BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

IN THE MATTER OF COMMISSION CONSIDERATION OF RETAIL RENEWABLE DISTRIBUTED GENERATION AND NET METERING	))))	DOCKET NO. 14M-0235E

ON-SITE SOLAR INDUSTRY REPLY COMMENTS BASED ON THE COMPLETION OF FOUR PANEL DISCUSSION MEETINGS

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The undersigned on-site solar industry groups respectfully submit this reply to the comments of certain other parties, consistent with Decision No. C15-0158-I. The following on-site solar groups join in these comments: (1) Solar Energy Industries Association; (2) The Alliance for Solar Choice; (3) Vote Solar Initiative; (4) Colorado Solar Energy Industries Association; and (5) the Southeast Colorado Solar Coalition (collectively, "On-site Solar Industry").

I. SUMMARY.

The On-site Solar Industry is grateful to the Commission for opening this proceeding. We believe the well-organized discussion that has taken place over the past fourteen months has been helpful in highlighting areas of agreement and disagreement among the parties. Importantly, no party asks the Commission to end net metering,[1] which would be contrary to State statute. However, parties disagree with respect to the rates that should apply to net metered customers. Parties that propose new charges do, however, appear to agree that any change to existing policies should be prospective and that any then-current customers should be grandfathered under the rates and policies in existence when a customer enrolls in net metering.[2]

Although areas of agreement and disagreement have become more clearly defined, significant disagreement remains regarding (1) the extent of solar DG benefits, and (2) how those benefits should be incorporated into Colorado's rates and policies. Disagreement has emerged repeatedly across Commission dockets in recent years regarding these issues. We encourage the Commission to make findings or provide policy direction in this proceeding that will narrow the scope of the discussion regarding costs and benefits in future proceedings so that parties do not continually re-litigate the issue of solar DG benefits. We believe the Commission can move Colorado in that direction by (1) establishing solar policy principles in this docket that will help guide work in future dockets, and (2) initiating a rulemaking to establish a standard methodology for determining solar DG costs and benefits.

We agree with parties that take the position that there is no justification for significant or hasty changes to Colorado's solar programs at this time.[3] Current low penetrations of solar give the Commission time to get this right. For the reasons set forth in these and prior On-site Solar Industry comments and panel presentations over the course of this docket, we encourage the Commission to make the following decisions in this proceeding:

- Maintain the current structure of net metering.
- Issue policy guidance in this docket to shape discussions and outcomes in future dockets.
- Initiate a rulemaking to establish a standard methodology for determining solar benefits.

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1 In fact, most parties support a continuation of existing policies.

2 *See*, *e.g.*, Colorado Energy Office ("CEO") Comments at 4 (May 22, 2015), Office of Consumer Counsel ("OCC") Comments at 22 (May 22, 2015), PSCo Initial Comments at 34 (May 22, 2015).

3 *See* City and County of Denver at 1 (May 22, 2015) (noting that "increased access to net metered distributed generation is a key part of the City's strategy for meeting its climate and energy goals.") *See also* WRA Additional Comments at 5 (May 22, 2015), Vote Solar at 2 (May 22, 2015), Interstate Renewable Energy Council ("IREC") Comments at 3 (May 22, 2015), Colorado Solar Energy Industries Association ("COSEIA") Comments at 1-2 (May 22, 2015).

- Require utilities to apply the methodology transparently when proposing any changes to net metering policy, rates, electric resource plans, or planning decisions.
- Conduct an independent study when solar DG penetration reaches 5 percent to determine if additional changes to policies and rates are needed.
- Grandfather then existing net metering customers from any prospective changes to solar policies or rates.

We strongly disagree with many of the unsupported findings and conclusions that Public Service Company of Colorado ("PSCo") says the Commission should reach in this docket. We also fundamentally disagree with OCC's unbalanced analysis of solar costs and benefits and OCC's proposals to load additional charges onto residential customers who reduce consumption of grid-supplied electricity.

Beyond any steps the Commission believes may be necessary to address issues associated with net metering and residential rates, the On-site Solar Industry also recommends that the Commission focus its next steps on looking towards future opportunities to harness the benefits of solar DG – what we refer to as "Colorado Solar Plus." Incentivizing the rapid deployment of storage and smart inverter technologies will address utility concerns about costs from higher penetration of solar DG and expand the benefits solar provides to the grid. Further, providing incentives for such a program would be an appropriate use of Renewable Energy Standard Adjustment ("RESA") funds in the upcoming years and would avoid serious legal questions about the use of the RESA for alleged net metering costs.

II. THE COMMISSION SHOULD NARROW THE SCOPE OF DISCUSSION IN FUTURE DOCKETS SO PARTIES DO NOT CONTINUALLY RE-LITIGATE PSCO'S SHIFTING ANALYSIS OF SOLAR DISTRIBUTED GENERATION AVOIDED COSTS.

On May 1, 2009, PSCo filed rate case testimony and exhibits with the Commission in Docket No. 09AL-299E, seeking to set new rates for electric customers. On August 4, 2009, PSCo withdrew sections of its rate case dealing with a Transmission and Distribution ("T&D") Capacity Charge it sought to assess on net-metered residential and small commercial customers with solar photovoltaic ("PV") systems. PSCo stated that issues related to the recovery of T&D charges "might best be analyzed in a workshop type setting rather than a rate case."[4] PSCo also withdrew a minimum bill proposal it had made, which PSCo sought to impose on small net-metering customers to address "lost revenues" from net metering, which PSCo described as being "no different than the losses attributable to energy-efficiency programs."[5]

On October 29, 2009, the Commission allowed PSCo to withdraw those sections of the advice letter and testimony related to the proposed T&D Capacity Charge and the minimum bill, and found that a cost and benefit study of solar DG on the PSCo system would be a worthwhile and

[4] *See* Decision No. C09-1223, ¶ 3, page 1.

[5] Direct Testimony and Exhibits of Scott B. Brockett, Docket No. 09AL-299E, page 36 line 17 to page 38 line 10, The Tariff Sheets Filed By Public Service Company of Colorado With Advice Letter No. 1535-Electric (May 1, 2009).

an important tool in evaluating the impact of solar DG resources.[6] At a Commissioner's Information Meeting held on August 18, 2010, PSCo and the Governor's Energy Office (now the "Colorado Energy Office" or "CEO") presented an outline of a joint study methodology that would be conducted based on avoided/incremental cost principles. The original proposed completion date for the study was May 2011, which PSCo exceeded by a couple of years.[7]

On May 23, 2013, PSCo filed its "Cost and Benefit Study of Distributed Solar Generation on the Public Service Company of Colorado System" ("DSG Study") in Docket 11M-426E, which the Commission had opened to consider solar photovoltaic financial incentives. On June 25, 2013, the Commission issued Decision C13-0764-I in that docket, inviting interested persons to "provide feedback on the strengths and weaknesses of the study and its findings" and to "offer suggestions for steps the Commission might take after receiving comments on the Report."[8]

On September 9, 2013, a number of parties submitted comments in Docket 11M-426E heavily criticizing the PSCo DSG Study.[9] Several parties highlighted that a Technical Review Committee that PSCo assembled to provide guidance on the DSG Study was not given an opportunity to evaluate and provide feedback on the draft report before it was submitted to the Commission.[10] They stated that the DSG Study on which PSCo continues to rely in this and other proceedings is incomplete and still in draft form, in their opinions. OCC highlighted a consistency problem regarding PSCo's analysis, noting that PSCo was using different avoided cost values in a number of proceedings that were before the Commission at that time, including: Docket 11M-426E (Solar Photovoltaic Financial Incentives); Docket 13A-0836E (2014 Renewable Energy Standard Compliance Plan); 13A-0686EG (Demand-Side Management Strategic Issues Proceeding); and 13A-0773EG (2014 Demand-Side Management Plan).[11]

On October 8, 2013, the Commission issued Decision No. C13-1258, closing Proceeding No. 11M-426E, stating that the docket had fulfilled its purpose and "that Public Service's study is presently at issue in a adjudicated proceeding, Proceeding No. 13A-0836E."[12] Prior to that time, on July 24, 2013, just two months after PSCo had filed its DSG Study in Docket 11M-426E, and while parties were preparing to file their criticisms of the DSG Study in that docket, PSCo filed its DSG Study, which many parties continued to believe was incomplete and lacking in outside input, in Docket 13A-0836E (2014 Renewable Energy Standard Compliance Plan).

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6 *See* Decision C09-1223.

7 *See* Decision C13-0764-I, ¶ 4, page 2.

8 *Id.* at ¶ 5, page 2.

9 *See e.g.*, Joint Solar Parties' Comments on Public Service Company of Colorado's Distributed Solar Generation Study; Comments of Clean Energy Action and Sierra Club in Support of the Joint Solar Parties; Comments of The Alliance for Solar Choice on PSCo DSG Study; Comments of the Interstate Renewable Energy Council on PSCo DSG Study; Comments of Western Resource Advocates

10 Joint Solar Parties' Comments on Public Service Company of Colorado's Distributed Solar Generation Study at p. 1; Comments of Western Resource Advocates at 2.

11 Comments of the Colorado Office of Consumer Counsel on Costs and Benefits of Distributed Solar Generation on the Public Service Company of Colorado System in Docket 11M-426E at 1.

12 Decision C13-1258, ¶ 8, page 2.

In Docket 13A-0836E, PSCo proposed to use the DSG Study to support controversial proposals to label net metering an "incentive" and to record PSCo's disputed calculation of lost revenue from net metering in its RESA account. Whereas PSCo had previously stated in its 2009 rate case testimony that net metering resulted in lost revenue in a manner no different than energy efficiency programs, PSCo now claimed in its 2014 RES Compliance Plan filing that lost revenue from net metering was actually an incremental cost of acquiring renewables that should be tracked in its RESA account.[13] PSCo had not taken that position previously.

Following numerous protests in Docket 13A-0836E regarding PSCo's reliance on its DSG Study, on February 27, 2014, the Commission granted a motion by the CEO to sever net metering issues, including PSCo's DSG Study, from Docket 13A-0836E so that the Commission could address net metering issues in a separate docket (which became this proceeding). On March 18, 2014, the Commission issued Decision C14-0294 initiating the instant proceeding to consider issues of retail renewable distributed generation and net metering. The On-site Solar Industry supported the Commission's decision to sever net metering issues from Docket 13A-0836E.

As noted above, OCC observed in comments submitted in Docket 11M-426E that PSCo had taken inconsistent approaches to quantifying solar DG benefits (avoided costs) across a range of dockets at that time. Since that time, during the pendency of this docket and Docket13A-0836E, PSCo has continued to put forth inconsistent positions regarding the avoided costs of solar DG, including the PSCo Small QF Standard Tariff docket (13AL-0958E), Solar*Connect docket (14A-0302E, et al.), and the Electric Line Extension Policy docket (13AL-0695E).

In the On-site Solar Industry comments submitted on May 22, 2015, we observed that in filings subsequent to the completion of the PSCo DSG Study, PSCo has backed away from some of the benefits that it originally calculated in its own study. For example, the utility now contends that reductions in greenhouse gas emissions that result when its customers install solar have no value for its other customers or for Colorado.[14] By zeroing out carbon benefits and other adjustments, PSCo's latest filings in the Solar*Connect docket reduced the avoided costs of DSG from 8.0 cents per kWh in PSCo's DSG Study to 6.4 cents per kWh on a 20-year levelized basis.[15] PSCo's May 22, 2015, comments in this proceeding seem to back away from acknowledging solar DG benefits even further.

In its May 22, 2015, comments in this proceeding, PSCo stated: "it is imperative that our regulator and other stakeholders gain a better understanding of the true costs DG either avoids or causes a utility and its other customers."[16] The On-site Solar Industry questions whether that is possible when PSCo's positions on this issue continue to shift and the analysis it submits varies

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[13] PSCo now argues in comments submitted in this proceeding on May 22, 2015 that solar DG and energy efficiency programs are actually fundamentally different.

[14] *See* Docket No. 11M-426E, Direct Testimony and Attachments of Scott B. Brockett, at 7, lines 12-15.

[15] *See* Table 1, page v, Costs and Benefits of Distributed Solar Generation on the Public Service Company of Colorado System, filed in Docket No. 14M-0235E; Docket No. 14A-0302E, Supplemental Direct Testimony and Attachment of Scott B. Brockett on behalf of Public Service Company Of Colorado, at Attachment SBB-6, page 3 of 14 (Avoided Costs for Solar*Rewards).

[16] *See* PSCo Initial Comments at 1-2.

across a range of dockets. This is particularly concerning given that PSCo now appears to claim in supporting a massive proposed increase in the Service & Facilities (S&F) charge for net metered customers that rates should reflect essentially *no benefits* of solar DG. Against this background of shifting and inconsistent analysis by PSCo, the On-site Solar Industry is alarmed that PSCo now proposes that the Commission should leave PSCo to propose whatever charges it wishes on net metered customers, in whatever adjudicatory proceeding it chooses, on the basis of whatever supporting information it decides to submit at that time.[17] We emphatically disagree. We believe PSCo's inconsistencies demonstrate the need for the Commission to standardize Colorado's approach to assessing and incorporating solar DG benefits into rates and policy decisions.

Accordingly, we also disagree with the 14 findings that PSCo asks the Commission to adopt in this proceeding without proper foundation or supporting evidence. Instead, we encourage the Commission to issue findings in this proceeding that narrow the scope of the discussion regarding costs and benefits in future proceedings so that parties do not need to continually re-litigate PSCo's cherry-picked assessment of solar DG benefits that is designed to support whatever outcome PSCo wants in any particular proceedings. We believe the Commission can best move Colorado in this direction by (1) establishing solar policy principles in this docket that can guide work in future dockets, and (2) initiating a rulemaking to establish a standard methodology for determining solar DG costs and benefits.

III. THE COMMISSION SHOULD ADOPT SOLAR POLICY PRINCIPLES IN THIS PROCEEDING THAT WILL HELP GUIDE WORK IN FUTURE DOCKETS.

With regard to the outcomes of this proceeding, we believe the Commission should establish solar policy principles that help guide work in any future dockets. Numerous parties support this approach.[18] WRA states that although the Commission may not adopt a specific rate design in this proceeding, "it can discuss guiding principles it will use to evaluate future rate design proposals in a future rate case or provide guidance on what types of information should be included in a rate case."[19] We agree.

In establishing solar policy principles, we agree with a proposal by the CEO that the Commission should determine that the goal of future policy will be to balance three public policy interests: (1) a utility's ability to provide reliable service and be fairly compensated, (2) the public interest in the promotion of renewable energy, and (3) Colorado's interest, as set forth in the RES, in the value of the economic development of DSG.[20] We also agree with the CEO that the Commission should highlight key principles on which utilities' approaches to rates should be based.[21] We agree with the use of Jim Lazar's principles: (1) limit fixed customer charges to the cost of connecting to the grid, (2) assess customer charges for grid services and power supply according

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17 *Id.* at 3 ("Public Service maintains and reiterates its position that an adjudicated proceeding where a utility has made a specific proposal with supporting information is the most appropriate forum to consider how to rectify the cost shifts that occur.")

18 *See*, *e.g.*, WRA Additional Comments at 13-15, CEO Comments at 2.

19 WRA Additional Comments at 4.

20 CEO Comments at 1.

21 *Id.* at 2.

to how much customers use and when they use it, and (3) fairly compensate customers that supply power to the grid.[22]

We also agree with Vote Solar in its May 22, 2015, comments that the Commission should adopt a principle that supports customer choice and self-determination.[23] Finally, we agree with WRA that rate design should: (1) avoid unintended roadblocks to clean energy technologies, (2) require utilities to operate and price services as if they were in a competitive environment, and (3) be forward looking rather than focused on the short term.[24]

IV. THE COMMISSION SHOULD INITIATE A RULEMAKING TO ESTABLISH A STANDARD METHODOLOGY FOR DETERMINING DISTRIBUTED SOLAR COSTS AND BENEFITS.

Denver asks the Commission to quickly commence a rulemaking on net metering and distributed generation so that the issues explored in this docket may be resolved with finality.[25] We agree. Significant disagreement remains regarding solar benefits; as we explained in the comments above, PSCo has submitted inconsistent analysis and taken contradictory positions across a range of recent dockets. This highlights the importance of the Commission opening a rulemaking to establish a standard methodology for determining solar costs and benefits that can be applied consistently across dockets and across time so that the same issues are not continually re-litigated. A number of parties have endorsed this approach,[26] which is consistent with the approach the Commission has taken in adopting rules to govern RESA accounting.

Adopting a standard methodology by rule will help ensure that regulated utilities apply the methodology transparently when proposing any changes to net metering policy, rates, electric resource plans, or planning decisions. In May 22, 2015 comments, the On-site Solar Industry proposed that the Commission use the methodology to conduct an independent study of solar DG when 5 percent penetration is reached to determine if additional changes to policies and rates are needed. We stated this will allow time to learn through implementation, to develop solutions through additional research and development, and to flush out methodological differences in approaching the benefits of distributed resources.

We explained in our May 22nd comments that this 5 percent threshold reflects a point well before solar distributed generation would require any significant investments in distribution circuits or other types of integration costs, and would be far below the penetration that has raised issues in Hawaii (issues that are being resolved with assistance from NREL). It also allows time to better understand the effects that improved storage, inverter, and other technologies will have on long-term economics.

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22 *Id.*

23 Vote Solar at 3 ("Retail customers have the right to use as much or as little electricity as they choose. This is the basic right of customer choice and self determination.")

24 WRA Additional Comments at 13-15

25 Denver Comments at 2.

26 WRA Additional Comments at 16, IREC Comments at 2, Vote Solar Comments at 6-7.

V. THERE IS NO BASIS FOR PLACING SOLAR OR NET METERING CUSTOMERS ON SEPARATE RATES, AS SOME PARTIES PROPOSE.

Several parties offer proposals for specific rate structures that they believe should be imposed on customers with on-site solar. We disagree with these proposals, which lack evidentiary support and are contrary to well founded ratemaking principles. There is no answer to the question of an individual customer's responsibility for a utility's total plant in service. That is because the utility system involves investments that were made to serve an aggregate amount of customer demand over a forecast period of time rather than being built in response to individual customer requests for service. Only the facilities closest to a customer's service entry are customer specific.

Upstream costs for utility infrastructure further from customers' premises are related to utility peak capacity forecasts. Such infrastructure is built to satisfy aggregate customer demand on the system over time, taking into account forecast changes in customer count and changes in customer demand and usage. Although the residential customer class may have a load curve that appears smooth in aggregate, residential customer demand is not homogeneous. Some customers use a great deal of electricity during system peak hours, thereby contributing more to utility capacity-related costs, while other residential customers may consume very little electricity at times of system peak demand, meaning they contribute less to utility capacity-related costs. Residential rates are designed to wrap around all of this variability and do not presently try to hold customers responsible for some predetermined assessment of the utility's capacity-related costs .

Residential rates in Colorado presently do very little to impose higher charges on customers that contribute the most to utility cost of service. Rather, rates in Colorado have followed, and even exemplified, a ubiquitous approach in residential ratemaking that a customer's bill should vary based on consumption. Some customers have responded positively to state policy choices and installed on-site solar PV systems to reduce their usage. It should not be surprising that those customers with higher than average usage and consequently higher than average contribution to utility fixed costs, are the ones looking for means of reducing their bills, such as through on-site solar. These customers are responding to price signals.

Proposals put forward by PSCo, OCC and Trial Staff all propose a fundamental shift in how a growing segment of residential customers would be charged for electricity consumption. These parties all propose to single out solar customers from other low-use customers to be charged on the basis of theorized customer responsibility for some portion of the utility total plant in service, rather than on the basis of how all other residential customers would contribute to utility capacity-related costs. However, no standard has been adopted in Colorado, nor any state we are aware of, to determine an individual residential customer's personal responsibility for a utility's total plant in service. This explains why PSCo, OCC and Trial Staff all arrive at very different proposals.

PSCo bases its proposal to massively increase its S&F charge on the assumption that solar customers should have to pay at least as much for utility capacity-related costs as the average residential ratepayer pays each month. PSCo even questioned in comments it filed prior to the

fourth net metering panel discussion that such an approach would be inherently unfair.[27] Trial Staff also raised concerns in its comments that basing charges on an average customer's behavior "creates intra-class subsidies in which some customers will pay an amount greater than the costs they impose on the system while other customers will pay less."[28]

OCC, on the other hand, bases its proposed solar rate hike on an assumption that no residential customer should be able to reduce his or her prior contribution to capacity-related costs by installing solar. OCC thus assumes, without support, that a residential customer's unavoidable obligation for the cost of utility capacity-related costs is whatever the customer was paying prior to installing solar, regardless of whether that customer may have being contributing significantly more than the average customer, and regardless of whether the customer was paying more than his or her personal cost of service. OCC provides no explanation or support for its proposal, and we question whether there can be any. It is fundamentally unfair and discriminatory to adopt a position that residential customers should be allowed to reduce consumption, and therefore contribution to utility capacity-related costs, in any and all ways except by self-generating with on-site solar.

Trial Staff proposes yet another approach, which would establish a minimum bill based on the kilowatt rating of a customer's net-metered system,[29] which Trial Staff explains is intended to impose a higher charge on customers with larger on-site generators. Trial Staff bases its proposal on the assumption that "larger NEM systems impose more costs on the utility's distribution substations, primary distribution system, and secondary distribution system than smaller NEM systems impose."[30] However, Trial Staff offers no support for this conclusion, and we do not believe it is correct. Like any residential customer, a net metering customer's contribution to distribution capacity costs is related to the customer's energy demand during distribution circuit peak demand. A load study would be needed to determine whether cost of service for solar customers is higher or lower than for other customers. Trial Staff also proposes a three-part rate with a demand charge,[31] but we disagree with that approach for all the reasons WRA explains in its Comments.[32]

In sum, PSCo, OCC and Trial Staff all assume without proof, and in the face of significant disagreement about solar DG benefits (even among themselves), that a problem exists that can only be solved by imposing additional charges on net metering customers. In the absence of any standard for determining an individual residential customer's personal responsibility for a utility's total plant in service, all make very different and contradictory proposals based on personal assumptions about what a solar customer's responsibility for utility total plant in service

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27 Response of PSCo to Questions Issued in Decision No. C15-0158-I at 66 (April 16, 2015) ("while this approach would work well for a typical R or C customer, it would result in over-collections from customers who use less than the typical customers, and under-collections from customers who use more than the typical customer.")

28 Trial Staff Initial Comments at 8-9.

29 *Id.* at 6-12.

30 *Id.* at 9.

31 Trial Staff Initial Comments at 4-6.

32 WRA Additional Comments at 25-27.

should be. However, none of these parties base their proposals on cost of service principles that are the bedrock of Colorado ratemaking. Thus, none can be adopted.

In the absence of an established methodology in Colorado to assess distributed solar's full avoided costs, there is no justification that any need exists for any of the proposals put forward by Trial Staff, OCC or PSCo. WRA observes that it is easier to single out solar customers from other low-use customers because it is easy to identify solar on their rooftops.[33] However, the mere presence of solar is not a sufficient basis for singling out solar customers when there has been no showing that solar DG customers have a significantly different cost of service from other members of the residential rate class. OCC, for example, lays bare in its May 22, 2015 comments that its rate proposal is not based on cost of service principles but rather is designed to make onsite solar generation completely dependent on Solar*Rewards incentives so the OCC will have a continued means of arguing to limit residential customer access to solar.[34] That is not a proper basis for designing rates.

We provided extensive legal briefing previously in this docket on the need to set rates on the basis of cost of service. PSCo's May 22, 2015, comments also acknowledge that rates must be set on the basis of cost of service.[35] Proposals from PSCo, OCC and Trial Staff are not cost based, but rather are based on misguided and unsupported assumptions about individual customer responsibility for utility capacity-related costs for utility plant in service. If the Commission wishes to move away from current rate design to price regulated electricity service on the basis of a yet to-be-determined policy for determining an individual customer's responsibility for utility plant in service, we believe the Commission should do so in a consistent way for all residential customers, and not single out solar customers for charges on this basis while allowing other residential customers to continue to be charged on the basis of total consumption.

To be clear, it is not our position that solar customers should not have to pay for their use of the grid. We believe that, like all residential customers, solar customers should pay for grid services and power supply according to how much they use and when they use it. Accordingly, we have suggested that the Commission consider time-of-use rates. However, we also believe that net-metering customers should be credited fairly for the value of exports when they install retail DG systems that are encouraged by state policy. This is consistent with Jim Lazar's principle that customers should be fairly compensated for services they provide. We believe an independent cost benefit study is important in determining whether rates currently do a reasonable job at bringing costs and benefits into balance. If the value of electricity exported from net metering systems equals or exceeds the utility cost of grid services and the kilowatt hour credit required under state statute, which we believe is the case, then all parties are fairly compensated for the actual services these systems provide..

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33 *Id.* at 7-8.

34 OCC argues that an "advantage" of its proposed charges on solar customers "is that, as the cost of solar declined, the Solar*Rewards incentives could decline to track the cost of solar without a concern for it becoming negative." OCC continues that "[b]y resetting the net-metering bill credit and Solar*Rewards incentive, there is more flexibility in tracking the decline in solar costs."

35 PSCo Initial Comments at 9 ("the courts have found that a customer's rate must accurately reflect the cost of service rendered.")

We emphatically disagree with OCC's blanket statement that benefits should not be taken into account in setting rates.[36] Good public policy involves taking benefits into account to ensure beneficial behavior is encouraged, or at least not discouraged. Although OCC and PSCo both propose to take little or no solar DG capacity benefits into account in offering their punitive solar charges, both clearly state that solar DG has resulted in some amount of peak shaving,[37] which is an obvious benefit that must be recognized because it has a direct impact on the cost of serving solar customers. The Commission's Trial Staff at least acknowledges this capacity benefit in the proposal it puts forward.[38] The discrepancies in the positions and proposals proffered by Trial Staff, OCC and PSCo highlight the need for a transparent, stakeholder-driven update of the ELCC study that PSCo erroneously relies upon in its DSG Study. PSCo's current ELCC from 2012 uses a maximum of five systems, and in some regions only one system, to calculate regional ELCC, ignoring the capacity benefits of solar DG that arise due to geographic diversity of systems.

In sum, the inconsistent proposals put forward by PSCo, Trial Staff and OCC further reinforce that there are underlying disagreements about 1) the amount and type of solar DG benefits, and 2) how should those benefits be incorporated into rates and policies. This demonstrates the need for the Commission to adopt solar policy principles and to establish a cost-benefit methodology in Commission rule that will help guide future discussion. Ultimately, any change to rates that singles out solar customers from other customers, including other low use customers, must be supported by substantial evidence that such discriminatory treatment is justified. Even if the Commission decides discriminatory treatment is justified, any new or different rate structure would need to be based on cost of service. We agree with WRA that rate proposals are premature in the absence of a load study to determine whether cost of service for solar customers is higher or lower than for other customers and a Commission rule to guide a credible cost benefit analysis to determine if there are net costs or net benefits from solar DG.[39] Finally, we agree with parties that any change in rates for residential solar customers would necessarily entail changes to commercial rates to lower demand charges for demand-metered commercial customers and to non-solar rates to lower charges, as Trial Staff proposes.[40]

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[36] OCC Comments at 21 ("Another guiding principle is that solar should be paid on the basis of costs and not benefits.")

[37] *See* Response of PSCo to Questions Issued in Decision No. C15-0158-I at 45, OCC Comments at 19 (acknowledging that some of significant decrease in summer peak demand in recent years – 269 MW per year on average – "is likely due to more and more solar installations on customer's rooftops and more solar gardens.")

[38] Trial Staff Initial Comments at 7 (arguing against including production/generation and transmission costs in a minimum bill because "[w]hen a NEM system is producing energy in excess of the NEM customer's needs, the utility will also avoid some of the production and transmission costs that it otherwise would have incurred to serve the NEM customer and his or her neighbors, who will consume the excess energy from the NEM system.")

[39] WRA Additional Comments at 28.

[40] Vote Solar at 5 ("a charge (in this case a minimum bill) imposed on residential customers due to the nature of their rate structure should not be contemplated without consideration of a credit for commercial customers (i.e., those with demand charges) due to utility over-recovery of fixed costs from net-metered solar generation on customers in these classes."); COSEIA Comments at 12-15 (Commission should examine and revise compensation for commercial customers and incentivize use

VI. THE COMMISSON SHOULD NOT ADOPT PSCO'S PROPOSED "FINDINGS" IN THIS ADMINISTRATIVE DOCKET.

In its initial comments, PSCo proposed fourteen findings of fact and law.[41] Most of them are — at best – partial truths (*e.g.*, asking for a finding that distributed solar generation has costs, but remaining silent about benefits). In other instances, PSCo's arguments run directly contrary to the plain language of the RES statute or assume the correctness of facts that are in dispute. PSCo's request to adopt findings seeks to misdirect attention by making partial, unsettled or inapplicable arguments regarding solar policy and ratemaking to distract the Commission from the fact that Colorado's net metering statute clearly defines net metering in a way that cannot support PSCo's approach. PSCo has also failed to show that its net cost methodology and data are appropriate. The Commission should decline PSCo's invitation to make findings that would detract, rather than assist, in coherent policy making that is consistent with state statutes.

A. PSCo Ignores the Proven Benefits of Solar Distributed Generation and Uses Incomplete and Disputed Methods To Calculate an Unproven "Cost"

PSCo would have the Commission find that "DG customers require and use the grid" and that "there is a cost associated with DG customers utilizing the grid."[42] Neither of these propositions is remarkable, and both are literally true. However, the findings PSCo asks the Commission to make are incomplete and entirely one-sided; PSCo makes no mention of the admitted fact that solar distributed generation also provides benefits to the grid (even if the parties dispute the extent).[43] Instead, PSCo couches them as merely "subjective, external benefits that may or may not exist as a cost today."[44] The Commission has not yet determined the applicable methodology for calculating costs and benefits of solar distributed generation. Accordingly, the On Site Solar Industry agrees with WRA that conclusions are premature in the absence of: (1) a data-driven load study to determine whether cost of service for solar customers (in all classes) is higher or lower than for other customers and (2) a Commission rulemaking to guide a credible cost benefit analysis to determine if there are net costs or net benefits from solar DG.

It is critical to consider that recent analyses conducted by other states regarding the cost and benefits of net metering and solar distributed generation have chosen methodologies close to the one used in the analysis conducted by Thomas Beach and provided by the On-Site Solar

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of electric vehicles); WRA Additional Comments at 10 ("Any change in rates for residential solar customers should be matched with an adjustment that more fairly compensates commercial solar customers."); Trial Staff Initial Comments at 3 ("any increase in revenues that a utility begins collecting from NEM customers should be offset by a decrease in revenues collected from non-NEM customers in that class.")

41 *See* PSCo Initial Comments at 4-5, 39-40.

42 *Id*. at 4.

43 *See* Table 1, page v, Costs and Benefits of Distributed Solar Generation on the Public Service Company of Colorado System, filed in Docket No. 14M-0235E; Docket No. 14A-0302E, Supplemental Direct Testimony and Attachment of Scott B. Brockett on behalf of Public Service Company Of Colorado, at Attachment SBB-6, page 3 of 14 (Avoided Costs for Solar*Rewards).

44 PSCo Initial Comments at 21.

Industry. These studies nearly all conclude that solar distributed generation provides a net benefit.[45]

Despite the fact that the parties disagree about the correct cost-benefit methodology and have presented analyses using different methodologies, PSCo simply assumes that its story is correct. Thus, it would have the Commission find that customers "with DG are not paying for their share of the grid through existing rates today" and that, without rate modification, "a cost shift between customers and customer classes will continue to occur."[46] However, these conclusions require the Commission to disregard the methodologies in the Beach study and to reject those of the recent comparable state studies. These conclusions also require the Commission to agree with PSCo's assumptions about individual residential customer personal responsibility for utility capacity-related costs for plant in service, something on which the Commission has no standard and essentially all parties disagree. The Commission does not have a solid basis to do so at this point.

During the course of this proceeding, Dr. Bryan Hannegan and others described how different methodologies will yield different results. In its own calculations, PSCo grossly undervalues the benefits provided by solar distributed generation by focusing on the short-term avoided costs, but claims a need for immediate action by the Commission based on claimed long-term costs from penetration rates well into the future. PSCo cannot have it both ways, minimizing benefits by focusing on short-term avoided costs, but raising the specter of unproven long-term costs from increased penetration. PSCo predicts a high level of exponential growth that, in the face of declining solar incentives in Colorado and the 2017 expiration of the 30 percent Federal Investment Tax Credit, is simply not a supportable conclusion.[47]

Instead, as the On-Site Solar Industry has recommended, the Commission should require a methodology that addresses the costs and benefits of distributed solar generation and net metering over the long term. This is appropriate because the unique element of net-metered solar is its export of energy into the system (and only the PSCo system) for the 25-30 year life of the investment. The life-cycle costs and benefits for this type of investment are more appropriate to consider than the uncertain and changing short-term values.

As an example, any chosen methodology must count avoided emissions as a benefit due to the value that such emissions reductions will provide in the coming decades of production. Yet, PSCo claims that "external, environmental and social benefits are not true utility costs and, therefore, do not factor into the utility's avoided costs."[48] PSCo's position ignores the upcoming EPA rules for the Clean Power Plan and ambient ozone air quality standard, both of which will almost certainly require additional emissions reductions within the State and impose costs on PSCo and ratepayers. These avoided costs must be included. The Legislature's clear policy preference for clean generation in multiple areas of the law[49] also demonstrates that the value of a ton of carbon or oxides of nitrogen ("NOx"), while undetermined, is certainly not zero. The

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45 *See* On-Site Solar Industry Comments at 6.
46 PSCo Initial Comments at 4.
47 *See* On-Site Solar Industry Comments at 2-3.
48 PSCo Initial Comments at 40.
49 *See* Colo. Rev. Stat. §§ 40-3.2-101, *et. seq*. (Colorado Clean Air, Clean Jobs Act).

value of environmental benefits can and should be included under Colorado law as a benefit to the system and more broadly. Many other states have used these benefits in their own utility calculations.[50]

PSCo's proffered methodology and incomplete conclusions should not be endorsed at this stage as a declaratory ruling from an investigatory proceeding, especially without the formal structure of a rulemaking proceeding and a third-party study of the net costs or benefits when solar penetration reaches 5 percent penetration.[51]

B. PSCo Has Not Justified Sweeping Declaratory Findings Regarding Ratemaking Policy at Odds with Statutory Requirements

PSCo requests that the Commission also make findings on three different, but related, issues: (1) that short-term utility cost of service must drive net metering requirements; (2) that separate rate classes for DG customers are appropriate; and; (3) interclass and intra-class subsidies should be minimized. The Commission should not make PSCo's suggested findings on these topics, because, as a matter of law, the specific provisions of C.R.S. § 40-2-124 ("Section 124") trump the general ratemaking principles PSCo cites and, as discussed above, the underlying methodologies and data necessary to make such findings are still unsettled and should not be used to make findings at this stage.

First, PSCo asks the Commission to find that "to achieve just and reasonable rates paid by all customers, including net metering customers, ratemaking shall continue to follow cost causation principles, based on the utility's cost of service," and that "utilities may deduct the retail rate component attributable to fixed costs from the offset," which PSCo claims may be modified from the existing one-to-one kilowatt hour credit.[52] At the outset, PSCo's assertion is not correct. Ratemaking for net metering has not followed a strict cost of service approach, but instead the statutorily-mandated net metering approach embodied in Section 124 and the Commission's current rules. The plain understanding of net metering is a simple, understandable mechanism that sets a fair balance and encourages installation of distributed solar.

While PSCo's cited principles regarding subsidies are generally useful for ratemaking in the abstract, they do not provide reliable guideposts by themselves for this proceeding. For example, because the direction and extent of any net benefit or cost has not been settled, the principles cannot currently be applied. If the Commission follows the lead of other states' methodologies that seek to capture the benefit to distributed solar, is PSCo prepared to provide even greater than

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[50] *See, e.g.*, MISS. ENERGY INITIATIVE, *Net Metering in Missouri: The Benefits and The Costs* at 7, (Winter 2015), *available at* http://moenergy.org/images/Net%20Metering%20%20in%20Missouri%202015%201.pdf; VT. PUB. SERV, DEP'T, *Evaluation of Net Metering in Vermont Conducted Pursuant to Act 125 of 2012* at 11, (Jan. 15, 2013), *available at* http://publicservice.vermont.gov/sites/psd/files/Topics/Renewable_Energy/Net_Metering/Act%20125%20Study%2020130115%20Final.pdf.

[51] Several other parties agree that the next step in this process should be a rulemaking docket. *See, e.g.*, WRA Additional Comments at 16.

[52] PSCo Initial Comments at 4.

retail credit to exports of energy from distributed solar customers? It must, if PSCo's principle were adopted. Even if the net benefit or cost were settled, PSCo's general ratemaking principles must be weighed in the context of, and be subsidiary to, the mandatory provisions of the statutes governing net metering. As outlined in many previous comments and filings, Colorado law firmly fixes net metering as a one-to-one, kilowatt-hour to kilowatt-hour offset of retail consumption by energy generation exports from a solar system.[53] The Legislature has already provided for the form of the net metering mechanism, accepting that there may be some shifts of benefit to or from net-metered customers. PSCo's general ratemaking principles cannot modify mandatory statutory language.

Second, PSCo requests that the Commission find that "there is no statutory impediment to establishing a separate rate class for net metering customers with retail DG."[54] This statement is misleading, because Colorado law creates significant barriers to the establishment of a separate rate class. PSCo is correct that Colorado law does *allow* for different rate classes to be treated differently, but only under specific, limited, and discrete circumstances. Under general rate structuring and ratemaking principles, the utility would be required to (1) present all of the evidence and demonstrate nondiscrimination and reasonableness, as would otherwise be required for the creation of a separate rate class,[55] and (2) overcome the strong statutory direction to ensure that rate and incentive structures favor rather than impair the growth of solar generation.[56] This is an exceptionally high bar and one that a utility is unlikely to be able to cross. PSCo has not provided evidence to demonstrate the reasonableness of such an action, especially considering that any net cost it alleges is quite small in context and its proffered methodology and conclusions are entirely in dispute. In the absence of a factual determination, a separate rate class for net metering customers would be discriminatory.

Third, PSCo argues that "interclass and intra-class cost shifts and cross-subsidies should be minimized,"[57] but again fails to acknowledge that the specific requirements of Section 124 govern over generalized principles. If there is a small shift between DG solar and non-solar customers (in either direction) as a result of the one-for-one net metering credit, it is the product of the legislative direction. There is no way to "minimize" without a change in the statute itself. Further, there is no settled demonstration that such a subsidy exists or how to reliably quantify any such subsidy. PSCo does not provide any basis to show that the extent of any alleged cross subsidy is larger than other forms of admitted cross-subsidies, so that it could avoid unjust discrimination. WRA succinctly undermines PSCo's arguments in its May 22, 2015, comments in this proceeding:

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53 *See* SEIA Initial Brief at 1, 8 (July 31, 2014); TASC Initial Brief at 16-17 (July 31, 2014); Vote Solar & Sierra Club Initial Brief at 19-20 (July 31, 2014)

54 PSCo Initial Comments at 4.

55 *E.g.*, Colo.Rev.Stat. § 40-3-101, -102, -106(1).

56 "[I]t is in the best interests of the citizens of Colorado to develop and utilize renewable energy resources to the maximum practicable extent." Amendment 37, § 1. *See also*, Colo.Rev.Stat. §§ 40-2-109.5(1) (Commission shall develop a policy to establish incentive for consumer distributed generation); -124(1)(e)(III) (REC purchase prices to "be set at 2 levels sufficient to encourage increased customer-sited solar generation"); -127(1)(a)-(b) (in solar gardens law, Legislature identified public interest in further, broader development and deployment of distributed solar).

57 PSCo Initial Comments at 40.

> There are many cross subsidies currently built into rates, apart from solar generation. For example, within the residential class, urban multi-family customers are less expensive to serve than suburban single-family homes. In its 2009 rate case, Public Service noted the existence of cross subsidies but argued against complex remedies. The type of cross subsidy concerns Public Service has raised in this proceeding relate not only to distributed solar generation but also to any instance when a customer reduces their energy usage, as through energy efficiency, conservation or even lifestyle changes. While many customer actions can result in a decrease in electricity consumption, solar is an easy target for additional fees or unique rate structures addressing possible cross subsidies because buildings with solar are easily identified.[58]

A finding like the one suggested by PSCo requires a full cost-benefit analysis, not an incomplete summary of cherry-picked costs.

In its argument for these proposed findings, PSCo does not even attempt to harmonize the utility's cost considerations or class differences with the clear statutory and legislative goals to incentivize solar distributed generation and set the definition of net metering. Section 124 and Amendment 37 express an obvious preference for the increased proliferation of solar distributed generation: any consideration of the utility's rate or changes to the net metering structure should be consistent with these principles. The legislature and the voters have implemented measures and clear mandates to incentivize solar distributed generation, which PSCo attempts to disregard.

As noted above, and in previous filings, Section 124 can only be read to provide one-for-one net metering credit based on the kilowatt hours exported and consumed. If the Legislature meant to apply an avoided cost standard to net metering, it could and would have done so. It did not. PSCo cites to the Public Utility Regulatory Policies Act of 1978 ("PURPA") for the proposition that a rate should be based on a utility's avoided cost, but this ignores the fact that both Amendment 37 and Section 124 were enacted after PURPA and with knowledge of PURPA's requirements. The people and Legislature deliberately chose different language than avoided cost and required a different mechanism through the net metering requirement. Basic principles of statutory construction require reading the statute to go further than the PURPA requirements already in existence.[59] Reading the different terms of the net metering provision in Section 124 to mean nothing or little more than PURPA would effectively render it a nullity, a result that would be clearly contrary to Colorado law.[60]

In sum, using a reasonable methodology will show net benefits for solar distributed generation and not net costs. In addition: (1) the Legislature anticipated that there could be some net costs or benefits when it mandated the simple tool of net metering in Section 124 and directed the

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[58] WRA Additional Comments at 7-8.

[59] *See Martin v. People*, 27 P.3d 846, 852 (Colo. 2001)(for the proposition that a specific statutory provision governs over a general provision); *Smith v. Colo. Motor Vehicle Bd.*, 200 P.3d 1115, 1118 (Colo. App. 2008)(same).

[60] Colo. Rev. Stat. § 2-4-201; *A.S. v. People*, 312 P.3d 168, 171 (Colo. 2013)("We do not presume the legislature uses language idly, with no intent that meaning should be given to it.").

Commission and utilities to maximize the use of distributed solar to the maximum extent practicable, (2) any costs come with long term benefits to ratepayers from long-term avoided costs (including avoided generation, fuel, transmission, distribution, emissions and other costs) and provide generalized benefits to the public interest directed by the Legislature, and (3) net metering is not the mechanism by which any concerns about cost shifts can be addressed due to the unambiguous mandate from the Legislature and the voters of Colorado.

C. Including Net Metering in the RESA Accounting Would Be Contrary to the RES Statute and Would be Contrary to the Established Policy Favoring Solar Distributed Generation

PSCo asks the Commission to make a fundamental shift in RESA accounting and Commission rules to run alleged net costs from net metering through the RESA account. PSCo's proposal is inconsistent with both the plain language of the statute and sound policy.

Any net metering costs (or benefits) are not subject to the two percent rate limitation or the RESA accounting under Section 124. Under Section 124(g)(I)(A), the Legislature made clear that: "the commission shall establish a maximum retail rate impact for this section *for compliance with the electric resource standards* of two percent of the total electric bill annually for each customer."[61] And, in Section 124(c), the Legislature was explicit that the "electric resource standards" are the percentage requirements for eligible energy resource acquisitions based on total electric sales.[62] The net metering requirements in Section 124(e) are outside of and different from Section 124(c)'s "electric resource standards." Section 124(e) carefully separates the net metering provisions from the acquisition of RECs that can be used to comply with the "electric resource standards." Because the plain language is unambiguous, Section 124 cannot be read to include net metering costs or benefits in the RESA.

The plain reading of Section 124 is reinforced by other provisions in the retail rate cap section of the statute. Under Section 124(g)(I)(B), the Legislature provided that "[i]f the retail rate impact does not exceed the maximum impact permitted by this paragraph (g), the qualifying utility may acquire more than the minimum amount of eligible energy resources and renewable energy credits required by this section." It is telling that the enabled action is the acquisition of eligible energy resources and RECs, not alleged lost revenues relating to net metering. Net metering is separate from the RES, as defined in the statute, and thus not subject to the rate cap or RESA.

The Commission should also consider the full implications of PSCo's proposal. If the Commission now or at a future time agrees with other states that have recently found that net metering provides net benefits to the system, would these net benefits be credits to the RESA account and further expand the RESA balance available for renewable resource acquisition? Further, if the Commission finds that the statute requires the inclusion of alleged net metering costs in the RESA account, would a full retrospective analysis be required to recalculate caps and RESA balances since the passage of the Colorado RES? How would this work and what are the implications for the Company, contracts for energy acquisition and ratepayers? The State has been working with a settled regulation that did not include net metering costs or benefits in the

[61] Colo.Rev.Stat. § 40-2-124(g)(I)(A) (emphasis added).
[62] *Id*. at § 40-2-124(c).

RESA account. Changing that approach would be both unlawful and extremely disruptive.

D. PSCo's Attempt to Have the Commission Make Findings on CPCNs for Distribution Projects is Misplaced

PSCo's proposed finding that "expansions of the distribution system will remain exempt" from CPCN requirements is premature and inappropriate in this docket.[63] This proceeding has not dealt in depth with the issue of distribution system or project planning (other than to identify the need for improvements), and any Commission finding on it is unnecessary. There has been little discussion and no focus on whether CPCNs, enhanced planning requirements, or other alternatives would be most appropriate to improve planning of distribution facilities.

To the extent the Commission considers this issue in this docket, we believe more and better planning and oversight of distribution decision-making is necessary. There is great promise in WRA's proposal for "[a]n integrated distribution grid planning process consider[ing] demand side management, demand response, distributed solar generation, battery storage, electric vehicles, and other technologies as they come available to help provide least-cost solutions for grid investments."[64] This approach would help implement our proposal for a Colorado Solar Plus initiative. WRA's approach would provide more oversight into the distribution network, which will be of utmost importance if solar DG is to continue growth into the future, but still allow PSCo some flexibility in overall planning and siting. However, the precise mechanism is best left for another docket and more focused consideration.

VII. OCC'S ANALYSIS OF SOLAR BENEFITS AND COSTS LACKS CREDIBILITY AND IS CONTRARY TO THE INTERESTS OF RESIDENTIAL RATEPAYERS.

We are surprised at the OCC's unbridled attack on solar, particularly since OCC did not participate in the panel workshops in this proceeding, and its constituents support the right to choose rooftop solar[65]. To support its views, it sets forth a primary guiding principle that can only be read as blatantly discriminatory.

The Commission held four well-publicized and well-attended panel discussions over the past eleven months beginning on July 24, 2014 and the last one concluding on April 23, 2015. The OCC did not seek to participate in any of the four panels hosted by this Commission. Despite the lack of participation, OCC comes forth with comments relying primarily on PSCo's testimony and exhibits in the Solar*Connect docket (which was rejected by the Commission in December of last year), and not from material presented in the four panel workshops in this

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63 PSCo Initial Comments at 40.

64 WRA Additional Comments at 19.

65 It seems odd that the OCC seeks to limit the choice of its constituents when over 24,000 customers have already made that choice and solar remains as popular today as a rooftop resource as it was in 2004. During the 2014 RES Plan (Docket No. 13A-0836E), the progenitor of this proceeding, a poll conducted by Public Opinion Strategies and Keating Research on November 17-19, 2013 found that 78 percent of Colorado voters supported net metering and 75 percent opposed the changes PSCo was proposing to net metering. *See* http://allianceforsolarchoice.com/wp-content/uploads/2013/12/CO-Solar-Poll-Release-Memo-2013.pdf

proceeding. The OCC regularly participates in proceedings before the Commission, and we do not understand why it did not participate in the panel discussions to express its apparently strongly held anti-solar views.

The OCC is charged with protecting residential, small business, and agricultural customers. These are the very people who voted to pass Amendment 37 in 2004, including a distributed solar component and net metering.

OCC describes its guiding principles in its comments as (1) [e]liminating subsidies and ensuring that net-metered customers pay for their fair share of fixed costs,[66] and (2) transparency.[67]

OCC guiding principle (1) has two parts and it is unclear whether OCC is in support of eliminating subsidies generally, or only eliminating what it perceives to be a subsidy granted to the 1.7 percent of PSCo's customers that host net-metered solar generation. We believe most stakeholders support the elimination of subsidies, at least conceptually, but is the OCC working equally hard to change residential rate structures overall, rife with cross-subsidies as great or greater? For example, it is well known that higher usage customers contribute more towards the fixed costs of the utility, and lower usage customers contribute less, and urban customers cost less to serve than their rural counterparts. Yet there is no rate differentiation: customer class returns on equity are frequently non-uniform, extended time periods between rate design proceedings skew appropriate cost allocation and rate design, and socialized distribution costs is the norm rather than customers paying for the actual distribution costs that serve them. There is no way of knowing whether these differences in fixed-cost contribution are appropriate short of a separate cost of service determination for each possible sub-segment. There are also DSM programs, low-income programs and economic development rates that create differences in allocated cost and revenue recovery, but serve a public policy purpose.

We would be well served to recall the trade-off between accuracy and simplicity noted by Dr. Bryan Hannegan of NREL in discussing the solar value and benefit methodologies in NREL's report in the second panel. Such compromises occur throughout rates and regulation, and it is entirely unclear why the OCC singled out residential solar customers as needing to be treated differently than other customers in the residential class that are charged on the basis of usage and cost of service.

OCC's very simplistic examples do not provide any level of accuracy or comprehensiveness upon which the Commission could rely. Instead, its examples only show that when a customer taking service under an energy-based rate reduces consumption, revenue to the Company also decreases. We do not take issue with this point. We do, however, take issue with singling out residential net metered customers (ignoring commercial net metering customers) simply because they reduce their consumption through a particular behavior (distributed solar generation) that the OCC does not like.

It is important to consider the corollary to customers who reduce consumption, *i.e.*, those that increase consumption. If a customer that reduces consumption is burdened with additional costs,

[66] OCC Comments at 12
[67] OCC Comments at 13

shouldn't a customer that increases consumption receive bill credits to account for the increased contribution to fixed costs? For example, a Nissan Leaf requires about 30 kWh for each 100 miles driven.[68] For a car typically driven 12,000 miles per year, the electricity requirements are a little over 3,600 kWh per year, or 300 kWh per month. This is a nearly 50 percent increase in consumption for a typical household. To our knowledge, however, OCC has not proposed that these or similar customers receive a credit for over-contributing to fixed costs due to increased consumption. Instead, OCC seems to simply be preoccupied with attempting to justify the highest additional costs on residential solar customers. In other words, "heads I win, tails you lose." This is unfair to the significant base of residential customers that either currently have distributed solar or that may want to install on-site solar in the future.

OCC's anti-solar bias is also belied by its lack of concern about subsidies that may flow in the reverse direction, *i.e.*, in which solar customers within a class are providing benefits to other non-solar customers within that class. For example, OCC does not advocate that commercial customers with solar should receive a rate adjustment in their favor.

Additionally, OCC's recommendations go beyond the scope of this proceeding. This miscellaneous proceeding was opened to consider the issues of retail renewable distributed generation and net metering: (Decision No. C14-0294, Ordering paragraph 1). Thus, OCC's comments about utility-scale solar and others that are off topic should be disregarded.

Finally, OCC makes the somewhat strange statement that "[i]f society desires more solar, utility-scale solar provides an alternative to large amounts of rooftop solar." *Society* is not a person making a choice, but rather a group of people, and a large one at that. Indeed, society made a choice when it passed Amendment 37 and the subsequent increases to the RES and the distributed generation standard. Customers have a right to use less grid-supplied electricity than they have in the past, regardless of how that goal is accomplished. This is the basic right and freedom of self-determination that OCC ignores to the detriment of Colorado residential ratepayers who have clearly demonstrated a desire to have a choice in their electricity supply.

VIII. CONCLUSION

The On-site Solar Industry reiterates its appreciation for the Commission opening this proceeding. For the reasons set forth above, we encourage the Commission to reject the "findings" proposed by PSCo and make the following decisions in this proceeding:

- Maintain the current structure of net metering.
- Issue policy guidance in this docket to shape discussions and outcomes in future dockets.
- Initiate a rulemaking to establish a standard methodology for determining solar benefits.
- Require utilities to apply the methodology transparently when proposing any changes to net metering policy, rates, electric resource plans, or planning decisions.

[68] Source: U.S. Department of Energy, http://www.fueleconomy.gov/feg/PowerSearch.do?action=noform&path=1&year1=2014&year2=2016&vtype=Electric

- Conduct an independent study when solar DG penetration reaches 5 percent to determine if additional changes to policies and rates are needed.
- Grandfather then existing net metering customers from any prospective changes to solar policies or rates.

Respectfully submitted this 5th day of June, 2015.

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CERTIFICATE OF SERVICE

I hereby certify that on this 5th day of June, 2015, the **ON-SITE SOLAR INDUSTRY REPLY COMMENTS BASED ON THE COMPLETION OF FOUR PANEL DISCUSSION MEETINGS** was filed with the Colorado Public Utilities Commission in Docket No. 14M-0235E, and a notification was e-mailed to each of the following:

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