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

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| Order Instituting Rulemaking to Develop a Successor to Existing Net Energy Metering Tariffs Pursuant to Public Utilities Code Section 2827.1, and to Address Other Issues Related to Net Energy Metering. | Rulemaking 14-07-002 (Filed July 10, 2014) |

# SIERRA CLUB COMMENTS ON PROPOSALS FOR NET METERING SUCCESSOR TARIFF

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Pursuant to the Administrative Law Judge's June 4, 2015 Ruling Seeking Party Proposals for the Successor Tariff or Contract, and Commissioner Picker's June 24, 2015 Ruling Granting in Part Motion of The Alliance for Solar Choice and Revising Procedural Schedule, Sierra Club submits the following comments on parties' proposals for the net metering successor tariff.

## I. STANDARD NEM SUCCESSOR TARIFF PROPOSALS

California's Net Energy Metering ("NEM") successor tariff will determine both the future growth of self-generation and the extent to which use of that generation aligns with the grid needs emerging in an increasingly renewable and decarbonized energy system. The successor tariff also comes at a time when the climate crisis is squarely upon California, with climate impacts, such as the loss of the Sierra snowpack and extreme wildfires, underscoring the need to both rapidly reduce greenhouse gas pollution and adapt to a "new normal."

The successor tariff is a policy tool and as such, should be designed to help achieve state policy goals. This means recognizing the value behind-the-meter ("BTM") generation provides in reducing greenhouse gas pollution and helping California adapt to climate change by improving grid resiliency and reducing water consumption and air pollution. It also means that party proposals should be evaluated on the extent to which they empower and incentivize customers to use generated power in a manner that maximizes grid value and facilitates adoption of behavior and technology that will assist in the integration of higher penetrations of renewable resources.

Unfortunately, many party proposals, or aspects of those proposals, do not align with California's commitment to both mitigate and adapt to climate change.[1] First, most parties, including all the investor-owned utilities ("IOUs"), ORA, and Energy Division Staff, do not account for the societal benefits flowing to all Californians as a result of increased rooftop solar deployment. In addition, many parties propose tariffs with fixed fees or demand charges that are not aligned with cost causation. These fees function only to disincentivize homeowners from going solar, rather than using rates or solar compensation to encourage those who install solar to optimize their generation to provide grid benefits. Instead of fixed or demand charges, the successor tariff should rely on price signals such as time of use ("TOU") rates as proposed by Sierra Club to better align generation with grid needs.

### A. Societal Benefits Must Be Accounted For in the Design of the Successor Tariff.

Climate change is no longer a hypothetical future concern to California, but a present threat affecting the reliability and resiliency of the electric system. Increased temperatures, reduced snowpack, and extended droughts—all of which California is already experiencing—make forests highly flammable and cause longer, more virulent forest fire seasons and larger fires that increasingly threaten transmission lines and substations; the California Energy Commission ("CEC") warns that "the likelihood of fires occurring next to large transmission lines is expected to increase dramatically."[2] Coastal power plants face threats from sea level rise, which is predicted to "affect as many as 25 coastal power plants, scores of electricity substations, and numerous natural gas facilities."[3] Natural gas plant generation is also vulnerable to drought, as newly implemented water supply plans result in restricted or suspended water supplies for cooling."[4]

At the same time, higher temperatures are expected to not only increase electric load due to higher demand for cooling, but also to reduce the amount of power that can be generated and delivered by existing infrastructure. Higher temperatures will decrease the efficiency of

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[1] *See* Exec. Order B-30-15.
[2] Lawrence Berkeley National Lab, "Estimating Risk to California Energy Infrastructure from Projected Climate Change," CEC-500-2012-057 (July 2012), p. 2, pp. 40-46 ("CEC 2012"). Available at http://www.energy.ca.gov/2012publications/CEC-500-2012-057/CEC-500-2012-057.pdf.
[3] CEC 2012, pp. 47-53.
[4] California Energy Markets, "Drought Leads to Need for Power Plant Water Contingency Plans." No. 1345 (July 31, 2015), p. 7.

equipment throughout the power system, including natural-gas fired power plants, transformers, and substations, and will cause increased losses on transmission and distribution lines.[5] A CEC report predicts that, overall, the rising temperatures expected with climate change will require utilities to increase generating capacity by 30 to 40 percent.[6] Simultaneously, hydropower generation will become increasingly limited as the melting snowpack responsible for 75 percent of the state's hydropower facilities dwindles with the continued drought.[7]

California is already experiencing the first manifestations of these threats, and all Californians benefit from doing all we can to minimize their severity and to put in place an electricity system which is more resilient. As a policy tool, the successor tariff should further California's climate policy objectives. It should address the questions, how do we minimize the serious damage climate change will cause to California, and how can the state show leadership by reducing greenhouse gas emissions as quickly as possible? Renewable BTM generation not only helps California achieve its greenhouse gas reduction goals, it is also part of a smart adaptation strategy. Additional BTM generation capacity provides insurance against reduced power system efficiency and reduced generation and mitigates impacts such as increased air pollution that will result with increases in temperature.[8] When sited at or near load, it avoids the use of threatened and increasingly inefficient transmission lines. Rooftop solar can even help reduce the increase in demand for cooling by shading and insulating buildings.[9]

However, no party proposals, except for the Joint Solar Parties and CALSEIA, address these benefits.[10] Sierra Club urges the Commission to show leadership on this issue by including consideration of societal benefits in its analysis of the successor tariff.

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[5] CEC 2012, p. 2.
[6] Brittany Patterson, "Calif. power producers warned that actions must quickly follow ambitious climate plans," Climate Wire (July 28, 2015), available at http://www.eenews.net/climatewire/stories/1060022511/feed; *see also* CEC 2012, p. 38.
[7] *Id.*
[8] Higher temperatures cause higher ground-level ozone concentrations, worsening respiratory disease. Union of Concerned Scientists, "Rising Temperatures, Worsening Ozone Pollution" (June 2011), available at http://www.ucsusa.org/sites/default/files/legacy/assets/documents/global_warming/climate-change-and-ozone-pollution.pdf
[9] Anthony Dominguez, Jan Kleissl, and Jeffrey Luvall, "Effects of solar photovoltaic panels on roof heat transfer," *Solar Energy* 85: 9, 2244-2255 (Sept. 2011).
[10] Proposal of SEIA and Vote Solar for a NEM Successor Standard Tariff (August 3, 2015) pp. 28-29 ("Joint Solar Parties Proposal"); Proposal of CALSEIA for the NEM Successor Tariff (August 3, 2015), pp. 13-14 ("CALSEIA Proposal").

1. Including Societal Benefits is Consistent with Statutory Direction and Commission Precedent.

Sierra Club disagrees with many parties' comments on the meaning of Public Utilities Code Section 2827.1(b)(4), which requires that the Commission ensure the "total benefits of the standard contract or tariff to all customers and the electrical system are appropriately equal to total costs." Many parties would mistakenly limit consideration of benefits to the utilities' avoided costs, and limit the focus of cost/benefit analysis to the Ratepayer Impact Measure ("RIM") test.[11] However, the statute's direction to consider "total benefits to all customers" more properly directs the Commission to focus on the Total Resource Cost ("TRC") and Societal Cost Test ("SCT").

"Total benefits" should be interpreted consistent with its plain meaning, to mean *all* benefits, including avoided costs and externalities that are not counted on utility balance sheets. Utilities do not fully internalize and pass on to consumers the costs of the externalities of electricity production, including the costs of greenhouse gas production or land and water use. But this economic oversight does not make these costs to society any less real or less important. In this context, SCE's argument that any payment for exported generation that exceeds the utility's avoided power costs "represents a cost shift" is myopic.[12] All customers pay for these societal costs of our current system of electricity production, whether on electricity bills or not, and the statute directs the Commission to consider all of them. This understanding is also consistent with Public Utilities Code 2827, which found that the many non-energy benefits of distributed generation are among the reasons for establishing a net metering program.[13]

[11] ED Staff NEM Successor White Paper, p. 1-10 ("Staff Proposal"); Proposal of ORA for NEM Successor Tariff (Aug. 3, 2015), p. A-24 ("ORA Proposal"); PG&E Proposal for NEM Successor Tariff (Aug. 3, 2015), p. 37 ("PG&E Proposal"); SCE's Response to the ALJ's Ruling Seeking Party Proposals for the Successor Tariff (Aug. 3, 2015), p. 22-23 ("SCE Proposal"); SDG&E Proposal for Successor NEM Tariff (Aug. 3, 2015), p. A-32 ("SDG&E Proposal").

[12] SCE Proposal, p. 25 ("Any value of the ECR [export compensation rate] that exceeds this outer limit [the price for utility scale energy and capacity] represents a cost shift.")

[13] Pub. Util. Code §2827 (finding that net energy metering is one way to "stimulate in-state economic growth, reduce demand for electricity during peak consumption periods, help stabilize California's energy supply infrastructure, enhance the continued diversification of California's energy resource mix, reduce interconnection and administrative costs for electricity suppliers, and encourage conservation and efficiency.").

There is no Commission precedent requiring the exclusive use of the RIM test, to the exclusion of the SCT, as many parties claim.[14] Energy Division Staff's focus on the RIM test is based on the argument that the Commission required it in a 2009 decision.[15] However, the page in the decision which Staff cites does not contain any holdings on the use of the RIM test, but discusses technical details of how to include net metering bill credits in the various Standard Practice Manual tests.[16] The 2009 decision which Staff cites did not require that NEM should be evaluated using the RIM test. To the contrary, Conclusion of Law 4 states that "The Commission should *not* require the use of the RIM Test to evaluate DG programs because it is not relied on to evaluate energy efficiency programs."[17] The Decision further orders that "The Commission's distributed generation programs … shall be analyzed using the three cost-benefit tests described in this decision, namely, the Participant Test, the Total Resource Cost Test (including its variant, the Societal Test), and the Program Administrator Cost Test."[18]

To the extent the Commission has not acted on its recommendation to consider societal benefits in net metering evaluations in the past, the time to begin is now. Since the 2009 decision was issued six years ago, California has developed a clearer understanding of the urgent risks posed by climate change and has redoubled its commitment to reducing greenhouse gas emissions. The 2009 decision predates A.B. 327's explicit direction to consider "total benefits to all customers." It also predates Governor Brown's Executive Order B-30-15, which calls on "all agencies with jurisdiction over sources of greenhouse gas emissions … to continue to develop and implement emissions reduction programs to reach the state's 2050 target and attain a level of emissions necessary to avoid dangerous climate change."[19] The successor tariff is a policy tool, and as such its value in helping California achieve its climate goals should be explicitly valued through consideration of the substantial environmental, health, and other societal benefits of BTM generation.

[14] *See* Staff Proposal at p. 1-10; SCE Proposal at pp. 22-23; PG&E Proposal at pp. 37-38.
[15] Staff Proposal, p. 1-10.
[16] *See id.*, citing D. 09-08-026 at p. 53.
[17] D. 09-08-026, Conclusion of Law 3, p. 64 (emphasis added).
[18] *Id.* at pp. 68-69.
[19] Exec. Order B-30-15 (April 29, 2015), available at http://gov.ca.gov/news.php?id=18938

2. If the Commission Adopts a Tariff Where Customers are Paid a Defined Price for Power Exports to the Grid, the Value of Societal Benefits Should Be Explicitly Included in that Compensation Amount.

Sierra Club believes that the societal benefits of NEM, as demonstrated by the SCT using the Public Tool, provide sufficient justification for retaining full net metering compensation under TOU rates. As explained in our opening comments, our modelling showed a societal benefit to cost ratio of almost 2:1.[20] If the Commission chooses to adopt a tariff that sets a specific price for BTM generation, the monetary value of societal benefits should be specifically added. According to Sierra Club's Public Tool results, the monetary value of the societal benefits of BTM generation is 10 cents per kilowatt hour.[21]

Three parties put forward successor tariff proposals where this condition would apply. Energy Division Staff and SCE both proposed tariffs where the customer could use their own generation to offset instantaneous consumption, but where the utility would compensate customers at a separate price related to utility avoided costs, for any power exported to the distribution grid.[22] Similarly, TURN's proposed a buy all/sell all tariff structure that would also require the Commission to set a separate price for generation, where the customer would be compensated at the value-based rate plus a six cent adder "needed to satisfy the statutory requirement" that BTM generation continue to grow sustainably.[23] Sierra Club appreciates that TURN has included an adder onto their export-based price, in recognition of the fact that a value-based rate may not be sufficient to encourage market growth. However, to the extent that the Commission adopts either of these three proposals or any proposal setting a separate export price, it should also include compensation to account for the generation's societal benefits.

[20] Sierra Club Proposal for the NEM Successor Tariff (Aug. 3, 2015), p. 7 ("Sierra Club Proposal").
[21] *Id.*
[22] SCE Proposal, p. 25; Staff Proposal, p. 1-31 – 1-43. SCE Proposed an export price of $0.08/kWh, its levelized avoided cost estimate from the Public Tool, plus one cent for the generation's renewable attributes, ""assuming it counts toward SCE's RPS obligation." Staff proposed two export-price based tariffs: (1) A value-based export price, where exports are credited at the time-differentiated avoided cost value, which ranges from $0.06 to $0.12, or (2) a "modified NEM" approach, where exports are credited at $0.11, the average price for generation and transmission in current residential rates.
[23] Proposal of TURN for a NEM Successor Standard Tariff (Aug. 3, 2015), p. 2 ("TURN Proposal").

### B. Demand Charges Do Not Provide Price Signals that Reliably Correlate with Grid Needs, and are Inappropriate for Residential Customers.

Demand charges should not be adopted as part of the successor tariff, as these charges are not appropriate for residential customers and poorly reflect cost causation. Therefore charges like this do nothing to align BTM generation with the needs of the grid—in fact, the charges as proposed may actually worsen grid integration. Three parties propose a tariff that includes a demand charge. PG&E and SDG&E both propose demand charges that would be based off the customer's highest hourly demand within a billing cycle: PG&E proposed a fee of $3/kW, while SDG&E's proposed demand charge for their "Default Unbundled Rate Option" is $9/kW.[24] NRDC supported a demand charge of an unspecified amount, where the demand charge would be based on a much shorter time period, the average of the two highest 15-minute intervals in a month.[25] The Commission should not approve a tariff including these charges.

#### 1. Costs driven by peak demand should not be recovered by non-coincident demand charges, because an individual customer's peak demand does not necessarily correlate with system peak.

The claim that demand charges can be used to better align rates with costs is outdated in a time when smart meters are widely deployed and TOU rates are available. As the Regulatory Assistance Project (RAP) explains, "[d]emand charges were implemented for commercial and industrial customers in an era during which sophisticated metering was prohibitively expensive;" therefore, non-coincident demand was used as a proxy measurement for contribution to peak load.[26] This work-around is not necessary today, when the IOUs have invested millions of ratepayer dollars to install smart meters.

The demand or capacity-related costs that SDG&E seeks to recover through demand charges are, as their proposal explains, those incurred to "meet the combined maximum demand of customers served on a circuit."[27] In other words, the charges are intended to recover costs driven by peak demand on a distribution circuit.[28] However, SDG&E states that the amount

[24] PG&E Proposal, p. 16; SDG&E Tariff Proposal, p. A-43.
[25] Proposal of NRDC in Determining a NEM Successor Standard Contract or Tariff (Aug. 3, 2015), p. 6 ("NRDC Proposal).
[26] Jim Lazar and Wilson Gonzalez, *Smart Rate Design for a Smart Future.* Regulatory Assistance Project, (July 2015) p. 9.
[27] SDG&E Proposal, pp. A-17 – A-18.
[28] Lazar and Gonzalez, p. 9.

charged to individual customers will be based off each customer's *non-coincident* demand, which could occur at any time of day.[29] This mismatch means that customers with the same maximum demand will pay the same amount in demand charges regardless of when their peak occurs, and regardless of whether it occurs at a time of high system costs, or a time of overall low demand and low system costs.[30] Basing a demand charge intended to recover peak-driven costs off a customer's non-coincident demand does not satisfy the principle of cost causation. What's more, the lack of coincidence between customer and system peak demand could lead to a perverse outcome where a customer attempting to flatten their household load to avoid demand charges will shift some of their personal load to times of system peak, having the perverse effect of increasing utility costs and encouraging inefficient use of the distribution system.

2. Customer-specific demand costs should be specifically proven before the Commission approves a demand charge purportedly based on these costs.

Individual customers' peak demand drives a very small portion of the costs of the distribution system. According to RAP, "[o]nly very local components of the distribution system (service drop, line transformer) are sized to the individual customer load."[31] Unlike SDG&E, PG&E explains that their $3/kW demand charge is based on the "fraction of those distribution costs that are non peak-related and are therefore properly recovered" in a non-coincident demand charge.[32] However, PG&E provides no support for the size of this charge, and adds no documentation to the record demonstrating the amount of the utility's no-load distribution costs or customer-related distribution costs. It also presents no evidence that their proposed demand charge would recover a reasonable portion of these costs from BTM generation customers, or whether this charge is intended simply to generate more revenue from these customers without a cost basis. The Regulatory Assistance Project estimates these costs are about $1 per kilowatt, a

[29] SDG&E Proposal, p. A-18.
[30] This mismatch is especially problematic for residential customers, where peak demand may occur randomly and for only a few minutes, due to the inadvertent simultaneous use of many small household appliances like coffee makers and hair dryers. For this reason, a demand charge based on the highest 15 minutes of demand, as NRDC has proposed, is overly punitive and unnecessary to apply to residential customers.
[31] Lazar and Gonzalez 2015, p. 9.
[32] PG&E Proposal, p. 16.

third of the amount claimed by PG&E.[33] Without further corroboration in the record, there is no evidence that PG&E's requested charge is reflective of true costs.

3. The proper amount of demand charges, and their effect on residential customer load shape and utility cost recovery, is highly uncertain and therefore these charges are not ready for widespread deployment.

Introducing demand charges for residential customers is not appropriate without careful consideration. While these charges have been widely used in commercial rates, commercial and residential customers are not similar in terms of their load shapes or load factors, their understanding of utility use and rate structure, or in terms of the availability and cost-effectiveness of available load-management equipment.

A report on demand charges by the Brattle Institute, cited by PG&E in their tariff proposal, found only three studies on customer response to demand charges: one conducted in Norway, one from the 1980's and one from the 1970's.[34] As this paucity of research demonstrates, the response of residential customers to demand charges is untested, to put it mildly, and utility revenue from these charges is uncertain. What's more, the response of customers with BTM generation to demand charges has never been examined. As PG&E and SDG&E acknowledge, customers can respond to demand charges (unlike fixed charges)—but because most customers are unfamiliar with the concept and do not have any type of demand management technology, the size of the response is unknown. One outcome may be that many customers with BTM generation on the new tariff will be able to flatten their demand significantly and avoid the bulk of these charges. In this case, the demand charge may not be very successful at achieving the IOUs' objectives of collecting more revenue from net metering customers. Alternatively, customers who are unable to flatten demand may end up paying unnecessarily high fees.

Demand charges are a roundabout and imprecise way to recover costs associated with a customer's contribution to system peak, but fortunately, there is another option: a simpler and more accurate way to recover peak system costs is through TOU rates, as Sierra Club has proposed.

[33] Lazar and Gonzalez 2015, p. 9.
[34] Ryan Hledik, "Rediscovering Residential Demand Charges." *The Electricity Journal* 27:7 (Aug./Sept. 2014), pp. 82-96, p. 89.

### C. Fixed Charges Stifle Grid Integration Behavior and the Deployment of Technologies Needed for Integration of Behind-the-Meter Resources.

Fixed charges are inconsistent with grid modernization and with customers' rights to make their own energy choices. Three parties proposed successor tariffs involving fixed charges. SCE and ORA both propose charges related to the size of the BTM system: SCE proposes a monthly charge of $3 per kilowatt and ORA proposes an escalating monthly fixed charge that begins at $2 per kilowatt and escalates to $10 per kilowatt over time.[35] SDG&E requests a flat residential fixed charge of approximately $21/month as part of its "Default Unbundled Rate Option."[36] A tariff design with a fixed charge should not be adopted, because these charges are merely punitive, and do not incentivize helpful grid integration behavior.

#### 1. Fixed Charges Only Penalize BTM Generation, and Do Not Incentivize Grid Integration.

An unavoidable charge, by definition, cannot be mitigated by behavior and does not incentivize load-shifting or other demand-side behaviors that would help integrate BTM generation. Fixed charges are not cost-based, in that customers who make very different demands on the grid may pay the same amount. For example, a customer who never exports power to the grid (because of BTM storage capturing all excess generation, or just because the generation system is small in comparison to base load) will pay the same amount as a customer whose system exports all of its power to the grid, despite the fact that these customers make very different demands on the distribution system. Fixed charges also "use up" authorized revenue that could be collected in a way that incentivizes beneficial grid behavior or investment in grid-supportive technologies. In this way, fixed charges impede mitigation of over-generation and ramping needs that can occur at higher levels of renewable penetration.

#### 2. Fixed Charges Specific to Solar Customers Are Unnecessary to Address the Issue of Cost-Recovery.

A fixed charge is unnecessary to ensure that BTM generation owners who may have very low or zero bills pay enough to cover the cost of connecting to the system. This problem can be solved through a minimum bill, as was instituted by the recent residential rates restructuring

[35] SCE Proposal, p. 26; ORA Proposal, p. A-2.
[36] SDG&E Proposal, p. A-43.

decision. In that decision, the Commission held that the problem of "customers with limited usage that pay volumetric rates that recover only a small amount of fixed costs can be resolved with a minimum bill."[37] Adding fixed charges to the bills of customers with BTM generation with the intent of reducing customers' bill savings is not an efficient or cost-based method for covering the costs of connecting to the system. To the extent that the Commission wishes to lower the financial returns to BTM generation, it should do so by adjusting the bill credit that customers receive for their exported generation, not by assessing unavoidable fixed charges.

### C. Buy All/Sell All Tariffs Disempower Customers by Divorcing Customer Energy Use from Production.

There is broad support in the proceeding for the proposition that customers should be allowed to use their instantaneous generation produced on their own rooftop: Only two parties suggested tariffs where the customer would be forced to sell all the generation from their system to the utility. SDG&E's "Sun Credits" model would compensate customers for all generation at the "retail system average commodity rate" – a low 4 cents per kilowatt hour.[38] TURN suggested the customer be compensated at the value-based rate plus a six cent adder to capture the additional value of distributed generation.[39] Sierra Club appreciates that neither of these proposals includes unnecessary fees or charges. And while SDG&E's proposed export compensation would be extremely low, TURN includes a "distributed generation adder" on top of the value-based export price to ensure that BTM generation grows sustainably, appropriately recognizing that a value-based price may not reflect the full value of distributed renewables.

However, a buy all/sell all tariff such as these divorces the solar owner from their production, and should not be adopted because it misses the opportunity to incentivize customers to align production with grid needs. Sierra Club believes a TOU-based NEM tariff structure -- or a structure that at a minimum allows customers to use or capture their instantaneous generation – is more consistent with grid modernization efforts. Retaining rights to one's own energy production encourages customers to design BTM generation systems that work with the emerging grid. A TOU-based net metering tariff encourages behavioral changes like load-

[37] D. 15-07-001, *Decision on Residential Rate Reform for PG&E, SCE, and SDG&E and Transition to Time-of-Use Rates.* R.12-06-013 (July 13, 2015), pp.187-188.
[38] SDG&E Proposal, p. A-43.
[39] TURN Proposal, p. 32.

shifting from peak hours. It encourages preferred BTM system design (such as west-facing solar) and opens up markets for new technology (like home battery storage or programmed appliances and thermostats). A buy-all/sell-all tariff structure does not encourage any of these changes, and is not an ideal policy choice.

## II. PROPOSALS FOR GROWTH IN DISADVANTAGED COMMUNITIES

Given the importance of encouraging the growth of BTM generation in disadvantaged communities, and the lack of progress made on in the past, Sierra Club recommends implementing a variety of proposals in order to address different market segments and barriers to adoption within disadvantaged communities. To choose which proposals to implement, Sierra Club supports the three guiding principles outlined by the Joint Solar Parties: (1) the proposal should address two or more barriers afflicting disadvantaged communities, and the projects should be (2) financeable and (3) scalable.[40] Sierra Club has concerns with some IOU proposals that would be funded through rate increases and are dependent on rate-basing infrastructure investments. Proposals that require no public investment, that leverage existing funding sources, or that could potentially be funded through cap-and-trade revenue hold more promise for incentivizing long-term, sustainable growth.

### A. A Virtual Net Metering Program Should Be Implemented Because it Addresses Multiple Barriers to Adoption, Without Requiring Public Funding.

There was broad support among many parties for a form of virtual net metering in disadvantaged communities.[41] The Virtual Net Energy Metering ("VNEM") concept has been successful and popular in other states, and Sierra Club strongly supports a VNEM program for

[40] Joint Solar Parties Proposal, p. 50.

[41] Everyday Energy and CALSEIA have already expressed support for the Solar Parties' Disadvantaged Communities VNEM Program. *See* CALSEIA Proposal at p. 26; Everyday Energy Proposal at p. 4. CEJA's "EJ-NEM" proposal would allow VNEM. Proposal of CEJA for Alternatives to the NEM Successor Standard Tariff for Disadvantaged Communities (Aug. 3, 2015), p. 3("CEJA Proposal"). Energy Division Staff proposes a very similar "Neighborhood VNEM" program. Staff Proposal at pp. 2-12 – 2-15. PG&E. SDG&E, and SCE also propose versions of a program where mid-scale solar is shared amongst off-site ratepayers. PG&E Proposal at p. 56, SCE Proposal at pp. 51-52, SDG&E Proposal at p. B-3.

disadvantaged communities as one of a suite of programs.[42] These programs address the fact that the majority of ratepayers in disadvantaged communities are renters: according to the U.S. Census, 55% of households in census tracts with CalEnviroScreen scores in the top 25% are renter-occupied.[43] In addition, shared solar programs that allow generation capacity to be rented (as well as bought outright) can result in immediate bill savings for low income ratepayers without requiring high upfront investments. VNEM expands access to BTM generation to a broader set of customers, while requiring no additional public funding. Of the many different proposals for VNEM, Sierra Club supports the "Disadvantaged Communities VNEM" program outlined by the Joint Solar Parties, which is the most financeable and scalable of all the proposals and therefore most likely to be successful in expanding access to BTM generation.

1. The Joint Solar Parties' "Disadvantaged Communities VNEM Program" Best Addresses the Principles that the Program Be Financeable and Scalable.

The Joint Solar Parties reasonably recommend that participation should be restricted by utility service territory, where participants could receive credit from a solar facility located in any disadvantaged community within the same utility service territory.[44] This detail illustrates the main difference between Energy Division Staff's VNEM program and the Joint Solar Parties' program, as Staff proposed the restriction that the generation facility must be located in the same census tract as the participant.[45] But as the Joint Solar Parties note, a census tract is too small an area to ensure a project is financeable and has sufficient subscribers. The Joint Solar Parties note that a census tract includes on average 4,000 residents.[46] However, participants will subscribe to VNEM on a *household* level, meaning the number of potential participants within a single census tract is even smaller. The number of households in census tracts varies widely in California, from

[42] Sierra Club believes VNEM should be available to all utility ratepayers, not just those in disadvantaged communities, and supports the continuation and expansion of VNEM in this proceeding.
[43] This figure is in contrast to the entirety of California, where only 42% of housing units are renter-occupied. Sierra Club compared homeownership data by census tract from the U.S. Census Bureau to CalEnviroScreen score by census tract. U.S. Census Bureau, American Community Survey. Table B25003, *Tenure in Occupied Housing Units* (2013), available at http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_5YR_B25003&prodType=table ("U.S. Census 2013"); California Office of Environmental Health Hazard Assessment, CalEnviroScreen 2.0 (Oct. 2014), available at http://oehha.ca.gov/ej/ces2.html ("CalEnviroScreen data").
[44] Joint Solar Parties Proposal, pp. 53-54.
[45] Joint Solar Parties Proposal, pp. 53-54; Staff Proposal, p. 2-12.
[46] Joint Solar Parties Proposal, p. 54.

a minimum of 10 households to a maximum of about 7,000, with an average of approximately 1,500 households per tract.[47] Adopting the Joint Solar Parties' recommendation will ensure the VNEM program can attract a sufficient number of subscribers, regardless of the disadvantaged community chosen where the project is located. Having a large base of potential customers is even more essential in the early years of the program, when the opportunity may not be well known. This more inclusive geographic policy also allows any eligible customer the opportunity to participate, regardless of whether a facility is proposed for their particular block. This policy will be more fair in the early years of the program, when projects may be slow to develop.

Additionally, allowing customers in disadvantaged communities who are not low income to participate, as recommended by the Joint Solar Parties, can help ensure the program is successful. To look to one model in another state, Colorado's successful Solar Gardens program allows customers of all income levels to participate, but requires 5% of the capacity of each solar garden to be owned by a low-income home owner.[48] California's statutory mandate to focus on growth in disadvantaged communities would require a much higher percentage of ownership by low income ratepayers – perhaps 75% or 51%. Nonetheless, allowing ratepayers of all income levels to participate means that low income participants' shares can possibly be subsidized by other subscribers.

2. Utility Rate-basing of Shared Solar is Unnecessary and Ill-Advised in the Highly Competitive Solar Market.

There is no reason to approve a program for disadvantaged communities which requires substantial ratepayer investment utility owned and rate-based BTM generation. Before the Commission countenances monopoly entrance into a competitive market, it should lift the structural barriers preventing private investment and see how the market responds. By lifting the structural barriers currently preventing the expansion of VNEM, and perhaps by further facilitating utilities' procurement of this generation through draft standard contracts or procurement requirements, these projects can be financed and built by competitive installers.

All three utilities proposed programs for disadvantaged communities in which they could build and rate-base new solar facilities, in stark contrast to their protestations about the impact on

[47] U.S. Census 2013.
[48] *See* Colorado Code 3665(a)(1)(B).

rates caused by the standard successor tariff.[49] Under PG&E's SolarCARE proposal, PG&E proposes to build and rate-base midscale solar, funded by "general ratepayer rate increases or greenhouse gas funding," estimating that the first year cost of the program will range from between half a million to 2.5 million dollars.[50] SDG&E requests a $71.5 million increase in their revenue requirement to finance its Multi-Family Solar Share and Solar at Schools programs.[51] While SCE does not suggest a specific program structure, size, or cost, it does express support for a "utility-owned Community Solar program."[52]

These proposals are all cost, and very little benefit. Under PG&E's SolarCARE proposal, CARE customers would remain on their existing rate schedule and would not pay any premium, although they would be told that their generation was coming from a solar project.[53] However, if customers continue paying their current rates, they are left out of one of the biggest benefits of BTM generation, which is reaping the benefits of power costs which remain stable while regular utility rates increase over time. In addition, none of the utility proposals specify whether the utility or the participant would be assigned the Renewable Energy Credits (RECs) for the new solar generation, so it is possible that the customers would not even have a truthful claim that their usage was covered by additional solar generation.

There is no reason for ratepayers to fund utility entrance into a competitive marketplace, and award the utility a guaranteed rate of return on this investment. If utilities wish to serve disadvantaged communities by installing shared solar projects, they should do through their unregulated subsidiaries, on the same competitive terms as all other companies.

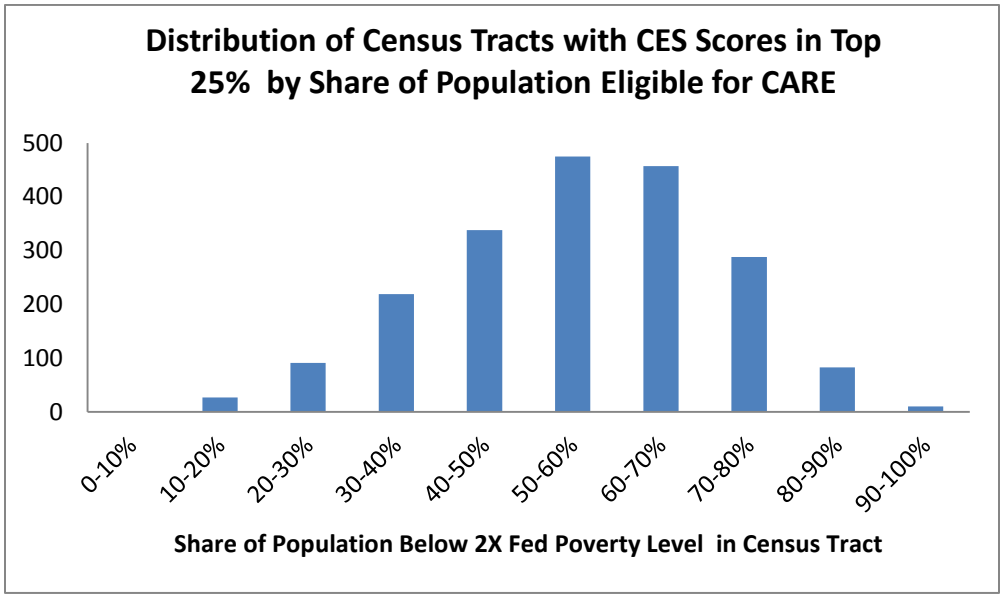
### B. CleanCARE Should Be Implemented Because it Addresses Multiple Barriers to Adoption While Leveraging Existing CARE Program Funding.

Sierra Club participated over the last year in IREC's process to develop the CleanCARE program, and strongly encourages the Commission to adopt it. CleanCARE requires no new funding outside of the current CARE program budget and removes barriers to adoption by renters. In addition, it may be more attractive to many low income customers than VNEM. To

[49] *See* PG&E Proposal at p. 62; SDG&E Proposal at pp. B-2 – B-5; SCE Proposal at p. 52.
[50] PG&E Proposal at pp. 56, 62. Sierra Club would not oppose funding neighborhood VNEM facilities through greenhouse gas funding, as PG&E also proposes, so long as those investments were not rate based and RECs were owned by program participants.
[51] SDG&E Proposal at p. B-5.
[52] SCE Proposal at p. 52.
[53] *Id.*

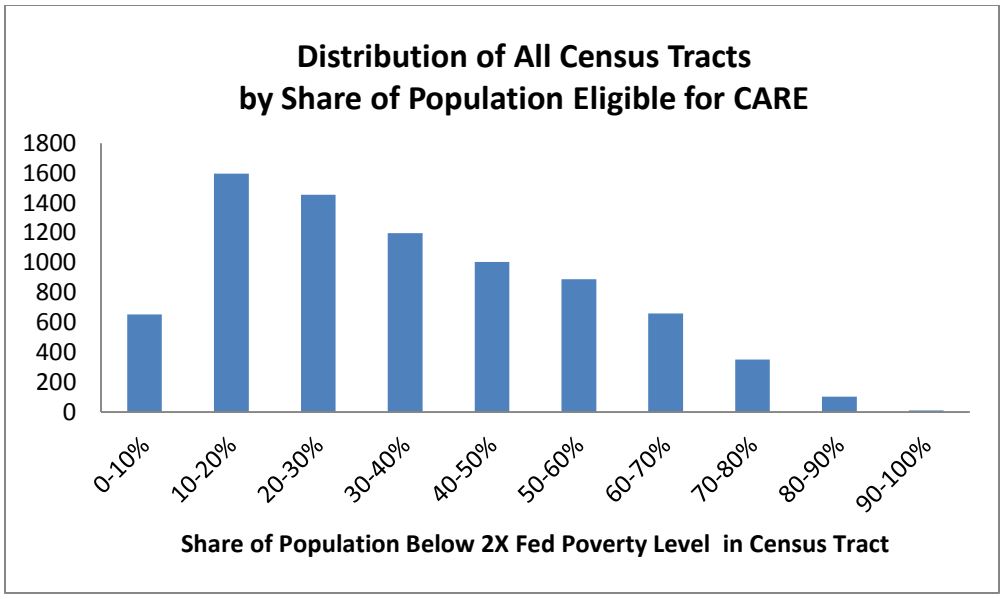
make this innovative program viable for as many CARE customers as possible, the Commission should retain full retail NEM with rate choice for any customer enrolled in CleanCARE, regardless of the compensation structure chosen for the standard successor tariff.

The CleanCARE program is designed to scale up over time, and Sierra Club supports IREC's recommendation to initially target high usage CARE customers in disadvantaged communities.[54] Sierra Club recommends this program eventually be available to all CARE customers, regardless of neighborhood; it is worth noting, however, that a significant portion of the state's CARE customers live in CalEnviroScreen disadvantaged communities. CalEnviroScreen income data reveals that there is a significant constituency that could be served by CleanCARE in disadvantaged communities: a high percentage of households in these communities live at or below twice the federal poverty line, the cutoff for CARE eligibility.[55]




The census data shows that in many disadvantaged communities, a majority of the population is CARE-eligible. This distribution is in contrast to the rest of the state, where in most census tracts the CARE-eligible population is in the minority.

[54] Attachment 1 to IREC Proposal at p. 5.
[55] California Office of Environmental Health Hazard Assessment, CalEnviroScreen 2.0 (Oct. 2014). Excel data available at http://oehha.ca.gov/ej/ces2.html. The data presented in the chart includes all census tracts within the state of California, including those served by municipal utilities. It is intended to provide a general sense of the CARE-eligible population in disadvantaged communities, since information on each IOU's number of CARE customers by census tract is not publicly available.




As IREC notes, CleanCARE will not reliably provide bill savings in the near term for lower-use CARE customers, or for the residents of disadvantaged communities who may be low income, but are not CARE-eligible. Additionally, the initial program size proposed by IREC is quite small, at only 5 megawatts.[56] Sierra Club urges the Commission to approve CleanCARE as one of a suite of policies and programs to ensure sufficient growth of distributed generation in disadvantaged communities.

### C. Continuation of the SASH Program and CEJA's EJ-NEM Program Provide Promising Alternatives for Low Income Home Owners.

While programs that provide renters as well as homeowners the opportunity to benefit from renewable distributed generation are essential to the growth of BTM generation in disadvantaged communities, the Commission should also explore programs that help low-income homeowners finance and own their own systems.

Sierra Club supports continuing the funding for the SASH program.[57] This program has been successful at expanding access to solar by low-income families. Due to the importance of rapidly scaling up access to solar in disadvantaged communities, the state should continue

[56] Sierra Club would support a rapid expansion of this program after the pilot stage.
[57] Sierra Club also supports the continuation of funding for state renter-focused subsidy programs such as the MASH program and the Multifamily Affordable Housing Renewables Program, which is currently under consideration at the state legislature.

support for existing, proven programs as a complement to the more innovative new programs that may be adopted as part of this proceeding.

Additionally, Sierra Club supports exploring CEJA's "EJ-NEM" proposal as an additional option for homeowners. Similar to SASH, the EJ-NEM program addresses the financial barriers faced by low income homeowners who want to purchase BTM generation, and could potentially be more cost-effective and impactful than the SASH program. Sierra Club proposes the Commission implement a pilot phase of this project with a limited budget or capacity cap, to test customer interest and cost-effectiveness. During this pilot phase, Sierra Club recommends the program be limited to low-income homeowners in disadvantaged communities only. While we do not recommend a particular income limit at this time, an income requirement is needed to avoid a "free rider" problem where program participants are primarily higher income homeowners who live in disadvantaged communities, who could afford BTM generation without the EJ-NEM program and do not face the same barriers.

## III. CONCLUSION

As President Obama emphasized in his recent trip to the Arctic, "we're not acting fast enough" to address climate change. Tariffs that impose fees and fail to incentivize shifts in use of generation and load to better align with grid needs ignore this imperative. Sierra Club encourages the Commission to further explore a TOU-based NEM tariff that enables continued growth in rooftop solar while also providing economic signals to facilitate optimal integration of this critical resource.

Respectfully submitted this 1st day of September, 2015.

*/s/ Alison Seel*

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