to the small percentage of a facility’s load that Façade-Integrated Solar can cover, the self-consumption should be treated as energy efficiency and be officially exempt from NEM. The table below compares the overall effect of traditional energy efficiency measures with the generational profile of Façade-Integrated Solar (without also factoring in the extra insulation that comes with an installation of energy efficient windows).

Table 1: Relative Savings from different energy efficiency measures

Energy Efficiency Measure	Average Percentage of Savings
Switching to LED light bulbs	15% of energy bill ⁵

³ On average Energy Star certified insulated windows reduce the annual carbon footprint of a facility by 12%. https://www.energystar.gov/products/building_products/residential_windows_doors_and_skylights/benefits

⁴ City of Boulder, CO, Energy Efficiency Code, Section C407.5, on Solar requirements at Page C75 <https://bouldercolorado.gov/sites/default/files/2020-12/2020cityofboulderenergycode2ndptg1.pdf>

⁵ <https://www.energysage.com/energy-efficiency/why-consume-energy/environmental-impact-of-ee/>

Installing insulated windows	12-14% of heating bill ⁶
Installing a heat pump	20-40% reduction in energy consumption ⁷
Proper insulation/re-roofing	11% of total energy costs ⁸
Façade-Integrated Solar	3-5% of energy usage⁹

Façade-Integrated Solar allows building owners to take advantage of tailor-made solutions to meeting Green Building and Authorities Having Jurisdiction (“AHJ”) Sustainability code requirements. For example, to gain a LEED platinum rating a building is required to source 5% of its energy from on-site renewables. The next update to the CEC Title 24 Building Energy Efficiency Standards, in January 2023, will set a date by which all single-family homes must be “electric ready”, a transition that will require the rapid adoption of nascent energy efficiency technologies like Façade-Integrated Solar.

Façade-Integrated Solar (“FIS”) systems offer a unique opportunity for building owners to meet these thresholds when they may have limited roof space to do so. Moreover, current power management systems can restrict back-feeding via rapid shutdown devices or microinverters (when they are operationalized for Façade-Integrated Solar), making the need for grid connection unnecessary. In fact, FIS-generation will not trigger the Net Generation Output Meter (“NGOM”). Therefore, eliminating the possibility of energy back feeding to the grid should end the need for FIS installations to go through the arduous interconnection process.¹⁰ Consider the Netflix building in Los Angeles (located at 3901 Sunset Blvd), which is a good example of an early adopter of FIS. There are two arrays (see the image below), one the South wall and the other on the East wall that total 31.3 kW. The total annual production, around 26,685 kWh, reflects slightly more than 1% of the total load of the 15-story, 489,000 square foot building.¹¹

⁶ https://www.energystar.gov/products/building_products/residential_windows_doors_and_skylights/benefits

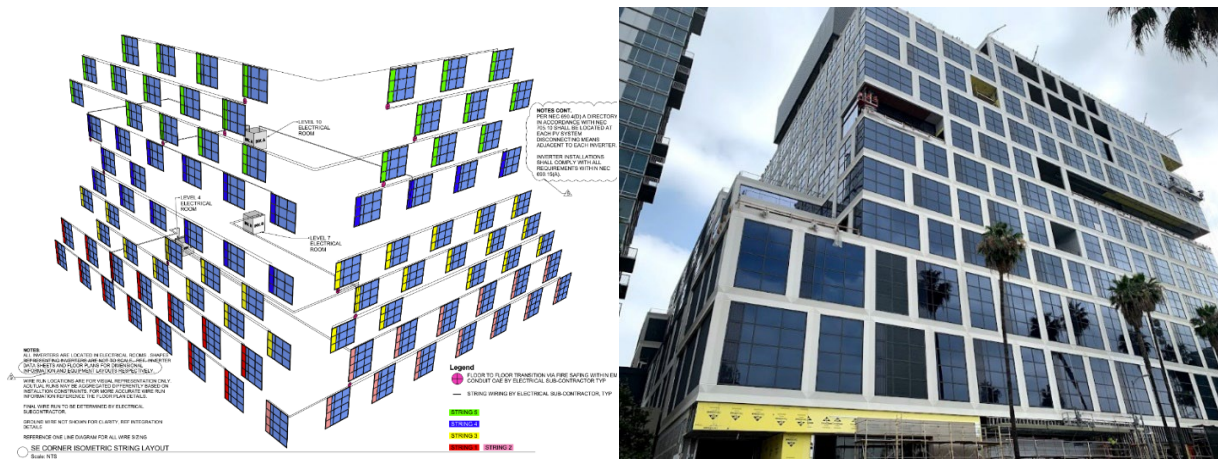
⁷ <https://www.bloccpower.io/posts/do-heat-pumps-save-money#:~:text=According%20to%20the%20Environmental%20Protection,annual%20heating%20and%20cooling%20bills.>

⁸ https://www.energystar.gov/campaign/seal_insulate/methodology

⁹ Based on estimates of NEXT Energy’s solar window technology

¹⁰ Given the uncertainty surrounding standard building configurations for FIS and construction timelines, submitting an interconnection application would seriously slow down the entire construction process.

¹¹ Estimate based on 2016 Energy Use Intensity data from US Energy Information Administration



Single Line Diagram and Post-Construction view of the Netflix building

For Façade-Integrated Solar to truly thrive, it needs to be ubiquitously available as a standardized plug-and-play product which can be specified by any architect without extensive or unnecessary design, integration or interconnection restrictions. Essentially, continuing to consider FIS as a generating resource eligible for service under NEM and subject to interconnection requirements will surely slow down adoption of the technology, as opposed exempting it from NEM and labelling it as energy efficiency.

In terms of the larger conversation about assessing NBCs, Façade-Integrated Solar demonstrates the way in which consumption of energy generated on-site is a BTM method of load reduction, which has the same effect as energy efficiency. Customers should not be penalized, via nonbypassable charges, for increasing the efficiency of a facility without increasing strain on the grid.

E. Community Distributed Energy Resources should be included in the Net Billing Tariff

Would low-income customers and/or renters benefit from a community solar tariff program modeled on the Tariff structure compared to participation in the CSGT program? Please describe advantages and disadvantages between the two community solar models.

Yes, the Clean Coalition believes that given the number of renters in California and the existing barriers to installations, particularly in low-income communities, a community solar tariff program would be a good addition to the Net Billing Tariff. However, the Renewable Energy Credits for a Net Billing Community Solar option would need to be guaranteed, to ensure that the program is not over-subscribed and avoid risking another version of the PG&E Green

Tariff Shared Renewables tumult.¹² We supported the proposal by PCF for community solar and urge the Commission to think creatively about whether such an option is now on the table. Other proposals that were previously dismissed, such as CESA's virtual battery proposal (or other FOM energy storage proposals) would pair nicely with a community solar program. Since the focus of the NEM proceeding has been creating a Net Billing Tariff that maximizes value to both the program participants and the electric system requires policies that promote TOU arbitrage and resilience. The Clean Coalition also believes that a Community Solar option should not preclude increasing the cap for VNEM projects (as proposed by Ivy Energy) and fixing the NEM-A credit process (as proposed by the Clean Coalition).

IV. CONCLUSION

The Clean Coalition respectfully submits these opening comments and notes our appreciation that the Commission has expanded the conversation beyond the initial PD, which would have caused significant damage to the future of rooftop solar, the supporting industry, and thrown the state off the timeline necessary to achieve our ambitious climate goals. The questions posed in the ALJ's ruling demonstrate the Commission's commitment to crafting a Net Billing Tariff that balances the guiding principles and properly positions California for significant growth of renewable deployments across a variety of a built environments.

However, certain troupes underlying the questions suggest a preclusion toward a misguided sentiment about the need to taxing self-generation. Doing so would not only further whittle down the benefits of NEM 3.0 but would also set a precedent for facilities to be charged for the right to install energy efficiency measures and reduce reliance on the grid. When asked about self-consumption during evidentiary hearings, the Joint IOUs suggested that self-generation was slightly different from energy efficiency — although they are functionally similar — and both create a cost-shift. The Commission should not find this argument persuasive, particularly considering the example of Façade-Integrated Solar presented above. A Net Billing Tariff that levies nonbypassable charges on gross consumption rather than energy imports sets the stage for a devaluation of energy efficiency measures. For that reason, nonbypassable charges should not be applied to gross consumption and generation that maximizes the use of the facility, namely

¹² D. 21-12-036

façade-integrated solar, should be exempt from NEM 3.0 requirements and instead categorized as energy efficiency.

As the total system load increases due to building and transportation electrification, it will be necessary to promote both energy efficiency and self-generation through a number of incentives/programs, including Net Energy Metering. That requires a Net Billing Tariff robust enough to stimulate growth — particularly in disadvantaged communities and locations with low existing penetrations of DER — and send the signal that self-generation is a right for all ratepayers, not a problem to be overcome via taxation. While this Ruling sets aside the evidentiary record temporarily, the Commission should not forget the flash points that significantly change the modeling (e.g., low PV installed costs, requiring a payback period of 10 years or less, a cash purchase versus a PPA, and the bad precedent that taxing solar generators for using the grid will cause). Any changes to the proposed Net Billing Methodology should be modeled using the public tool, especially given the lack of data surrounding using NBCs for the Net Billing Tariff.

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