

**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)

**PROPOSAL OF GRID ALTERNATIVES, VOTE SOLAR, AND SIERRA CLUB
FOR A NET ENERGY METERING SUCCESSOR TARIFF**

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Pursuant to the 19 November 2020 Joint Assigned Commissioner’s Scoping Memo and Administrative Law Judge (“ALJ”) Ruling (issued 28 January 2021), GRID Alternatives, Vote Solar, and Sierra Club (the “Joint Parties”) together submit this NEM Equity Proposal as part of a Successor Tariff to the Current Net Energy Metering (“NEM”) Tariff. Stephen Campbell will present this proposal at the March 23rd and 24th workshops and his email is scampbell@gridalternatives.org.

I. INTRODUCTION

The Joint Parties hereby provide a proposal for the NEM successor tariff (NEM 3.0) intended to increase access to customer-sited clean distributed generation (DG) for California Investor Owned Utility (IOU) customers who live in Environmental Justice and Social Justice (ESJ) communities, as defined by the California Public Utilities Commission’s (CPUC or Commission) Environmental and Social Justice Action Plan (ESJ Action Plan).¹ Demographic and income data discussed in the Section IV response to question 3(b) demonstrate that California has not yet achieved equity in onsite clean energy deployment. While there have been improvements in the distribution of customer-sited generation, onsite clean energy is still

¹ The California Public Utilities Commission’s Environmental and Social Justice Action Plan, adopted 19 February 2019, defines ESJ communities as including but not limited to 1) Disadvantaged Communities located in the top 25% of communities identified by Cal EPA’s CalEnviroScreen, 2) all Tribal lands, 3) households with incomes below 80 percent of the area median income, and 4) census tracts with household incomes below 80 percent of the area or state median income.

disproportionately being deployed by higher-income households and in communities that are not top 25% disadvantaged communities as defined by CalEnviroScreen (CES 3.0). This proposal intends to increase equity, a key Guiding Principle, by significantly boosting onsite clean energy deployment in ESJ communities.

In this Rulemaking, the statutory obligation to promote and increase the installation of customer-sited renewable distributed generation in Disadvantaged Communities (DACs)² remains in effect. The Commission’s webpage “Solar in Disadvantaged Communities” informs the public that Assembly Bill (AB) 327 (Perea, 2013) “directed the Commission to develop specific alternatives designed to increase adoption of renewable generation in Disadvantaged Communities (DACs).”³ Pursuant to AB 327 Section 2871.1, on 21 June 2018, the Commission issued D.18-06-027, *Alternate Decision Adopting Alternatives to Promote Solar Distributed Generation in Disadvantaged Communities*, which created the Disadvantaged Communities – Single-family Solar Homes (DAC-SASH) program, the Disadvantaged Communities – Green Tariff (DAC-GT) program and the Community Solar Green Tariff (CSGT) program. In nearly three years since the issuance of D.18-06-027, only the DAC-SASH program has met the requirement of the Decision to “promote the installation of renewable generation among residential customers in disadvantaged communities.”⁴ The DAC-GT and CSGT programs have not resulted in any new program-induced clean energy being provided to eligible participants as of 15 March 2021.⁵

We believe that significant growth of low-income solar adoption should be enabled to occur immediately after a Commission Decision in this Rulemaking. Policy A and Policy B outlined below will lay the groundwork for this by maintaining strong tariffs for future ESJ participants. In addition, we believe one of the most streamlined methods to meet the statutory requirement of 2871.1(b)(1) is to increase the ability of the DAC-SASH program to provide solar energy (and storage) to substantially more income-eligible customers. The Commission should identify

² The California Environmental Protection Agency (CalEnviroScreen), refers to Disadvantaged Communities as the top 25 percent scoring census tracts, <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>

³ See <https://www.cpuc.ca.gov/SolarInDACs/>

⁴ D.18-06-027, 21 June 2018, p.2

⁵ See Southern California Edison, Advice Letter 4407E, 9 March 2021, Southern California Edison’s Disadvantaged Communities Green Tariff and Community Solar Green Tariff’s 2022 Budget and Marketing, Education, and Outreach Plan, p.9., https://library.sce.com/content/dam/sce-doclib/public/regulatory/filings/approved/electric/ELECTRIC_4407-E.pdf

funding sources to dramatically scale single-family NEM-based solar and storage systems to meet these targets.

II. PROPOSAL SUMMARY

a. Overview

The Joint Parties provide policy recommendations to significantly increase onsite clean energy adoption in ESJ Communities while also ensuring the entire clean DG market in California remains healthy and able to sustainably grow. This proposal includes two policies that are intended to work in tandem to increase onsite clean energy in ESJ communities. We propose that the below-listed policies would apply until 2032, and we propose that CPUC conduct an assessment of ESJ clean DG access and adoption rates in 2027. At that time, the CPUC should reevaluate the NEM successor tariffs that serve ESJ customers and determine if adjustments are needed for future customers to meet the requirements of the statute.

Policy A Summary: Reduce low-income energy burden by equalizing NEM export value

For Policy A, eligible low-income customers would be defined as IOU residential customers with incomes at or below 80% of area median income (AMI), as of the year that they interconnect their NEM system. This represents approximately the lowest-income 43% of IOU residential accounts, corroborated by data from the U.S. Office of Energy Efficiency and Renewable Energy's Low-Income Energy Affordability Data (LEAD) Tool.⁶ For eligible low-income customers who take service under the future (NEM 3.0) successor tariffs including the successors to virtual net energy metering (VNEM) tariffs, we propose to decouple savings on NEM exports from the customer's retail rate, while allowing them to remain on their retail rate for their energy purchases. Eligible customers would be assigned a time-varying rate for their exports, equal to the current default residential TOU rate offered by the customer's IOU in 2021. An eligible low-income customer who takes service under NEM 3.0 would receive this rate for 20 years from the system's date of interconnection (i.e., vintaged for 20 years). Since these export rates would be fixed to 2021 values, they would not change if the IOU's default TOU

⁶ As Per the LEAD Interactive Tool: Total Housing Counts, 0%-100% AMI is 12,558,006 and Total Housing Counts (both rental-occupied and owner-occupied 0%-80% AMI is 5,494,928; $(5,494.928/12,558,006) = 43.8\%$, see <https://www.energy.gov/eere/slsc/maps/lead-tool>

rates change going forward. We note that decoupling export rates from the retail rate substantially reduces non-participant impact over time as retail rates are projected to increase.⁷ Net costs of this policy should be assigned to all ratepayers.

Policy B Summary: Preserve NEM 2 rates for projects owned and controlled by the community

For Policy B, we define NEM projects “owned and controlled by the community” as 1) NEM projects taking service on a residential tariff that are owned by a California cooperative corporation, as defined by the California Corporations Code,⁸ or nonprofit organization, or 2) NEM projects taking service on a commercial or industrial tariff that are owned by a California cooperative corporation or nonprofit organization (and which may be located at private, government or other types of properties), or 3) public NEM projects owned by the state, a county, a city, a city and a county, or a California community college district.

Policy B seeks to preserve NEM 2 benefits to customers who historically have not been able to benefit from solar but are looking to build community-governed solar to get wealth, savings, reliability, resilience, health and workforce benefits with their community from the clean energy transition. Many ESJ communities throughout the state want to build community-owned clean energy projects; however, many community members either do not have ownership of land or buildings that could host solar or are unable to afford solar when they do have a site. They need to be able to come together, pool resources, and participate in maximizing the benefits of energy projects through democratic structures like nonprofits, cooperatives, or public entities. The participants of these democratic structures should be limited to ESJ communities as defined by the CPUC. Maintaining the savings profile that NEM 2 provides will also be vital for the economic viability of community Resilience Hubs.

b. An explanation of how the proposal meets each of the relevant statutory criteria;

⁷ Utility Costs and Affordability of the Grid of the Future, An Evaluation of Electric Costs, Rates, and Equity Issues Pursuant to P.U. Code Section 913.1, February 2021, p.7-8.

⁸ Cal. Corp. Code § 12200,
https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=12200.&lawCode=CORP

We do not have sufficient room in this three-page summary to address meeting the statutory criteria, but we do address this in Section IV, response to Question 3 below, since the first guiding principle in the Decision Adopting Guiding Principles for the Development of the Successor to the Current Net Energy Metering Tariff focuses on meeting the statutory criteria.⁹

c. A discussion of main similarities and/or differences between the party's proposal and the options identified in the White Paper

Our proposal is similar to E3's White Paper in that Policy A reflects a shift to a net billing model, rather than a net metering model. However, E3's proposals were not very focused on boosting onsite clean energy in ESJ communities, but instead focused primarily on reducing net cost impacts to nonparticipants. While the latter is a worthy goal and was part of our lens as we crafted our proposal, we focused on tariff changes that would break down barriers to clean energy deployment in ESJ communities, by increasing and stabilizing ESJ participants' bill savings, and making it easier for them to deploy onsite clean energy.

d. A description of any important statutory, policy, or practical issues that remain open in the proposal.

Policy and practical issues are discussed in more detail below.

III. DETAILED DESCRIPTION OF EACH COMPONENT OF THE PROPOSAL

Policy A: "Reduce low-income energy burden by equalizing NEM export value"

Eligible low-income customers for this proposal would be defined as IOU residential customers with incomes at or below 80% of area median income (AMI), in alignment with the ESJ Action Plan's identification of underserved communities, including "low-income households"¹⁰ and "low-income census tracts"¹¹ as of the year that they interconnect their NEM system. This represents approximately the lowest-income 40% of all IOU residential accounts.¹²

⁹ D.21-02-00, p.33.

¹⁰ ESJ Action Plan, "low-income households" identified as "household incomes below 80 percent of the area median income", p.10.

¹¹ ESJ Action Plan, p.10 "low-income census tracts" identified as "Census tracts with household incomes less than 80 percent area median or state median income.", p.10.

¹² See <https://www.energy.gov/eere/slsc/maps/lead-tool>.

This definition of low-income takes into account differences in cost of living across the state, and has been used in the Single Family Affordable Solar Homes (SASH) program for many years, as well as in the Multifamily Affordable Solar Housing (MASH) program, and the Self-Generation Incentive Program (SGIP) equity and equity resiliency budgets. Thus, this definition aligns with CPUC definitions in existing low-income clean energy programs and utilities have experience with using it, although it has not been used before in the NEM interconnection process. However, we are aware that the IOUs have increased interconnection resources to handle the historic influx¹³ of Federal income tax documentation necessary to prove income-eligibility in the SGIP equity and equity resiliency budget.¹⁴

The U.S Department of Housing and Urban Development (HUD) calculates AMI by county and publicly updates the values every year.¹⁵ We acknowledge that eighty percent of AMI in wealthy counties will be significantly higher than in less wealthy counties. For reference, 80% of AMI for a four-person household in the following counties in 2020 is: \$114,480 in San Francisco; \$82,400 in Orange County; \$61,840 in Los Angeles County; and \$56,560 in Fresno County.¹⁶ However, in the wealthier counties, income after housing costs often leaves lower-income families with little to no margin. Thus, energy burden reduction is still very important for families that do not qualify for the California Alternate Rates for Energy Program (CARE) or the Family Electric Rates Assistance (FERA) program but that earn 80% of AMI or less annually.

For eligible low-income customers who take service under the NEM 3 successor tariff including the successors to VNEM tariffs, we propose to decouple savings on NEM exports from the customer's retail rate, while allowing them to remain on their retail rate for their energy purchases. Eligible customers would be assigned a time-varying rate for their exports, equal to the current default residential TOU rate schedule offered by the customer's IOU in 2021. An eligible low-income customer who takes service under NEM 3.0 would receive this rate for 20 years from the system's date of interconnection (i.e. vintaged for 20 years). Since these rates

¹³ See Self-Generation Incentive Program, 2020 4th Quarter Workshop, 17 November 2020, Slide 6, <https://www.selfgenca.com/documents/workshops/2020/q4>.

¹⁴ PG&E AL 4333-G/6000-E, p4., Low Income Documentation Requirement – COL 1, “Residential single family ERB electric-pump well customers are required to submit a copy of their most recently filed Federal income tax documentation to verify their household income is no greater than 80 percent of the AMI (per HUD)”, <https://www.huduser.gov/portal/datasets/il.html>.

¹⁵ See <https://www.huduser.gov/portal/datasets/il.html>.

¹⁶ See <https://hcd.ca.gov/grants-funding/income-limits/state-and-federal-income-limits/docs/income-limits-2020.pdf>.

would be fixed to 2021 values, they would not change if the IOU's default TOU rates change going forward. Because participants in the Solar on Multifamily Affordable Housing (SOMAH) program have the option to exempt themselves from the NEM 2.0 requirement to take service on a TOU rate, and we do not want to automatically reduce NEM 3.0 SOMAH customers' savings via Policy A, we propose that future NEM 3.0 SOMAH customers' exports may continue to be pegged to their existing tariff, if they do not choose to enroll on a TOU tariff. Net costs of this policy should be assigned to all ratepayers.

To prove eligibility for Policy A, customers should be required to submit their prior year Federal tax return as part of their clean energy system interconnection process. The IOUs would be required to do a one-time comparison to compare the customer's income with the charts published by HUD to ensure the household income is equal to or under 80% AMI. If a net metered system is installed and the eligible customer subsequently moves, the new homeowner would be required to provide income data as outlined above to prove they are eligible to remain on this tariff.

In Table I below, we provide illustrative examples of how Policy A would boost average bill savings for low-income participants, looking at CARE customers as well as low-income customers that do not qualify for CARE. This table shows that compared with NEM 2.0 CARE savings on the default TOU rate, bill savings for CARE customers on the default TOU rate (including both clean generation used behind the meter and exported) under Policy A would increase by 1-5 c/kWh of clean generation, depending on the IOU and on the size of the NEM system compared to load. It also shows that low-income customers that do not qualify for CARE would receive substantially higher c/kWh bill savings than those on CARE under Policy A, due to the additional behind the meter savings these customers realize because they are not on a discounted rate; for example, see the pale blue boxes compared with the darker blue boxes for systems sized to offset 90% of annual load.

Table I: Total Bill Savings on Default Residential TOU Rates (cents/kWh, first year bill savings)

Bill Savings Using 1/1/2021 Rates		Bill Savings Analysis Under Proposed Policy A								
		CARE Customers - NEM 2.0			CARE with non-CARE Export Credit			Non-CARE (<80% AMI) Residential Customers		
		PG&E	SCE	SDG&E	PG&E	SCE	SDG&E	PG&E	SCE	SDG&E
	% of load from solar	E-TOU-C	TOU-D 4-9p	TOU-DR	E-TOU-C	TOU-D 4-9p	TOU-DR	E-TOU-C	TOU-D 4-9p	TOU-DR
Bill Savings (Onsite + Export)	50%	0.20	0.18	0.22	0.23	0.19	0.25	0.31	0.25	0.33
	60%	0.20	0.17	0.22	0.23	0.19	0.25	0.30	0.25	0.33
	70%	0.19	0.17	0.21	0.23	0.19	0.25	0.30	0.24	0.32
	80%	0.19	0.16	0.21	0.22	0.18	0.24	0.29	0.23	0.32
	90%	0.18	0.16	0.20	0.20	0.18	0.22	0.28	0.23	0.30
Export Only	50%	0.18	0.15	0.20	0.28	0.21	0.31	0.28	0.21	0.31
	60%	0.18	0.14	0.21	0.27	0.20	0.29	0.27	0.20	0.32
	70%	0.17	0.13	0.20	0.26	0.19	0.27	0.27	0.19	0.30
	80%	0.16	0.13	0.19	0.24	0.18	0.25	0.25	0.19	0.29
	90%	0.16	0.12	0.18	0.20	0.16	0.22	0.24	0.18	0.28

However, total bill savings (i.e. cost-of-living expense reduction) between CARE- and non-CARE low-income customers are more equal under Policy A if one looks at total monthly bills rather than c/kWh NEM savings, because non-CARE customers pay more for the energy they purchase from the grid since no discount is applied. Table V in Appendix A calculates the monthly bills pre-solar and post-solar for (1) a CARE customer under NEM 2.0, (2) a CARE customer under Policy A, and (3) a non-CARE customer under Policy A. We assumed that solar customers pay a bill to their solar provider equal to \$0.15/kWh times solar output. We modeled two solar system sizes: 90% and 60% of annual usage, and looked only at first-year monthly bill savings.

Table V in Appendix A shows that, although the non-CARE 80% AMI or less customer does have higher solar bill savings per kWh than the CARE customer, the CARE customer still has lower overall monthly bills, taking into account both the remaining net load bill paid to the utility plus the bill paid to the solar provider (difference shaded in blue). This is because the CARE customer has a much lower net bill due to their discounted rate.

The primary benefit of this policy structure is simplicity and equity among customers. Allowing low-income successor tariff participants to stay on their current underlying rates and fixing export rates at current TOU rate schedules would achieve the following important goals:

- Maintains consistent and meaningful bill savings to low-income customers over a defined period of time
- CARE and FERA customers would receive the same export value that non-CARE or FERA customers receive, boosting their clean DG savings and reducing their energy burden more than is provided under the current NEM structure

- Reduces net cost impacts to nonparticipants because the export value for low-income participants does not increase over time
- Does not widen TOU differentials for low-income clean energy customers; we caution that doing so could significantly increase their energy bills, since many low-income customers have difficulty load-shifting and cannot afford smart appliances that would help them load shift
- Simplifies the process of modeling savings for clean energy developers who want to serve low-income customers, because export value remains consistent and predictable

Lastly, in this structure, contractors would feel more comfortable serving CARE/FERA customers since predictable savings can be discussed with prospective customers. On this point, the Commission's consumer protection provisions will be available to deter (and take any legal action against) bad actors. We provide more discussion on this critical topic in Section 4(c) below.

a. Export compensation structure(s) (e.g., net metering, net billing, feed-in tariff)

Policy A is a type of net billing for qualifying low-income customers.

b. Description of methodology and inputs for calculating export compensation price(s)

Eligible customers' export compensation would be fixed at a time-varying rate equal to the current default residential TOU rate offered by the customer's IOU in 2021. These default rates include tiers based on the amount of consumption, as well as time differentiation.

c. Rate structure(s) (e.g., time-of-use rate requirement, fixed or demand charges, minimum bill, market transition credit, non-bypassable charges)

See section b above

d. Continued application of secondary customer benefits (e.g., exemptions from interconnection upgrade costs, standby charges, and departing load charges)

For Policy A, we propose no changes from NEM 2 rules on this criterion.

e. Terms of service and billing rules (e.g., duration of service, true-up period, netting interval)

For Policy A, we propose no changes from NEM 2 rules on this criterion. We propose that eligible projects be allowed to take service on their applicable NEM 3 tariff for 20 years

from the date of interconnection. This is consistent with the legacy period that the Commission provided to NEM 1.0 and 2.0 customers in D. 14-03-041 and D. 16-01-044, respectively. Distributed solar and storage systems represent long-term investments of private capital in new clean energy infrastructure. Participants from ESJ communities rely on the Commission to provide for long-term stability in compensation rules as a key component of consumer protection.

f. Treatment for systems 1 megawatt and larger

For Policy A, we propose no changes from NEM 2 rules on this criterion.

g. How to address variations on the current net energy metering tariff (e.g., net energy metering aggregation and virtual net energy metering)

Policy A would apply to all IOU income-qualified residential customers taking service on successor tariffs, including those on the successors to virtual net metering tariffs. It is our understanding that net energy metering aggregation is not used by residential customers.

h. Any modifications to existing smart inverter requirements for systems taking service on the successor tariff

For Policy A, we propose no changes from NEM 2 rules on this criterion.

i. Whether and how energy storage and other distributed energy resources are integrated into the tariff

For Policy A, we propose no changes from NEM 2 rules on this criterion. Customers who are pairing storage with their onsite clean energy would receive the same treatment as those without storage.

j. Any safety issues related to the successor tariff

We are not aware of safety issues related to this proposal.

k. Any legal issues associated with your proposal (e.g., consistency with other Commission decisions or statutory requirements, tax implications for customers)

We are not aware of legal issues related to Policy A.

Policies that boost clean energy deployment by preserving NEM bill savings in households that meet this income eligibility are well-suited as “alternatives designed for [customer-sited renewable distributed generation] growth among residential customers in disadvantaged communities,” as Public Utilities Code 2827.1 (b)(1) requires. Table II (below), generated at our request by the nonprofit Physicians, Scientists, and Engineers for Healthy Energy (PSE Healthy Energy), estimates that 67.5% of households in top 25% disadvantaged communities, as defined by CalEnviroScreen 3.0 (CES 3.0), have incomes at or below 80% AMI for a four-person household.

Table II: Proportion of Households in Top 25% Disadvantaged Communities that Meet 80% Area Median Income or 200% of Federal Poverty Level ¹⁷

County	No. of tracts w/CES =>75th percentile	80% AMI for family of four	% of households w/ incomes below 80% AMI	% of population w/incomes below 2xFPL
Alameda County	39	104,400	72.8%	42.9%
Butte County	2	56,550	70.0%	62.4%
Contra Costa County	25	104,400	77.8%	42.5%
Fresno County	120	55,900	62.6%	60.9%
Imperial County	15	55,900	64.0%	58.3%
Kern County	67	55,900	62.8%	61.0%
Kings County	12	55,900	59.2%	58.4%
Los Angeles County	1036	90,100	71.0%	50.4%
Madera County	13	55,900	52.0%	50.3%
Merced County	37	55,900	55.3%	54.7%
Monterey County	4	77,500	68.4%	54.0%
Orange County	71	102,450	76.6%	47.7%
Riverside County	104	60,250	59.0%	49.6%
Sacramento County	46	69,050	69.2%	57.2%
San Bernardino County	158	60,250	59.2%	49.3%
San Diego County	39	92,400	78.8%	57.2%
San Francisco County	13	139,400	81.1%	47.4%
San Joaquin County	71	60,000	61.8%	50.8%
San Mateo County	7	139,400	72.6%	31.8%
Santa Clara County	20	112,150	68.0%	41.0%
Santa Cruz County	2	106,200	78.6%	57.5%
Solano County	5	73,950	64.2%	45.9%
Sonoma County	1	90,900	53.6%	40.4%
Stanislaus County	63	55,900	50.4%	47.6%
Sutter County	1	55,900	60.8%	66.3%
Tulare County	36	55,900	63.6%	64.2%
Ventura County	8	90,350	65.8%	50.1%
Yolo County	4	74,000	67.0%	56.7%
Yuba County	3	55,900	71.1%	67.6%
	2022		67.5%	51.5%

¹⁷ Sources: 1) Area Median Income (by county) available at :

https://www.huduser.gov/portal/datasets/il.html#2020_data (relied upon 80% AMI for a family of 4)

2) CalEnviroScreen 3.0, available at: <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30> (took 75th - 100th percentile score)

3) Poverty Status, Table C17002, American Community Survey (ACS) 2013-2018 5 year estimates

4) Household Income, Table B19001, American Community Survey (ACS) 2013-2018 5 year estimates

Policy B: Preserve NEM 2 rates for projects owned and controlled by the community

For this policy, we define NEM projects “owned and controlled by the community” as 1) NEM projects taking service on a residential tariff that are owned by a California cooperative corporation, as defined by the California Corporations Code, or nonprofit organization, or 2) NEM projects taking service on a commercial or industrial tariff that are owned by a California cooperative corporation or nonprofit organization (and which may be located at private, government or other types of properties), or 3) public NEM projects owned by the state, a county, a city, a city and a county, or a California community college district.

Policy B seeks to preserve NEM 2 benefits to customers who historically have not been able to benefit from solar but are looking to build community-governed solar to get wealth, savings, reliability, resilience, health and workforce benefits with their community from the clean energy transition. Many ESJ communities throughout the state want to build community-owned clean energy projects; however, many community members either do not have ownership of land or buildings that could host solar or are unable to afford solar when they do have a site. They need to be able to come together, pool resources, and participate in maximizing the benefits of energy projects through democratic structures like nonprofits, cooperatives, or public entities. The participants of these democratic structures should be limited to ESJ communities as defined by the CPUC.¹⁸ It is important to not limit the geographic locations of these projects as we should not limit the locations in which these democratic structures can build projects to best serve ESJ communities.

These energy projects can become Resilience Hubs -- which ESJ communities across the state want to deploy for community resilience as our grid faces planned power shutoffs and other major impacts from climate change -- but will only benefit communities if the community itself has a real sense of ownership in the projects’ co-creation, operation, and governance. In California, there are few opportunities for low-income and environmental justice communities to co-own and control solar projects unless they form nonprofits/cooperatives or they advocate with the state, a county, a city, a city and a county, or a California community college/school district.

¹⁸ Vote Solar has submitted a separate proposal for general market NEM 3 customers, co-filed jointly with the Solar Energy Industries Association, in which Vote Solar supports maintaining NEM 2 tariffs for all non-residential successor tariff participants.

For example, the RYSE Center (a youth-led community center in Richmond) and the Asian Pacific Environmental Network (APEN) are building a youth-led Resilience Hub in Richmond that will maximize the financial and social benefits from 90kW solar + storage systems on two buildings at a 45,000 square foot campus. Programming at RYSE allows youth to play a central role in the design, planning, organization, and governance of RYSE as a Resilience Hub. RYSE and APEN envision a community solar and storage system to power ongoing energy needs in all conditions, including having the ability to island so emergency response services can be proffered during disasters. Community-owned and youth-driven, this resilient energy system provides a model for what a just transition looks like at the community level. It will be a focal point for community-building, social connection and services, promote renewable energy and sustainability, and power their neighborhoods during times of disasters. The financial feasibility of this project will depend on the preservation of NEM 2 rates. The project will either be owned by the RYSE Center (a nonprofit) or the RYSE Center will form a cooperative corporation to maximize the financial benefits from government incentives (e.g. Investment Tax Credit) and get financing from the private sector.

We propose that under the successor tariff, clean DG projects that are owned and controlled by the community consistent with one of the three categories above and that would serve ESJ communities would be allowed to take service on their applicable NEM 2 tariff for 20 years from the date of interconnection. Keeping bill savings high for these projects serves equity by allowing participants to benefit from the wealth, savings, reliability, resilience, health and workforce benefits of local clean energy. Maintaining NEM 2 savings will also be vital for the economic viability of community Resilience Hubs.

a. Export compensation structure(s) (e.g., net metering, net billing, feed-in tariff)

For Policy B, we propose that eligible projects maintain net metering as provided under NEM 2, meaning exports are valued at the participant's full retail rate minus non-bypassable charges.

b. Description of methodology and inputs for calculating export compensation price(s)

See response to Section a above.

c. Rate structure(s) (e.g., time-of-use rate requirement, fixed or demand charges, minimum bill, market transition credit, non-bypassable charges)

For Policy B, we propose no changes from NEM 2 rules on this criterion.

d. Continued application of secondary customer benefits (e.g., exemptions from interconnection upgrade costs, standby charges, and departing load charges)

For Policy B, we propose no changes from NEM 2 rules on this criterion, meaning that exemptions from interconnection upgrade costs, standby charges, and departing load Charges would continue to apply.

e. Terms of service and billing rules (e.g., duration of service, true-up period, netting interval)

For Policy B, we propose no changes from NEM 2 rules on this criterion. We propose that eligible projects be allowed to take service on their applicable NEM 2 tariff for 20 years from the date of interconnection. This is consistent with the legacy period that the Commission provided to NEM 1.0 and 2.0 customers in D.14-03-041 and D.16-01-044, respectively. Distributed solar and storage systems represent long-term investments of private capital in new clean energy infrastructure. Participants from ESJ communities rely on the Commission to provide for long-term stability in compensation rules as a key component of consumer protection.

g. How to address variations on the current net energy metering tariff (e.g., net energy metering aggregation and virtual net energy metering)

We do not expect net energy metering aggregation or virtual net energy metering tariffs to be used frequently in this context. However, if they are needed, they should be eligible.

i. Whether and how energy storage and other distributed energy resources are integrated into the tariff

For Policy B, we propose no changes from NEM 2 rules on this criterion.

j. Any safety issues related to the successor tariff

We are not aware of safety issues related to this proposal.

k. Any legal issues associated with your proposal (e.g., consistency with other Commission decisions or statutory requirements, tax implications for customers)

We are not aware of legal issues with this proposal.

IV. RESPONSES TO ADDITIONAL QUESTIONS IN JUDGE’S RULING

3. Proposals should justify how they address each of the “guiding principles” articulated in the Decision Adopting Guiding Principles for the Development of the Successor to the Current Net Energy Metering Tariff in R.20-08-020, as adopted by the Commission. Compliance with all statutory and cost-effectiveness mandates, as indicated in the adopted guiding principles, should be highlighted in the proposal. Parties are encouraged to justify the cost-effectiveness of proposals within their proposals.

(a) A successor to the net energy metering tariff should comply with the statutory requirements of Public Utilities Code Section 2827.1;

Public Utilities Code 2827.1 states in relevant part, in developing the standard contract or tariff, the commission shall do all of the following:

- (1) Ensure that the standard contract or tariff made available to eligible customer-generators ensures that customer-sited renewable distributed generation continues to grow sustainably and include specific alternatives designed for growth among residential customers in disadvantaged communities.

The policies in this proposal constitute “alternatives designed for [renewable distributed generation] growth among residential customers in disadvantaged communities.” This proposal will make onsite clean energy more accessible and affordable for residential customers in disadvantaged communities, as well as ESJ communities outside top 25% disadvantaged communities. It will significantly boost onsite clean energy deployment among customers in the bottom half of California’s income distribution, compared with the reductions in clean energy customer savings that are expected in the residential general market successor tariff that CPUC adopts. The proposal will not only help customer-sited renewable distributed generation continue to grow sustainably, but will also provide a powerful means for lower-income customers to reduce their total monthly cost-of-living expenses.

Based on feedback that GRID has received from their NEM customers, \$40 per month typically clears customers’ threshold for desired NEM savings on the part of low-income

customers. The aforementioned level of monthly utility bill savings can help families avoid making difficult budget decisions. Californians' average energy burden is lower than many other states, but once California households' factor in other indispensable expenses (including housing, transportation, food, and childcare costs) low-income families are often financially stressed and experience energy insecurity. According to the California Policy and Budget Center, Californians often struggle to make ends meet for two primary reasons, "the cost of living has been rising, particularly the cost of housing [and]...earnings generally have not kept pace with this increase in living expenses."¹⁹ The aforementioned level of monthly expense reduction is recognized by financially stressed families as a valuable budgetary tool. Additionally, the utilization of on-site clean energy also enables customers to invest in their homes and their communities. Lastly, the second-order impacts of NEM-based solar and storage adoption in ESJ communities often directly contributes to strengthening local economies.

(2) Establish terms of service and billing rules for eligible customer-generators.

We propose to keep terms of service and billing rules the same for eligible customers as under NEM 2.

(3) Ensure that the standard contract or tariff made available to eligible customer-generators is based on the costs and benefits of the renewable electrical generation facility.

Because our proposal is made up of alternatives designed for growth among residential customers in disadvantaged communities and other ESJ communities, the statute does not require that they are based on the costs and benefits of the clean DG facility. Customer-cited renewable energy programs that serve low-income and disadvantaged customers often do not meet cost-effectiveness tests for non-participants; instead, they provide a public good by bringing clean energy benefits to low-income and disadvantaged customers who would not otherwise receive them.

(4) Ensure that the total benefits of the standard contract or tariff to all customers and the electrical system are approximately equal to the total costs.

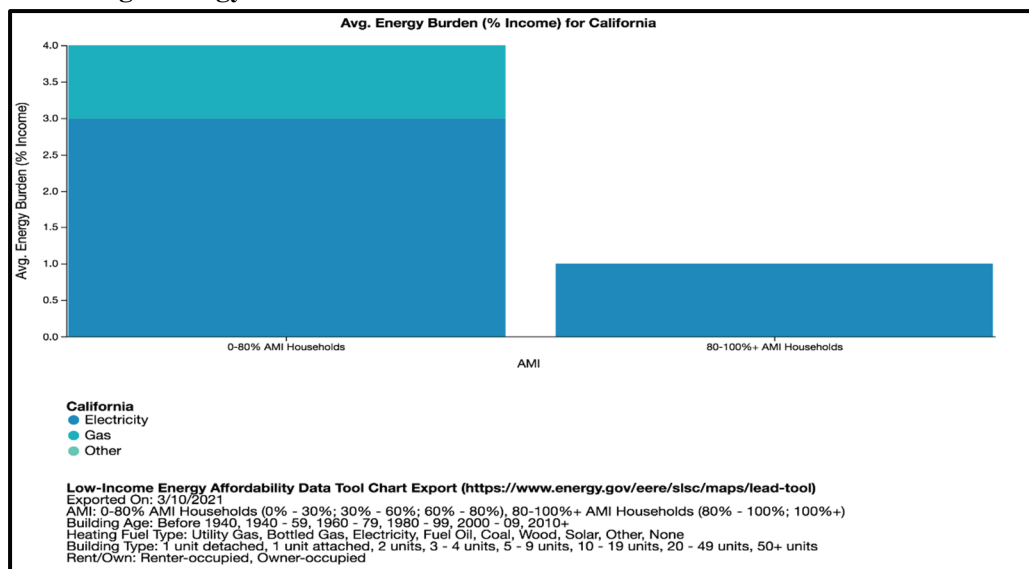
¹⁹ California Budget & Policy Center, *Making Ends Meet: How Much Does it Cost to Support a Family in California*, p.5, <https://calbudgetcenter.org/wp-content/uploads/Making-Ends-Meet-12072017.pdf>

Because our proposal consists of alternatives designed for growth among residential customers in disadvantaged communities and other ESJ communities, the statute does not require that the total benefits to all customers be approximately equal to total costs. The societal and non-energy benefits of onsite clean energy to ESJ communities are numerous and difficult to quantify. The health and safety benefit of resiliency, for example, provided by a solar-paired storage system to a low-income family with members who are medically dependent on electricity, is substantial.

b) A successor to the net energy metering tariff should ensure equity among customers;

Our proposal seeks to ensure equity among customers by increasing deployment of onsite clean energy among ESJ customers, so that the many benefits of onsite clean energy serve a broader spectrum of Californians in the future. Low-income households in California spend a higher proportion of their income on energy expenses than higher-income households, as shown in the below graph generated via the U.S. Office of Energy Efficiency and Renewable Energy’s Low-Income Energy Affordability Data (LEAD) Tool. With energy burden estimated at four times higher on average for California households under 80% of AMI compared with higher-income households, added to very high housing costs, low-income families are in great need of opportunities for lowering and stabilizing their energy bills.

Table III: Average Energy Burden as a Percent of Income for California²⁰



²⁰ Chart generated on 3/10/21 at <https://www.energy.gov/eere/slsc/maps/lead-tool>. Housing data comes from the U.S. Census Bureau's American Community Survey 2018 Public Use Microdata Samples. Estimates of residential energy consumption are based on cross-tabulations of U.S. Census housing data from the 2016 5-year American Community Survey (ACS5).

At the same time, data from the Verdant NEM 2 Lookback study shows that zip codes with lower median incomes have participated in NEM at lower rates than zip codes with higher incomes. The Lookback study's Figure 3-8 shows that in 2010, about 30% of all IOU residential NEM systems were built in zip codes with median household incomes of \$74,000 or less; the same figure shows that percentage increased to about 40% by 2015 and has held fairly steady since then.²¹ California-specific data from the Lawrence Berkeley National Laboratory's *Income Trends Among US Residential Solar Adopters*, which estimates the annual household income of individual solar adopters using Experian data, bolsters the conclusion that onsite clean energy adoption remains significantly higher for higher-income customers than for low-income customers. The LBNL study estimates that of all IOU California residential solar adopters who connected their systems in 2018, only 14% had incomes at 80% AMI or below, and only 21% had incomes at 100% of AMI or below.²²

Vote Solar gathered additional data on low-income deployment of net metered systems via data requests that Vote Solar and SEIA sent to PG&E, SCE and SDG&E in January and February 2021, with responses provided by each utility in February 2021. The IOUs' data request responses, summarized in Table IV below, indicate that only about 5% of each IOU's set of CARE customers have become NEM participants so far (see Column F). However, Column H shows that the percentage of total residential NEM customers who were on either a CARE or FERA rate as of the end of 2020 was larger -- about 15% for PG&E, 17% for SCE and 8% for SDG&E. (We note that because the information reflects the end of 2020 only, it is not known what impact the COVID-related economic downturn might have had on CARE or FERA enrollment in 2020.) If CARE and FERA customers receive greater bill savings as proposed by Policy A, we hope larger numbers of low-income customers will participate in the successor tariff as onsite clean energy becomes more affordable for them.

²¹ Verdant Net-Energy Metering 2.0 Lookback Study, Figure 3-8 Percent of Systems Installed by Median Income Bracket by Year, p.34.

²² Lawrence Berkeley National Laboratory, *Income Trends Among US Residential Solar Adopters*, February 2020. California data can be viewed at <https://emp.lbl.gov/solar-demographics-tool>

Table IV: Residential NEM Accounts Serving CARE/FERA Customers by IOU
(Cumulative at End of 2020)

Utility	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
	Total residential accounts	Total residential NEM accounts	Total CARE accounts	Total FERA accounts	# residential NEM accounts who are on a CARE Rate	% of CARE accounts who have NEM systems	# residential NEM accounts who are on a FERA Rate	% of total residential NEM accounts who are on a CARE or FERA Rate
						(E/C)		((E+G)/B)
PG&E	4,833,470	535,065	1,344,127	36,415	75,946	5.7%	3,483	14.8%
SCE	4,490,046	377,473	1,400,364	29,410	63,529	4.5%	2,381	17.5%
SDG&E	1,334,778	204,480	306,785	13,527	15,492	5.0%	1,411	8.3%

California will not achieve the dramatic increases in onsite clean energy deployment in ESJ communities that are needed via the NEM successor tariffs alone. Nonetheless, since it is the second goal of the ESJ Action Plan to “Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air and public health²³ and the fourth goal of the ESJ Action plan is to “Increase climate resiliency in ESJ communities,”²⁴ ostensibly to address the growing frequency of climate-related electric reliability issues, and since NEM savings are a key means for making onsite clean energy affordable, it is not appropriate at this time to substantially reduce NEM bill savings for low-income customers. Instead, we should make the most of the opportunity offered by this evaluation of net metering to ensure the successor tariff evolves to make onsite clean energy more accessible and affordable to ESJ communities.

(c) A successor to the net energy metering tariff should enhance consumer protection measures for customer generators providing net energy metering services;

Policy A enhances consumer protection for ESJ customers by improving the predictability of anticipated savings. For example, fixing the export value at a time-differentiated rate for a pre-determined amount of time 1) strengthens the inputs 2) lessens the assumptions, and 3) improves the anticipated savings information that forms the foundation of a positive contractor-customer experience. Similarly, contractors and developers would no longer need to use a different set of assumptions for CARE customers’ savings analyses since fixing the export rate removes a level of complexity of having to account for a CARE customers’ export rate discount when its tied to retail. The Joint Parties believe the structure of Policy A will directly

²³ ESJ Action Plan, p.6.

²⁴ ESJ Action Plan, p.7.

help meet some of the important consumer protection objectives the Commission and the California State License Board (CSLB) is currently jointly developing. For example, the Commission and the CSLB are currently working on improving the “Solar Energy System Disclosure Document” which is already required to be uploaded to each IOU’s NEM interconnection webpage.²⁵ Additionally, the Joint Parties believe Policy A helps prospective ESJ customers once they review the California Solar Protection Guide.²⁶ The simplification of the savings analyses should greatly help contractors respond to questions that prospective ESJ customers will have once they review their consumer rights, financing options (including income-eligible programs), and respective roles and responsibilities as outlined in the Solar Consumer Protection Guide. In essence, we believe Policy A will improve the ability of developers and contractors to meet customers’ expectations.

(d) A successor to the net energy metering tariff should fairly consider all technologies that meet the definition of renewable electrical generation facility in Public Utilities Code Section 2827.1;

Our proposal applies equally to all technologies that meet the definition of renewable electrical generation facility in Public Utilities Code Section 2827.1.

(e) A successor to the net energy metering tariff should be coordinated with the Commission and California’s energy policies, including but not limited to, Senate Bill 100 (2018, DeLeon), the Integrated Resource Planning process, Title 24 Building Energy Efficiency Standards, and California Executive Order B-55-18;

We noted consistency with the Commission’s ESJ Action Plan above. In addition, Section 1 of AB 693, a bill authored by Assemblymember Eggman and signed into law in 2015, states that

“It is the goal of the state to make qualifying solar energy systems more accessible to low-income and disadvantaged communities and... to install those systems in a manner that represents the geographic diversity of the state.”

Our proposal is intended to help achieve the Legislature’s intent as stated. It is also coordinated with state policies like SB 100 and California Executive Order B-55-18 that require

²⁵ See Solar Energy System Disclosure, <https://www.cslb.ca.gov/solar>

²⁶ New solar customers have to sign the California Solar Protection Guide, located at, https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_-_Electricity_and_Natural_Gas/Solar%20Consumer%20Protection%20Guide%202021_English_v2.pdf

decarbonization of our economy, because it facilitates the growth on onsite clean energy in ESJ communities.

(f) A successor to the net energy metering tariff should be transparent and understandable to all customers and should be uniform, to the extent possible, across all utilities;

Our proposal increases transparency for customers by

- 1) Fixing clean energy export rates for low-income customers and reducing uncertainty about how future rate escalation will impact that element of their savings
- 2) Developers can more accurately and confidently model future bill savings as one less assumption needs to be considered; and
- 3) Contributes to building market trust and strengthens relationships between customers and developers

(g) A successor to the net energy metering tariff should maximize the value of customer-sited renewable generation to all customers and to the electrical system;

Our proposal will make the future deployment of onsite clean energy more equitable by making it more accessible and affordable for ESJ customers. This will serve the critical goal of energy justice as we move toward an emissions-free economy.

(h) A successor to the net energy metering tariff should consider competitive neutrality amongst Load Serving Entities.

Our proposal is competitively neutral across load serving entities, including IOUs and community choice aggregators.

4. Proposals should address, in detail, implementation plans and timelines.

(a) With regard to implementation plans, discuss whether you anticipate the need for a further formal implementation phase within this proceeding after the adoption of the proposed successor to the current tariff, or whether the implementation can be achieved through Advice Letter filings, informal working groups, and/or other means; also specify any anticipated potential implementation steps such as coordination with other programs or proceedings.

Generally, the policies in our proposal can be implemented via Advice Letter. As noted in the Summary section, we propose that the included policies would apply until 2032, and we propose that CPUC conduct an assessment of ESJ communities clean DG access and adoption rates in 2027. At that time, CPUC should reevaluate the NEM successor tariffs that serve ESJ customers and determine if adjustments are needed for future customers to meet the requirements of the statute. We clarify here that NEM 3 customers' vintaged tariff rules would be preserved

for the full length of their legacy treatment, even if CPUC adjusts equity-focused tariffs for future successor tariff participants in 2027.

(b) With regard to timeline, provide a breakdown of the total anticipated time it will take to fully implement the tariff after Commission adoption.

As discussed above, the policies in our proposal can be implemented immediately after a Commission Decision in this Rulemaking. Due to low rooftop solar deployment in ESJ communities, our proposal recommends vintaging tariff rules for NEM 3.0 ESJ customers for the duration of their legacy period without step-downs, which also means there will be no need for additional rounds of review or lengthy implementation periods to allow for periodic implement drops in export rate. While we propose an assessment of the progress of the policy in 2027, we cannot pre-determine what implementation will look like for any changes proposed during that review.

5. Proposals should indicate and discuss similarities and differences with elements discussed in the White Paper. If your proposal includes a market transition credit, include responses to the questions in the concluding section of the White Paper.

Our proposal is exclusively focused on ESJ customers, unlike the White Paper, and accordingly there are some differences from the elements proposed in the White Paper for general market customers. Our Policy A proposal is similar to the White Paper in that both proposals reflect a shift to a net billing model, rather than a net metering model. However, rather than a market transition credit (MTC), our proposal differs from the White Paper in recommending fixing the export credit for low-income customers at the 2021 default TOU rate. To the extent that the rate is preserved going forward as general market customers' export rates drop, the difference between the 2021 export rate that these customers would have legacy access to and the future general market export credit represents a similar concept to the MTC. It is appropriate to fix a relatively higher export rate for ESJ customers going forward because ESJ customers require a different value proposition than general market customers to overcome the barriers they face to adoption of rooftop solar and storage.

Our proposal further differs from the White Paper in Policy B, which preserves the NEM 2.0 structure for community-owned and controlled clean energy, including those owned by

nonprofits and by public entities for community benefit. As discussed above, preserving the benefits of a net metering mechanism for systems that serve communities rather than individual households enables more development of distributed solar resources that are accessible to ESJ customers. These projects provide additional community resilience and can be sited more optimally than any given individual homeowner's site, as well as providing a means to access the benefits of distributed generation for community members who cannot install rooftop solar where they reside. Accordingly, our proposal departs from the model proposed by the White Paper for these projects as the NEM 2.0 structure's credit mechanism provides benefits commensurate to the unique benefits these projects provide to ESJ communities.

V. CONCLUSION

The Joint Parties look forward to discussing this proposal—and any other proposals aiming to advance California's equity goals within the NEM program—further with the Commission and stakeholders.

Respectfully submitted,

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Appendix A

Table V. Pre-solar and Post-solar Monthly Bills Under Policy A (\$ per Month)

Bill Savings Using 1/1/2021 Rates	Monthly Bills: Pre-solar and Post-solar Under Policy A								
	CARE Customers - NEM 2.0			CARE with non-CARE Export Credit			Non-CARE (<80% AMI) Residential Customers		
% of load from solar	PG&E	SCE	SDG&E	PG&E	SCE	SDG&E	PG&E	SCE	SDG&E
90% solar	E-TOU-C	TOU-D 4-9p	TOU-DR	E-TOU-C	TOU-D 4-9p	TOU-DR	E-TOU-C	TOU-D 4-9p	TOU-DR
Pre-solar bill	\$ 160	\$ 152	\$ 174	\$ 160	\$ 153	\$ 173	\$ 246	\$ 219	\$ 265
Solar bill	\$ 113	\$ 113	\$ 113	\$ 113	\$ 113	\$ 113	\$ 113	\$ 113	\$ 113
Net load bill	\$ 24	\$ 36	\$ 24	\$ 7	\$ 20	\$ 7	\$ 37	\$ 50	\$ 37
Total utility & solar bill	\$ 136	\$ 148	\$ 136	\$ 120	\$ 132	\$ 119	\$ 149	\$ 162	\$ 150
Savings after solar	\$ 23	\$ 4	\$ 38	\$ 40	\$ 20	\$ 54	\$ 97	\$ 56	\$ 116
% savings from solar	15%	2%	22%	25%	13%	31%	39%	26%	44%
% savings from CARE and solar	45%	32%	49%	51%	39%	55%	n/a	n/a	n/a
60% solar									
Pre-solar bill	\$ 160	\$ 152	\$ 173	\$ 160	\$ 152	\$ 173	\$ 246	\$ 218	\$ 266
Solar bill	\$ 75	\$ 75	\$ 75	\$ 75	\$ 75	\$ 75	\$ 75	\$ 75	\$ 75
Net load bill	\$ 61	\$ 67	\$ 65	\$ 43	\$ 56	\$ 47	\$ 94	\$ 95	\$ 100
Total utility & solar bill	\$ 136	\$ 142	\$ 140	\$ 118	\$ 131	\$ 122	\$ 169	\$ 170	\$ 175
Savings after solar	\$ 24	\$ 11	\$ 33	\$ 42	\$ 22	\$ 51	\$ 77	\$ 48	\$ 91
% savings from solar	15%	7%	19%	26%	14%	29%	31%	22%	34%
% savings from CARE and solar	45%	35%	47%	52%	40%	54%	n/a	n/a	n/a

Note: Assumes solar cost of \$0.15 per kWh.