KEYES, FOX &WIEDMAN LLP

Via Electronic Filing

April 18, 2016

Honorable Kathleen H. Burgess
Secretary
NYS Public Service Commission
Three Empire State Plaza
Albany, NY 12223-1350

RE: Case 15-M-0751 – In the Matter of the Value of Distributed Energy Resources

Dear Secretary Burgess,

Enclosed please find for filing in this proceeding The Alliance for Solar Choice's *Policy Statement on an Interim Successor to Net Energy Metering*. Please contact me if you have any questions regarding this filing.

Thank you for your assistance in this matter.

Sincerely,

Blake Elder

Blake Elder
Assistant
Keyes, Fox and Wiedman LLP
401 Harrison Oaks Blvd, Suite 100
Cary, NC 27513
belder@kfwlaw.com
(919) 825 - 3339

BEFORE THE
STATE OF NEW YORK
DEPARTMENT OF PUBLIC SERVICE

In the Matter of the Value of Distributed Energy Resources	CASE 15-E-0751

POLICY STATEMENT ON AN INTERIM SUCCESSOR TO NET ENERGY METERING

David R. Wooley
Of Counsel,
KEYES, FOX & WIEDMAN, LLP
436 14th Street, Suite 1305
Oakland, CA 94612
Tele: (510) 314-8207
Email: dwooley@kfwlaw.com

Counsel for
The Alliance for Solar Choice (TASC)

April 18, 2016

I. INTRODUCTION & SUMMARY

The Alliance for Solar Choice ("TASC") greatly appreciates the opportunity to submit this Policy Statement[1] regarding the future of Net Metering and an interim mechanism to compensate Distributed Energy Resources (DER) for system and societal benefits.[2]

TASC is an organization founded by the largest solar rooftop companies in the nation. It seeks to establish and maintain successful distributed solar-energy policies throughout the United States. Its members include Demeter Power, LGCY Power, Solar Universe, Sunrun, and SunTime Energy. These companies are important stakeholders on solar policy at both the state and national levels. They are responsible for thousands of solar installations in New York State. TASC's member companies have brought hundreds of jobs and many tens of millions of investment dollars to New York's cities and towns. TASC has submitted comments to this Commission in all major stages of the REV process.[3] TASC has also participated in dozens of proceedings in other states involving Net Energy Metering (NEM) policy and the effect of rate design and distributed generation charges on behind-the-meter solar generation, including proceedings before utility commissions in Arizona, California, Colorado, Hawaii, Iowa, Kansas, Louisiana, Maine, Minnesota, Nevada, North Carolina, Oklahoma, Oregon, Pennsylvania, South Carolina, Utah, Vermont, Washington and Wisconsin.

The growth of distributed renewables was one of several factors that gave rise to the REV process. Distributed renewable investment, along with energy efficiency, demand response, and other forms of DER reduce the need for costly generation, transmission and distribution assets. Continued and expanded DER investment by New York consumers is a key strategy to avoid billions of dollars in consumer costs to prop up increasingly obsolete and inflexible generation, transmission and distribution systems.[4] New York State has greatly benefited from customer investment in distributed renewable

[1] While reserving the right to submit supporting data at later phases of this proceeding, TASC has chosen to participate at this time through Policy Statement and does not intend to respond to discovery or, this time, to undertake discovery on other parties' submissions.

[2] Notice Soliciting Comments And Proposals On An Interim Successor To Net Energy Metering (Issued December 23, 2015), CASE 15-E-0751 - In the Matter of the Value of Distributed Energy Resources.

[3] See, Comments by the Alliance for Solar Choice Track I Policy Issues & Potential Outcomes and Selected Track II Questions, July 18, 2014; Comments of the Alliance for Solar Choice on Straw Proposal –Track One Issues, September 22, 2014; Reply Comments of the Alliance for Solar Choice On Straw Proposal - Track One Issues, October 24, 2014; Initial and Reply Comments of Alliance for Solar Choice on the Benefit Cost Analysis White paper, August 21 and September 10, 2015. Initial and Reply Comments On Staff White Paper On Ratemaking And Utility Business Model, October 26, 2015 and November 23, 2015.

[4] As stated in this Commission's February 26, 2015 Framework Order, page 16, "… approximately $30 billion will need to be spent over the next decade to maintain current capabilities, compared with $17 billion over the past ten years. The need for these investments will place pressure on utility rates." The Edison Electric Institute forecasts that another $879 billion dollars in distribution and transmission investments alone will occur in the twenty year period of 2010 through 2030 – about $44 billion dollars per year – significantly larger than investments seen in the previous 20 year period. "Transforming America's Power Industry: The Investment Challenge 2010 – 2030", Chupka et al., Brattle for EEI, 2008.

generation, driven in large part by the NEM legislation and this Commission's implementation of that policy. The policy has created substantial employment, reduced peak demand, improved system reliability, reduced air pollution emissions and line losses, and empowered end-use consumers to manage their electric power use.

It is, therefore, essential that Commission not take any action in this matter that would discourage distributed renewable generation investment by end-use customers or break the current momentum in growth of clean energy resources. TASC urges the Commission to adopt an interim regulation that maintains NEM for residential and small commercial customers ("mass-market customers") under existing rules.

As described below, based on information currently available, the retail rate is a just and reasonable measure of the system and societal benefits associated with behind-the-meter renewable generation. Retail rate compensation does not require complex and expensive changes in metering and billing equipment. This mechanism has effectively driven customer investment in renewable DG for many years, because it is easy for customers to understand, and provides relatively stable financial incentives for customer-sited generation investment. NEM continues to be a practical solution, especially given the current status of mass-market customer metering, utility data management and billing systems, and benefit/cost measurement protocols.

It is also essential that any changes to net metering policy must not undermine the investment decisions of existing NEM customers. Hence, we hope the Commission will reaffirm previously stated positions that customers who invested in PV systems will continue to be governed by the NEM policy in place at the time of interconnection for the expected life of the systems, and that those rights are transferable to subsequent owners of such systems.

II. RESPONSES

A. Proposals for Interim Methodologies

1. ***Identify and describe, in as much detail as possible, a mechanism or mechanisms to more precisely value DER as bridge, as currently effectuated in tariff today, while the complete value of D tool and methodologies are developed.***

The recently released E3 Study[5] shows that a bill crediting mechanism, based on retail rates, is a reasonably precise mechanism to balance benefits and costs of distributed renewable generation for mass-market customers (residential and small commercial). The study was released less than four months ago, and was prepared by an experienced consulting. The study found that,

[5] Energy & Environmental Economics, *The Benefits and Costs of Net Metering in New York,* Prepared for NYSERDA and NYPSC, December 11, 2015, ("E3 NEM Benefit-Cost Study") available at http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=15-E-0703&submit=Search+by+Case+Number.

"The direct financial net costs of the NEM program will remain relatively modest from a statewide perspective, i.e., result in less than an approximately 0.3% annual rate impact in 2015.[6]"

"For NEM systems installed in 2015, there is a net cost to society (financial and non-financial benefits are approximately 5% less than costs) over the lifetime of these systems in the baseline scenario. However, with a reasonable assumption of forecasted capital cost declines and increases in benefits it was found that there is a net benefit to society for NEM systems installed in 2025 over the lifetime of these systems (financial and non-financial benefits are approximately 25% higher than costs). If NEM systems can be targeted to higher value locations on the distribution grid, then there is a net benefit to society for both systems installed in 2015 (financial and non-financial benefits higher than costs by 6%) as well as in 2025 (financial and non-financial benefits higher than costs by 43%).[7]"

"In some cases the non-financial societal benefits of NEM systems, i.e., GHG mitigation and improved air quality, when added to the financial benefits, may be greater than the direct financial costs of NEM.[8] "

These findings show that lifetime financial and non-financial benefits of net metering is, at worst, only a few percent points below the lifetime costs. In some scenarios benefits exceed costs today and that the relationship of benefits to costs improves rapidly in the near future, with net metered systems producing benefits that exceed costs by 25% for systems installed in 2025.[9] This suggests that the bill credits earned by net metering customers, based on retail electric rates, reasonably reflect the benefits conferred on the electric system and society by NEM systems. Indeed, in most scenarios the calculated benefits of residential NEM systems (levelized $2015/kWh) exceed retail rates.[10]

Moreover, there are several reasons why the E3 assessment of costs tends to overstate costs of NEM systems. The E3 study was produced just before Congress extended the investment tax credit for distributed PV systems. That action will tend to lower expected costs for PV systems and may tend to reduce, extend or conserve available NY-Sun incentives for customer-sited PV investment – again lowering costs relative to benefits.

Moreover, the calculation on the benefit side of the equation does not include values for several important benefits. The benefit estimates in the E3 study strongly

[6] E3 NEM Benefit-Cost Study, at 8, 71. "Overall, the impacts of NEM net costs are relatively modest given the policy benefits." E3 NEM Benefit-Cost Study, at 62.
[7] E3 NEM Benefit-Cost Study, at 8, 71.
[8] E3 NEM Benefit-Cost Study, at 8, 71
[9] E3 NEM Benefit-Cost Study, at 71.
[10] See Societal Cost Test, Benefit columns, E3 NEM Benefit-Cost Study, at 52-60. The average residential retail electricity rate in NY in January 2016 was 16.54 cents per kWh. See, https://www.eia.gov/electricity/monthly/epm_table_grapher.cfm?t=epmt_5_6_a.

suggests that the current bill crediting mechanism, based on retail rates, is a reasonably accurate way to compensate mass-market renewable DG owners for the benefits that their systems provide to the electric power system and society. The E3 report calculates a value of solar, in cents per kWh, as follows.

> When adding in the quantified non-financial societal benefits (these range from $0.02 to $0.07 per kWh of solar PV production) then the **'value of solar' ranges from $0.10 to $0.23 per kWh**.[11]

Note that the upper end of the range exceeds retail rates for most, if not all, residential customers in NY. There are several reasons why the upper end of the range is the most reliable estimate of the benefits associated with net metering.

- Due to the timing of the E3 report, it does not contain any value for avoided Clean Energy Standard compliance costs.[12] TASC does not currently have data needed to estimate the value of these avoided costs, but they are clearly not zero.
- E3 assigns no value for avoided transmission capacity costs.[13]
- E3 assigns no value for reactive power;[14]
- The lower end of the range assigns zero or negative value several important benefit categories including:
    - energy losses;
    - monetized carbon;
    - generation capacity value;
    - sub-transmission capacity avoided costs;
    - sub-transmission and distribution capacity demand reduction realization;
    - distribution capacity avoided costs; and,
    - market price effect.
- The lower end of the range is based on values to an number of costs that are likely to be overly high, including: integration, program, NEM capital, and T&D retail rate;
- E3 discounts benefits at a rate of 5.5%. This number is unreasonably high. In TASC's comment on the Staff BCA White Paper, we recommended a discount rate based on U.S Treasury bond interest rates.[15]
- The E3 report lists a number of societal or electric system benefits that were not counted in the benefit cost comparison – but are recognized as real benefits. These include:

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[11] E3 NEM study at page 45.

[12] The E3 study assessed avoided compliance costs with the Renewable Portfolio standard, which does not place compliance obligations on utilities. The Commission's announcement to create a Clean Energy Standard came after the E3 study was completed. Under the proposed CES, utilities will have compliance obligations to procure renewables, and distributed renewable generation will help reduce compliance costs. E3 NEM Benefit-Cost Study, at 35-36.

[13] E3 NEM Benefit-Cost Study, at 42.

[14] E3 NEM Benefit-Cost Study, at 42.

[15] TASC, *Comments on Staff White Paper on Benefit Cost Analysis,* Case 14-M-0101, August 21, 2015, page 8.

    - net economic benefits;[16]
    - security and resiliency benefits (reduced restoration and/or outage costs); and,
    - Fuel hedge.
- Compared to other NEM benefit cost studies, the E3 study assigns lower benefit values than more than half of studies reviewed by E3.[17]

Overall the study suggests three conclusions: 1) that net metering policy is having its intended effect to stimulate markets for distributed renewable generation, lower PV installed costs and achieve a variety of state environmental and energy system objectives; 2) that there is no reason to modify the bill crediting mechanism, since there is no evidence that DG system owners are being overcompensated; and, 3) as described below at pages 10-11, bill impacts on non-participants are, at worst, vanishingly small, and in the future will produce net positive bill impacts for non-participants.

Finally, we note that other states have considered changes to their net metering policy. Most, including Colorado[18] Utah[19] and Massachusetts[20] have either retained net metering policy without changes, or made modest adjustments.

The most recent and most thoroughly reasoned regulatory decision came from California in February of this year.[21] The CPUC issued a decision designed to ensure that customer-sited renewable distributed generation continues to grow sustainably by creating a successor to the pre-existing NEM tariff. It declined to impose any demand charges, grid access charges, installed capacity fees, standby fees or similar charges on NEM residential customers. In a related decision, the CPUC established a $10/month minimum bill to ensure that customers using the NEM successor tariff contribute through their bill payments to the cost of maintaining the services of the electric grid for all customers.[22] It continued the basic features of the preexisting NEM tariff, including the bill crediting mechanism, with some changes including (but not limited to) the following:

- added an interconnection fee for NEM customers;
- required NEM customers to pay non-bypassable system benefit charges;

[16] "Given the likely adoption of NEM systems it is expected that this will lead to net economic benefits." See E3 NEM study at page 35 citing NYSERDA study (http://www.nyserda.ny.gov/-/media/Files/Publications/Energy-Analysis/NY-Solar-Study-Report.pdf).
[17] E3 NEM study at page 44.
[18] Colorado Public Utilities Commission. Case No. 14M-0235E. *In the Matter of Commission Consideration of Retail Renewable Distributed Generation and Net Metering*. Decision No. C15-0990, September 15, 2015.
[19] Utah Public Service Commission Docket No. 13-035-184, *In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations.* Report and Order. August 29, 2014.
[20] H.B. 4173. Enacted April 11, 2016. ("MA NEM Bill"). See also http://www.seia.org/news/compromise-proposal-raise-massachusetts-net-metering-caps-reopens-state-business.
[21] California Public Utility Commission, *Decision Adopting Successor to Net Energy Metering Tariff*, Rulemaking 14-07-002, February 5, 2016.
[22] California Public Utility Commission Decision D.15-07-001, Issued July 13, 2015.

- required NEM customers to take service under available Time-of-Use (TOU) rates; and,
- allowed customer generators to continue to take service under the NEM successor tariff for 20 years from the year of interconnection.

The CPUC will consider adjustments to the successor tariff, possibly including an export compensation rate, with location- and time-differentiated values, in 2019. After an extensive process the Commission concluded that did not have enough information on the balance of costs and benefits. It chose, therefore to implement an interim solution that retains the basic structure of NEM. The NY Commission is in a similar position. While the NYSERDA/E3 study provides some information on benefit cost, its conclusions were not subject to review and critique by interested parties. Moreover, neither E3 nor this Commission and Staff have full information about benefits of DER. More data and information is expected to emerge from this and related proceedings over the next several years. For these reasons it makes sense to follow the CPUC's decision to retain current bill crediting mechanisms of NEM for the foreseeable future.

Even more recently, after long-running discussions and debate, Massachusetts enacted legislation in April 2016 significantly expanding the state's net metering program. The legislation retains the approximate retail crediting system currently in place for most systems until solar generation reaches 1,600 MW, and increases the state's total aggregate net metering cap from 9% to 15% of peak load. When the 1,600 MW benchmark is reached the monthly carryover rate for most new systems will be reduced by 40% from the current rate. However, systems serving the public sector are not subject to this reduced credit rate, and all systems sized at 10 kilowatts or less (or 25 kilowatts for three-phase service) are exempt from the reduced credit rate and the aggregate net metering caps. A further provision of the bill addresses utility revenue attrition concerns, providing for the opportunity to establish a minimum bill ("minimum reliability contribution") through a full regulatory proceeding, should a rate design adjustment be deemed beneficial. The practical effect is that net metering will continue as is for "mass market" customers.

We note that although other states, such as Hawaii[23] and Nevada[24] have eliminated net metering, or substituted an alternative compensation mechanism, those actions involved unique circumstances not relevant in NY today. Hawaii's decision was prompted by a pressing need to deter exports from distributed generation systems due to technical challenges posed by extraordinarily high levels of grid penetration (from 30 – 53% of peak load on different islands)[25] and the uniquely isolated nature of its electric

[23] Hawaii Public Utilities Commission, Case 2014-0192, *Proceeding to Investigate Distributed Energy Resource Policies ("Hawaii NEM").*
[24] Public Utilities Commission of Nevada. Docket No. 15-07041. *Application of Nevada Power Company d/b/a NV Energy for Approval of a Cost of Service Study and Net Metering Tariffs*. Modified Final Order. February 17, 2016. This order also covers a similar application by Sierra Pacific Power in Docket No. 15-07042.
[25] Hawaii NEM Order. Table 3 at p. 161.

grid. In NV the Commission disregarded its own benefit cost study, which found that net metering would provide net benefits to ratepayers over 20 years.[26]

2. ***For each mechanism proposed, or for any mechanism ultimately adopted, identify the input assumptions and the types of benefits and costs relevant to the mechanism, including analysis of their relative significance in magnitude.***

See discussion above of the E3 Study. A recent report by SolarCity, Grid Engineering includes a detailed discussion of benefit-cost analysis of distributed energy resources.[27]

3. ***How can the contractual and financial expectations of existing projects be respected?***

As described in a recent EEI/NARUC White Paper, "Typically, significant changes to the DG rate and/or the NEM policy have been accompanied by a grandfathering rule that allows existing customer-generators to continue to be billed under the old pricing policy."[28] The White Paper describes only one state commission decision that did not apply grandfathering to NEM policy changes. The utility and the state governor opposed that decision. TASC recommends that the Commission adopt a 25-year transition period, which represents a conservative estimate of a solar net energy metering system's expected life. A 25-year warranty for solar PV panels, to maintain a minimum of 80% of original system output has become a PV industry standard.[29] This Commission has signaled support for grandfathering[30]

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[26] Energy and Environmental Economics (E3) Consulting. *Nevada Net Energy Metering Impacts Evaluation.* July 2014. Prepared for the Public Utilities Commission of Nevada.

[27] SolarCity, *A Pathway to the Distributed Grid, Evaluating the Economics of Distributed Energy Resources and Outlining a Pathway to Capturing Their Potential Value,* February 2016 (SolarCity Pathway Report). Available at http://blog.solarcity.com/archive/2016/02.

[28] Edison Electric institute, *1.0 A Primer on Rate Design for Residential Distributed Generation,* February 2016, page 13.

[29] *See, e.g., http://global.sunpower.com/products/solar-panels/warranty/* (SunPower 25-Year Combined Warranty: at least 87% of Minimum Peak Power rating during final warranty year); http://www.trinasolar.com/downloads/us/products/EN_Trina_Warranty_Jan_2013.pdf (Trina Solar 25-year Warranty: 80.18% minimum for monocrystalline and 80.7% minimum for polycrystalline); http://www.yinglisolar.com/assets/uploads/warranty/downloads/Multi_standard_110922.pdf (25-year Warranty at 80.7% threshold). The Massachusetts legislation described below includes a 25-year grandfathering provision.

[30] *Order Establishing Interim Ceilings On The Interconnection Of Net Metered Generation* (Issued and Effective October 16, 2015) CASE 15-E-0407 - Orange and Rockland Utilities, Inc. Petition For Relief Regarding Its Obligation to Purchase Net Metered Generation Under Public Service Law §66-j, page 11 (O&R NEM Ceiling Order).

> "Moreover, once the interim period closes, ceiling limits, where needed, can be set automatically at the percentage of load that accommodates those DG projects that should remain entitled to net metering. As a result, when DER valuation is in place, the ceiling on net metered generation will find the appropriate level at each utility (again subject to such limited exceptions as might be adopted upon consideration of the Ratemaking Whitepaper proposals), based on the PV and other DG generation that is actually installed in the service territory in response to the economic conditions present there.

Other jurisdictions have established grandfathering for existing systems at the time of changes to net metering policy. The California PUC has established a transition period of 20 years, beginning with the year the system was interconnected, during which systems already on net energy metering tariffs may continue to receive service on its previously applicable NEM tariff. [31] The decision sought to ensure that customers who interconnect renewable distributed generation systems under the previously applicable net energy metering program have a reasonable opportunity to recoup the costs of their investment in those systems.

> "…we find that adopting a transition period that denies customer-generators the opportunity to realize their expected benefits would not be in the public interest, to the extent that it could undermine regulatory certainty and discourage future investment in renewable distributed generation."[32]

The California Commission also allowed grandfathering for existing systems that are transferred to new owners. This treatment preserves the value of these systems, and ensures that the cost of system installation may be recovered on the terms expected when the system is purchased. As a result, systems that qualify to remain on their pre-existing NEM tariff for the transition period will remain eligible for the complete transition period if transferred to a new owner, operator, or utility account at the original location.

4. ***Bill impacts are a critical metric for assessing any proposal. How should bill impacts be identified and analyzed? What criteria should be employed to assess the bill impacts of a given proposal?***

As this Commission noted in its order rejecting Orange and Rockland's Petition regarding net metering obligations, the bill impacts of net metering are,

> "comparatively minor, especially in consideration of the benefits that have been realized through the flourishing success of PV in New York….[and] rate impacts into the future likely remain acceptable, especially since O&R has not attempted to value benefits that could be offset against the costs it posits."[33]

The NYSERDA Net Metering study supports this conclusion. It found non-participant bill impacts of NEM of between $0.0001 and $0.0004 per kilowatt-hour.[34]

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[31] *Decision Establishing A Transition Period Pursuant To Assembly Bill 327 For Customers Enrolled In Net Energy Metering Tariffs,* docket No 12-11-005 Rulemaking Regarding Policies, Procedures and Rules for the California Solar Initiative, the Self-Generation Incentive Program and Other Distributed Generation Issues, March 27 2014.

[32] *Id*. at 20.

[33] O&R NEM Ceiling Order, at 12.

[34] The E3 NEM Benefit Cost Study states,

> …the annual net costs to non-participating ratepayers for the NEM policy (as it is currently structured and administered) is $38 million for the Untargeted Case in 2015 and ranges between **$10 million to $60 million in 201521 on a statewide basis** (levelized22 $0.02 to $0.10 per kWh of solar PV production). This translates to potential estimated rate impacts in 2015 for non-

Since per capita electricity consumption in NY homes in 2011 was 2627 kWh per year,[35] this translates into a per capita bill impact of 26-104 cents per year, or about 2-8 cents per month.[36] As noted elsewhere in these comments, the E3 study methodology did not account for several distinct benefits of renewable DG systems including: avoided Clean Energy Standard (CES) compliance cost,[37] fuel hedge,[38] wholesale price impacts (beyond two years),[39] net economic impacts, and security/resiliency.[40]

While it is correct to say that bill impacts should be assessed, bill impacts of net metered renewable DG systems are so vanishingly small, or likely positive, that the Commission should simply conclude that they are not a reason to reject a proposal to retain the current NEM bill crediting mechanism for mass-market customers

Finally we note that the E3 report reached no conclusion on whether individual customers generally overpay or underpay utility costs of service after installing a NEM system.[41] The report notes that under or overpayment of cost of service is dependent on rate design and usage patterns, stating, "…many customers are not average and by definition any below average or above average customer may not pay the actual cost the utility incurs to serve that specific type of customer. These considerations are inherent and accepted in utility ratemaking."[42]

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participants between **$0.0001 and $0.0004 per kWh** across the four defined scenarios we examine (aggregated across each utility and customer class).

E3 NEM Benefit Cost Study, page 5. The $38 million annual net cost sounds large in isolation, but given that utility revenues in NY are about $47 Billion, its clear that the figure is an insignificant factor in regard to retail rates.

[35] http://apps1.eere.energy.gov/states/residential.cfm/state=NY.

[36] The E3 study also states, "Monthly bill impacts for residential customers because of NEM range from $0.15 to $0.35. E3 NEM Benefit Cost Study, page 62.

[37] Customer-sited renewables would lower LSE obligations under the proposed Clean Energy Standard by lowering retail sales. Beyond that, there is a compliance value for the RECs produced by customer-sited systems that don't have to be procured from other sources. This is particularly important because the cost of NY-SUN incentives is included as a ratepayer cost in the E3 study. If NY-SUN is to be a cost, the reduction in RECs needed to come from other resources should be counted. See, E3 Study, page 53-54, Appendix section 1.4.1.8.

[38] Fuel hedging could be significant. E3 did not quantify it but other studies have shown significant value See E3 Benefit-Cost study at 115.

> "…wholesale price impacts…will certainly have temporary impact on rate payers' bills…when bill impacts are estimated it is appropriate to acknowledge that such price reductions will temporarily reduce or eliminate these impacts." New York State Department of Public Service, *Clean Energy Standard White Paper – Cost Study*, April 8, 2016, page 107.

[40] E3 NEM Benefit Cost Study, page 35-36. The E3 study was prepared before the announcement of the Governor and PSC to revise the Renewable Portfolio Standard into a Clean Energy Standard with compliance obligations assigned to distribution utilities. The E3 report was also prepared prior to action by the US Congress to extend the Investment Tax Credit for residential and commercial PV systems. These factors mean that the E3 Study's estimate of net costs or benefits is conservative, erring, if at all, to underestimate benefits and over estimate net costs.

[41] E3 NEM Benefit Cost study at page 71.

[42] E3 NEM Benefit Cost study at Page 8, footnote 30.

5. For each mechanism, describe with as much specificity as possible:

A) The benefits and costs to:
i) participants;
ii) non-participants; and
iii) society

The E3 study provides a reasonable range of estimates for participant, non-participant and societal benefits/costs of a bill crediting mechanism based on retail rates. For reasons described above, the most relevant values relate to E3's 2025 scenarios and those that use low projected PV costs. We note that the E3 study describes higher benefits for "targeted" PV development. Given that large amounts of distributed renewable PV generation are being installed in load pocket regions of southern NY, it appears that a high percentage of PV is being installed precisely where it is needed most. Hence the Commission should consider placing greater weight on the "targeted" scenarios in determining the reasonableness of a compensation mechanism based on a NEM-like bill-crediting/retail rate for mass-market customers. As discussed elsewhere adjustments to the NY-Sun incentives or a NEM adder could be used to create stronger incentives for locational optimal renewable DG development.

B) How the benefits and costs vary when the customer is demand billed versus non-demand billed.

TASC has not performed a comparative assessment of benefits and costs between these two general types of customers.

C) How the benefits and costs vary when the project is targeted to a system need versus randomly distributed.

TASC believes that randomly distributed DER have a number of benefits that should be recognized by the Commission. These include: extended life of distribution system equipment due to lower peak loads[43]; reduced Clean Energy Standard and air pollution (including carbon) compliance costs; reduced line losses; resiliency generation and transmission capacity, and others. It is important to recognize these benefits in order to fulfill the Commission's objective of giving all customers an opportunity contribute toward REV goals. Hence, while targeted renewable DG projects will tend to have higher benefits, it would be inappropriate to apply a lower bill credit to untargeted customer systems.

If the Commission wishes to create greater incentives for mass-market customers to invest in targeted systems, a better alternative is to adjust NY-Sun incentives to favor PV systems installed where DG provides higher electric system benefits. This method will be much easier to administer than any action to establish a patchwork of constantly evolving differential bill crediting mechanisms for mass-market customers.

[43] Solarcity Pathway Report at 8 and 22.

D) How the mechanism applies to energy injections into the grid, versus load reduction.

For mass-market customers, a bill crediting mechanism based on retail rates will effectively compensate customers for both load reduction and energy injections. Distributed renewable generation involves both.

For medium and large commercial (demand metered) customers, it may be appropriate to apply a LMP+D compensation for exports. Commercial customers should, however, be allowed to retain full value for avoided purchases associated with on-site consumption of distributed generation output.

6. Describe how the mechanism would affect and reflect:

A) More accurate and precise value signaling.

For mass-market customers the existing bill-credit mechanism (based on retail rate) provides a reasonably accurate and precise value signal that has effectively stimulated residential and small commercial customers to invest in behind-the-meter renewable generation. It is difficult to imagine a replacement for these customers that would provide a more accurate or precise signal at this time. Indeed, any move to impose an LMP+D compensation scheme on mass market customers will dramatically reduce investment in behind-the-meter renewables, since under such a policy it will be much more difficult to estimate the savings, and investment payback from a DER investment. Mass-market customers typically do not have the capability to understand and assess the impact of LMP+D values that vary over time and location.

B) Simplicity in the customer experience and ability to encourage customer adoption.

A decision to continue the current NEM has the virtue of simplicity for both the Commission and for customers. Retail electric rates are readily ascertainable by customers and DER providers. The bill crediting mechanism requires no new protocols to be established by the Commission, nor an assessment of new metering, billing system and data management system changes needed to implement alternatives. Customers are familiar with the NEM crediting mechanism and continuation will facilitate additional customer investment in DER. Since retail rates reasonably balance benefits and costs of distributed generation, continued use will allow the Commission to focus its time and resources on more urgent REV priorities.

Retention of the current NEM mechanism is also consistent with an important principle of customer rights. All customers should retain the right to determine the amount of energy they purchase from the grid, the amount of energy they self-produce and consume, and the amount of energy they save through efficiency or energy conservation measures. Customers have the right to reduce their demand for energy purchased from the grid through onsite generation.

C) The Commission's REV policy objectives.[44]

One of the Commission's key objectives in the REV proceeding is to animate, not suppress the market for DER and encourage customer contribution. A decision to continue NEM for mass-market customers is consistent with this principle.

Behind the meter renewable generation is a key strategy to reduce carbon emissions. The industry is growing at a pace that clearly will contribute to CO2 reductions in the electric sector.

7. Describe how the mechanism would be consistent with current or foreseeable enabling technology.

Enabling technology such, as storage and advanced inverters, can be accommodated easily under the existing NEM mechanism. Incentives or procurement mechanisms, independent of NEM, can be established to encourage new or existing net metering customers to add or substitute equipment needed to supply services to the distribution and transmission grids.

8. Describe the extent to which the mechanism relies on changes in rate design, including whether rate design changes to implement the mechanism would apply only to participating customers or apply to all customers.

Retention of NEM for mass-market customers does not require changes in rate design. Changes in rate design are more likely to interfere with, than facilitate, the bill credit mechanism. For reasons stated in earlier comments, the Commission should resist pressures to increase customer charges and impose demand charges on mass-market customers.[45]

9. Describe the implications of the mechanism for fair, efficient, and sustainable recovery of distribution system costs.

The recovery of distribution system costs from mass-market customers should continue to occur through volumetric charges, adjusted as needed in periodic rate cases. The mechanism proposed here by TASC does not require a change in this system. This approach is sustainable, as it provides distribution utilities and the Commission a regular way to adjust volumetric rates to reflect costs. It is fair since it provides transparency about costs that are driving rates. It is efficient since is it a well understood and its

[44] The policy objectives include: (1) enhanced customer knowledge and tools that will support effective management of the total energy bill; (2) market animation and leverage of customer contributions; (3) system wide efficiency; (4) fuel and resource diversity; (5) system reliability and resiliency; and (6) reduction of carbon emissions. Case 14-M-0101, Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision, Order Adopting Regulatory Policy Framework and Implementation Plan (issued February 26, 2015), p. 4.

[45] See footnote 3 above.

continuation does not require the Commission to invent a new process. Cost of service studies based on test years can be used to set rates between rate cases and are efficient for that purpose, so long as all recognize that long term cost of service are not reflected in COS, and that over time DER will reduce distribution system costs. Volumetric rates can be adjusted or supplemented through existing processes with time-of-use rates and (where justified) minimum bills to address particular system or cost recovery needs. These mechanisms are far superior to demand charges to address such needs for mass-market customers.

10. Describe the implications of the mechanism for fair, efficient, and sustainable customer investment.

See comments above at page 13.

11. Describe the extent to which the cost of providing distribution service to individual customers utilizing DER is or could be avoided by the DER.

It is important to clarify that the question addresses, or should address, the long-term distribution system costs. From this perspective, individual customers utilizing DER do not avoid cost of providing distribution service. Rather their investments avoid the need for utility spending over the life of the DER investment. Hence, even customers that experience some months with net zero volumetric charges still contribute to distribution system costs in customer charges, and bills for months when consumption from the grid exceeds DG output. Moreover, that customer's investment in DER represents a tangible contribution to long-term distribution costs.

12. Describe how a mechanism would focus on, or apply to:

A) Residential or small commercial (i.e., non-demand-billed) onsite projects.

See discussion above at pages 1-8 above. TASC recommends that all mass-market solar customers, current and new, be eligible for net metering with bill crediting based on retail rate.

B) Demand-billed projects whose output is not substantially greater than the load at the meter. These would include the policy objectives identified by the Commission in its order instituting the REV proceeding (as well as any other policy objectives subsequently identified the Commission):

TASC has no comment at this time relative to replacement options for NEM policy regarding demand-metered customers.

(1) enhanced customer knowledge and tools that will support effective management of the total energy bill;

Many owners of net- metered systems receive reports on daily or hourly solar energy production and net energy use. This allows those customers to adopt additional energy efficiency, demand response or behavioral changes to periods when energy use if high.

(2) market animation and leverage of customer contributions;

See discussion above.

(3) system wide efficiency

Behind the meter renewable generation will in many locations improve system load factor, by reducing mid-day peak demands. Improvement of overall system load factor is clearly an objective of the Commission's REV process.[46]

(4) fuel and resource diversity;

By displacing marginal fossil generation, net metered systems help reduce growing dependence on natural gas power generation.

(5) system reliability and resiliency; and

While generally not in use today, net metered systems can be modified to add equipment that can safely island customer premises during system outages or storm emergencies. The ability to power residential computers, phones and refrigeration can greatly reduce economic losses associated with emergencies and speed recovery times.

(6) reduction of carbon emissions.

Behind the meter renewable generation is a key strategy to reduce carbon emissions. The industry is growing at a pace that clearly will provide the scale needed to make significant contribution to CO2 reductions.

C) Large projects whose output is substantially greater than the load at the meter (e.g., Remote Net Metering, Community DG).

TASC has no comment on this question at this time

[46] See, NYPSC Framework Order, February 26, 2015, page 50:

> …the evolving role of the utility will be to reduce the investment and operating costs of delivery functions, improve system reliability and security through shared information and tariffs that monetize the value of DER to the system, support achievement of the State's energy efficiency and clean energy goals, reduce peak demand and improve the overall system load factor.

13. Provide illustrations of how the proposed compensation mechanism would be applied. Issues for attention should include (but do not need to be limited to):

A) Is accounting accomplished via bill credits or via some other mechanism?

TASC strongly supports retention of bill credits for mass-market customers. The rational favoring retention of bill credits has been effectively expressed by Commission and Staff statement in the REV proceeding.[47] To diverge from current bill crediting could result in tax liabilities for DER owners that would undercut the Commission's objective to increase DER investment.[48]

B) Is generation netted against consumption or are energy flows accounted for separately?

For mass Market customers generation should be netted against consumption. To change this could involve adding new costs to DER owners to meter and report. There is no reason to separately account for energy flows for these customers.

C) Is measurement and/or accounting of generation conducted on a volumetric or a monetary basis?

Retention of existing billing mechanism for mass-market customers eliminates the need for measurement and accounting for generation.

14. Describe anticipated impacts on participating and non-participating low-income customers.

TASC has no comment on this topic at this time.

15. Describe how the mechanism would distinguish, if at all, between solar PV and other technologies currently eligible for NEM.

In regard to mass-market customers, TASC does not believe there is any reason to modify the current bill crediting mechanism based on retail rates, due to the type of generation technology. The existing mechanism has worked equally well for PV, wind, and small hydro.

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[47] See, Staff White Paper on Ratemaking and Utility Business Models, July 28, 2015, page 13.

[48] See, Comments Of The Alliance For Solar Choice, Solar Energy Industries Association, California Solar Energy Industries Association And Vote Solar On Party Proposals, California Public Utility Commission Rulemaking 14-07-002, September 1, 2015, Pages 8, 89 and Appendices D (Skadden, Arps, Slate, Meagher & Flom LLP, *Memorandum RE: U.S. Federal Tax Consequences for Residential Solar Feed-In Tariffs*, (Aug. 9, 2013) and E (Chadbourne & Parke LLP, *Memorandum RE: Residential Solar Feed-in Tariff Programs* (June 26, 2015). Available at: http://docs.cpuc.ca.gov/SearchRes.aspx?DocFormat=ALL&DocID=154841512

16. Describe how the mechanism would, if at all, account for the value of emissions reductions.

The E3 study suggests that, during the first compliance period under the federal Clean Power Plan (2022-2025) the range of system benefits from the a NEM-like bill crediting mechanism will produce net system benefits. Customers who have accepted incentives from NYSERDA or NY-SUN have effectively surrendered the emission reduction value and renewable energy credit (REC) value to NYSERDA. In the past those credits have been effectively retired in support of the state RPS objectives. Going forward, carbon and CES compliance values could be retained by the state for projects that accept incentives (and be credited toward compliance as a "state measure"), or alternatively renewable DG owners might be allowed to retain CES/Carbon reduction credits while receiving reduced NY-Sun incentives. For those projects that do not accept incentives, or which interconnect after the end of the NY-Sun incentive program (probably 2023), the carbon and REC values should be retained by owners of the DER systems. These are recognized private property rights. Participation in a NEM-like bill crediting mechanism is not a basis on which to strip NEM customers of their private property rights in carbon and CES compliance credits.

B. Developing a Full Valuation Methodology

TASC has no comment on the section B questions at this time.

III. CONCLUSION

The Alliance for Solar Choice appreciates the opportunity to submit these reply comments and looks forward to continued participation in this proceeding.

Respectfully submitted,

_____/s/_____

David R. Wooley, Of Counsel
Keyes, Fox & Wiedman LLP
436 14th Street, Suite 1305
Oakland, CA 94612
510-314-8207
dwooley@kfwlaw.com

Counsel for
THE ALLIANCE FOR SOLAR CHOICE

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