BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Create a Consistent Regulatory Framework for the Guidance, Planning, and Evaluation of Integrated Demand Side Resource Programs.	Rulemaking 14-10-003 (Filed October 2, 2014)

OPENING COMMENTS OF THE CALIFORNIA EFFICIENCY + DEMAND MANAGEMENT COUNCIL ON THE PROPOSED DECISION ADOPTING COST-EFFECTIVENESS ANALYSIS FRAMEWORK POLICIES FOR ALL DISTRIBUTED ENERGY RESOURCES

Dated: April 15, 2019

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The California Efficiency + Demand Management Council (the "Council") respectfully submits these Opening Comments on the Proposed Decision Adopting Cost-Effectiveness Analysis Framework Policies for All Distributed Energy Resources (the "Proposed Decision") mailed in this proceeding on March 25, 2019.[1]

We appreciate the work by the Administrative Law Judge and Commission staff that led up to the Proposed Decision. We are greatly concerned, however, that the failure to re-open the record to reflect on the changes to our energy system needed to satisfy Senate Bill ("SB") 100[2] and Executive Order ("EO") B-55-18 to Achieve Carbon Neutrality,[3] as well as other inadvertent errors, has resulted in a proposed approach that would substantially harm the chances of achieving California's and the Commission's objectives for the energy sector. We share the concerns expressed in the letter the Council has joined with Advanced Energy Economy ("AEE"), Center for Energy Efficiency and Renewable Technologies ("CEERT") and Natural Resources Defense Council ("NRDC") which is attached as Appendix B to these comments. To redress the errors in the Proposed Decision, and to make needed progress on the path to achieving the Commission's vision for a clean energy future, we request that the Commission take the following actions:

[1] These Opening Comments are timely filed pursuant to the California Public Utilities Commission's ("CPUC" or "Commission") Rules of Practice and Procedure and the instructions accompanying the Proposed Decision.
[2] SB 100 (2018): http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100
[3] EO B-55-18 to Achieve Carbon Neutrality: https://www.gov.ca.gov/wp-content/uploads/2018/09/9.10.18-Executive-Order.pdf

- Commence a series of focused workshops on metrics, including relevant factors to be tested, to develop a cost-effectiveness methodology explicitly designed to align with the Commission's objectives;
- On an interim basis, while workshops are underway, modify the Total Resource Cost ("TRC"), the Program Administrator Cost ("PAC") test, and the Ratepayer Impact Measure ("RIM") test with the Greenhouse Gas Adder values adopted in D.18-02-018, and incorporate the additional changes to balance appropriate costs and benefits in the TRC and Societal Cost Test ("SCT") that are proposed in these comments; and
- Until new metrics are developed and implemented, evaluate the cost-effectiveness of Distributed Energy Resources ("DERs") by applying TRC or SCT, as modified in accordance with these comments, at a one-third ratio and the PAC at a two-thirds ratio, to reduce barriers to private clean energy investment while providing ample consumer protection.

I. BACKGROUND

The Council is a statewide trade association of non-utility companies that provide efficiency, demand response and data analytics products and services in California.[4] Our member companies employ many thousands of Californians throughout the state. They include implementation and evaluation experts, energy service companies, engineering and architecture firms, contractors, financing experts, workforce training entities, and manufacturers of energy efficiency products and equipment. The mission of the Council is to support energy efficiency and demand management policies and programs for all Californians to create sustainable jobs, long-term economic vitality, stable and reasonably priced energy systems, and environmental improvement.

II. SUMMARY

California has repeatedly established world-leading clean energy mandates and climate goals, and in September 2018, after the workshops and comments that the Proposed Decision relies upon, substantially increased its targets through SB 100 and EO B-55-18. Under any circumstances, attaining these goals would require exceptional effort; under present conditions, including increased pressure on rates and increased cost of capital for the investor-owned utilities, the challenges have increased substantially. Decarbonizing the energy sector while increasing reliance on the electric sector, keeping rates affordable, integrating renewables, maintaining grid

[4] More information about the Council can be found at http://www.cedmc.org/. The views expressed by the Council are not necessarily those of its individual members.

reliability and equitably allocating resources will all require extremely efficient use of a diversity of clean energy resources, as well as far more reliance on private investment. The methodologies used to value the various resources options, as well as the Commission's policy objectives, will ultimately determine if California's and the Commission's objectives can be met. Unfortunately, the path outlined by the Proposed Decision appears most likely to veer away from a least cost, reliable, equitable and climate-protective energy system consistent with the Commission's vision, rather than accelerate progress towards it.

The problems center on the proposed use of the TRC as the primary cost-effectiveness test for DERs, which is a poor fit for a clean energy future. The TRC fails to recognize the distinct nature of customer DER investment, or appropriately take into consideration economic, grid integration, grid reliability, climate, environmental, and equity policy objectives. As a result, the Proposed DER Cost-Effectiveness Decision would inadvertently increase the difficulty and expense of achieving those urgent policy goals by undervaluing DERs, reinforcing barriers to private investment, failing to value policy goals, deterring DERs from the scaling to meet the increasing demand flexibility needs, and improperly favoring more expensive alternatives. The factual, legal and technical errors presented by the Proposed Decision includes those listed here and discussed further below:

- Omitting consideration of the comparative value of resources to achieving the Commission's goals for our future energy system, including grid integration, grid reliability, and implementation of SB 100 and EO B-55-18;
- Counting non-energy costs, but not counting non-energy benefits sought by State policies;
- Inhibiting private investment in DERs;
- Effectively establishing the TRC as the only metric of quantitative importance;
- Discriminating against DERs relative to supply-side resources in a fashion that is detrimental to the Commission's objectives; and
- Conflicting with the Commission's intent to develop a credible and robust Common Resource Valuation Methodology ("CRVM").

III. DISCUSSION

The decision before the Commission will determine whether it takes a significant step towards adopting a reasonably optimal CRVM, a tool the Commission intends to keep resource procurement of all types focused on the Commission's goals, or puts that important milestone further out of reach. By addressing the errors discussed below, and ensuring cost-effectiveness

metrics are tailored to its goals, the Commission will substantially enhance the likelihood of achieving its goals- and pave the way to a CRVM that further contributes to success.

1. <u>Omitting the comparative value of resources to achieve energy system goals.</u>

Meeting the Commission's climate, equity and other policies, as well as those set by SB 100 ad EO B-55-18, will require a carefully balanced, well-integrated portfolio of clean energy resources that collectively meet reliability needs. The TRC metric proposed by the Proposed Decision, however, focuses on comparison of a resource's cost with a static marginal cost of electricity, adjusted by greenhouse gas ("GHG") adder. This metric cannot indicate the comparative value of a DER in contributing to energy, reliability and policy needs, particularly in an energy system comprised of dynamic clean energy resources that require far more attention to integration needs. This error will become increasingly problematic as the marginal cost of energy falls, as has been widely expected. The avoided costs used to evaluate DERs must instead reflect the DERs' changing marginal value in contributing to the Commission and the State's carbon, renewables integration, grid reliability, equity and other policy goals. The TRC, as proposed, is simply incapable of guiding selection of the resources needed to meet California's ambitious energy agenda.

The Proposed Decision further errs by failing to re-open the record to consider the impact of SB 100 and EO B-55-18, which set California's landmark goals for 100% clean energy and carbon neutrality by 2045 -- and the role of DERs in supporting these goals, particularly increased need for integrated demand side approaches with flexible loads.[5] These major changes in California's energy horizon will require changes in procurement, and at the very least consideration of changes in the metrics used to evaluate that procurement. As the Integrated Distributed Energy Resource's ("IDER's") cost-effectiveness workshops and the parties'

[5] *See* California Energy Commission, "Deep Decarbonization in a High Renewables Future" at p. 66 ("key renewable integration solutions necessary to contain the costs of high levels of renewable energy on the grid include: 1) increased reliance on flexible loads and demand-shifting, particularly in electric vehicle charging, but also in buildings and industry;") (note: this study postdated the record on which the Proposed Decision relied, and focused on goals in effect prior to SB 100 and EO B-55-18, which significantly increased the challenge ahead by shortening timeframes, adopting a 100% clean energy target, and broadening the scope to the entire economy); *available at* https://www.ethree.com/wp-content/uploads/2018/06/Deep_Decarbonization_in_a_High_Renewables_Future_CEC-500-2018-012-1.pdf

comments predated these initiatives, neither was part of the record on which the Proposed Decision relies.[6] Importantly, SB 100 effectively establishes California's 2030 carbon and renewable goals as a midpoint on the way to their far more ambitious 2045 goals rather than an end of themselves. The need to ensure a proper trajectory on the path to 2045, both with respect to cost and reliability, is likely to significantly change the optimal 2030 portfolio – as well as the planning leading up to it. The Commission should therefore reopen the record to consider whether these new policies merit a change in the proposed cost-effectiveness metrics.

2. Counting non-energy *costs*, but omitting non-energy *benefits* sought by Commission policy

Cost-effectiveness tests should account for both costs and benefits in a symmetrical fashion.[7] Unfortunately, as currently constituted, the TRC attributes excessive costs to DERs, while omitting benefits that are important to achieving California's and the Commission's policy goals.

The TRC attributes virtually all "participant" costs to DERs without considering participant benefits that are typically the basis for participant decisions to implement DERs.[8] Energy efficiency research consistently shows that customers are willing to invest in energy efficiency projects to achieve bill savings as well as a host of non-energy benefits.[9] At the same time as it improperly considers irrelevant costs, the California TRC fails to consider relevant benefits, including benefits required by state law: those non-energy benefits essential to meet the Commission's and California's equity and non-resource policy objectives. Together, these factors result in over-counting costs and under-counting

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[6] The last workshop on cost-effectiveness was held on August 8, 2017 and the last comments on cost-effectiveness in this proceeding were filed on April 20, 2018, while both SB 100 and EO B-55-18 were filed on Sept. 10, 2018: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100 and https://www.gov.ca.gov/wp-content/uploads/2018/09/9.10.18-Executive-Order.pdf

[7] *See National Standard Practice Manual,* Executive Summary, p. viii. (Edition 1, 2017)(the "NSPM"). Since its issuance in 2017, the NSPM has been used in multiple jurisdictions to ensure resource valuation methods are being performed consistently with policy considerations, and cited in many more. *See* NSPM References, https://nationalefficiencyscreening.org/resources/state-references/

[8] Note that the SCT would have the same unfortunate result; the SCT would constitute an improvement, in recognizing benefits that are not considered in the TRC, but not a sufficient solution to address conflicts between the TRC and the SCT and California's energy objectives.

[9] *See*, *e.g.,* PG&E Whole House Program: Marketing and Targeting Analysis. Opinion Dynamics Corporation, 2014. CALMAC ID: PGE0302.05; Energy Upgrade California – Home Upgrade Program Process Evaluation 2014-2015, EMI Consulting, 2015. CALMAC ID: PGE0389.01; Impact Evaluation Report Home Upgrade Program – Residential Program Year 2017, DNV GL, 2019. Each of these studies quantifies the nature of customer investment in energy efficiency programs. In each study non-energy factors, including home comfort, resale value, and indoor air quality among others comprise a majority of perceived customer benefits.

benefits, distorting the value of DERs. Establishing the TRC as the metric for DERs is therefore certain to cause inefficient procurement, with two pernicious results: (1) increasing costs to ratepayers at a time that rising rates are of grave concern, and (2) skewing the value of resources available to build a well-integrated, reliable and cleaner energy future.

Participant investment costs for DERs energy system benefits should be included only to the extent their costs are related to energy or policy benefits, and exceed the costs of alternatives. For example, to the extent investments are made improve comfort, safety, transportation services, property value, productivity, or equipment reliability, those investments should be excluded from the TRC (or SCT) determination. Doing so would significantly improve adherence to basic notions of cost-benefit symmetry- counting costs that confer benefits intended by the program, but not counting costs where the benefits are not targets of the program.

It is equally important to count non-energy benefits that *are* policy objectives, such as air quality and health impacts. Failure to explicitly recognize these benefits (as well as their costs) is certain to result in sub-optimal selection of the resources needed to obtain them- and decrease the likelihood that they will be attained. This omission constitutes legal error: Assembly Bill ("AB") 3995 (1990), for example, mandates the inclusion of "a value for any costs and benefits to the environment, including air quality" in resource valuation.[10] It is also inconsistent with the Commission's own practice in other areas, such as the inclusion of non-energy benefits in certain low-income energy efficiency programs.[11]

The record in this proceeding establishes that non-energy benefits have been effectively deployed in SCT cost-effectiveness evaluations in at least four states and the District of Columbia, collectively providing an extensive and successful track record.[12] In addition, the Commission may take notice of the publicly-available Database on State Efficiency Screening Practices, which provides information regarding state cost-effectiveness screening practices for ratepayer-funded electric efficiency programs, including information on the states that rely on the SCT test.

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[10] Pub. Util. Code § 701.1(c), promulgated by Assembly Bill 3995, (Stats. 1990 Ch. 1475).
[11] *See, e.g.,* the Energy Savings Assistance ("ESA") program addressed in Decision ("D.") 17-12-009.
[12] The record in this proceeding establishes that Arizona, Iowa, Minnesota, Vermont and the District of Columbia have incorporated policy-driven non-energy benefits in their cost-effectiveness calculation, collectively providing an extensive and successful track record. Opening Comments of NRDC, Environmental Defense Fund ("EDF"), Clean Coalition and 350 Bay Area, dated April 20, 2018, at Footnote 11 on page 4 and Comments of EDF, dated March 23, 2017 at pp. 3-4.

While the SCT is imperfect, there is no justifiable reason, as the Proposed Decision suggests, to delay its application for additional testing. As the NSPM suggests:

> "Cost-effectiveness practices should account for all relevant, substantive impacts (as identified based on policy goals,) even those that are difficult to quantify and monetize. Using best-available information, proxies, alternative thresholds, or qualitative considerations to approximate hard-to-monetize impacts is preferable to assuming those costs and benefits do not exist or have no value."[13]

On an interim basis, these shortcomings and errors can at least be mitigated by eliminating costs from the TRC (and the SCT) that are not symmetric with benefits. However, these measures would not provide the necessary framework for progress towards California's overall energy and policy goals, which require greater alignment with California's and the Commission's objectives.

3. Deterring private funding by counting participant DER investment equivalently to ratepayer spending on centralized system costs

To meet California's clean energy goals, aggressive decarbonization targets and other policy objectives at reasonable cost, it will be essential to maximize private clean energy investment. This is especially true at a time that the utilities' cost of capital has risen substantially.[14] The over-inclusion of participant's DER investment costs by the TRC (and the SCT), as discussed above, has the perverse consequence of inhibiting the private investment needed to drive energy sector objectives.

The Advanced Home Upgrade Pathway of Energy Upgrade California ("AHUP") provides a case in point. The table[15] below shows that Pacific Gas and Electric's ("PG&E's") 2017 AHUP program drove nearly $3 in net participant[16] investment for every $1 in program costs. Yet AHUP scores poorly on the TRC due to inclusion of private investment costs. In fact, if AHUP were converted to a zero-incentive informational program at near-zero cost to ratepayers, it would still score well below 1.0 on the TRC. Simply put, any program that

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[13] *National Standard Practice Manual Edition 1, Spring 2017*, Executive Summary, at p. viii..
[14] *See, e.g.* "Southern California Edison Files Request with Federal Regulator to Increase Return on Equity Due to Unique Wildfire Risk" https://www.apnews.com/Business%20Wire/703b70626d70433a9d30edfa6a8ada61. It is of note that this factor was not significant at the time the record was established.
[15] Data in this table was attained from PG&E's 2017 EE portfolio annual CEDARS filing
[16] Notably, this figure excludes free riders.

leverages private capital to drive deep retrofit savings would be non-competitive if valuation is determined exclusively through the TRC. The table also shows the contrast between AHUP and PG&E's 2017 Residential Energy Fitness Program ("REF"), [17] is a "light-touch" program funded almost exclusively through rates.

Program	TRC	PAC	$ Private EE Investment Leveraged per $1 Program Spend*	TRC Benefits/ $1 Program Spend
Advanced Home Upgrade	0.40	1.56	$2.85	$1.56
Res Energy Fitness	0.59	0.59	$0.90	$0.68
2017 PG&E Portfolio	0.88	1.57	$0.03	$1.50

*= Non-Free Rider Net Participant Investment (Including Spillover)/Total Program Spend

Although AHUP delivers more than twice the resource benefits per ratepayer dollar spent than REF, it scores 50% lower on the TRC- again, due to inclusion of participant funding.18 It should be noted that both of these programs serve California's policy and equity objectives, but as discussed above those goals are not valued in the TRC.

In the past the Commission recognized the different roles that private capital plays in demand- and supply-side resources. As D.05-04-051 observes:

> "[S]ince individual customers that participate in DSM resource programs realize direct bill savings, they are generally willing to fund a greater percentage of the investment than non-participating customers. This is not the case for supply-side resources, where all customers are assumed to benefit from the investment equally. . . Hence, unlike on the supply-side, bidders on the demand side may be able to leverage participating customers' private funds to the benefit of all ratepayers."[19]

The perverse disincentive to harness the private investment needed to attain the Commission's energy sector goals amounts to a conflict between the Proposed Decision and the Commission's stated policies and objectives, and significant error. To correct that error for the

[17] We use reference the REF program here solely for illustration purposes, and do not intend any negative judgment on that program.
[18] It should be noted that PG&E merged the REF program with the Middle Income Direct Install program and the direct install interventions are being geared toward underserved and moderate-income customer segments. *See* PG&E Advice Letter 4011-G/5375-E.
[19] D.05-04-051, at Appendix 4.

interim, the Commission should at the least ensure that private funding not associated with California's or the Commission's policy objectives should be removed from the TRC and SCT.

4. Effectively establishing TRC as the only test of quantitative importance for DERs

To mitigate the TRC 's treatment of participant investment as a cost for demand- but not supply-side resources, the Commission has long employed the PAC as part of a "dual test" approach, at least for efficiency. The Proposed Decision deviates from this more balanced approach by proposing the TRC as the "primary" test for DER cost-effectiveness, which due to the structure of the TRC and the PAC would mean that the TRC would effectively act as the *only* test of quantitative importance for DERs.

As a consequence, the Proposed Decision would conflict with California's SPM, which cautions that the perspectives of individual cost-effectiveness tests should not be invoked in isolation:

> "The tests set forth in this manual are not intended to be used individually or in isolation: The results of tests that measure efficiency, such as the Total Resource Cost Test, the Societal Test, and the Program Administrator Cost Test, must be compared not only to each other but also to the Ratepayer Impact Measure Test. This multi-perspective approach will require program administrators and state agencies to consider tradeoffs between the various tests."[20]

To correct this error, and to encourage instead of inhibit private clean energy investment to the benefit of all ratepayers, the Commission should return to weighting the TRC and the PAC. To enable private clean energy investment without unintended penalty, while providing ample consumer protection, we recommend a 1/3 SCT and 2/3 PAC ratio. This ratio should be applied during the interim period, until a resource valuation aligned with the Commission's policies has been adopted.

5. Discriminating against DERs relative to supply-side resources

The failure to properly account for DER costs and benefits, including their non-energy benefits, has real and serious consequences for California's energy customers, as well as for the likelihood of success for California's policy preferences. Imbalances in costs and benefits leads

[20] California Standard Practice Manual, 2001, at p. 6.

to underinvestment in otherwise cost-effective resources, and triggers overinvestment in other resources that, in total, are more expensive choices.

These distortions are likely to deter the Commission's policy objectives in three important ways: First, the selection of more expensive resources needlessly and unjustifiably increases ratepayer costs. Second, the additional investment needed to attain the Commission's policy objectives may become economically or politically infeasible once inefficient investments have been made. Third, these distortions may result in selection of resources that are less capable of achieving environmental, equity, and public health objectives, since the methodology does not explicitly consider resources' relative performance or cost relative to those objectives. Since these distortions are not applied to supply-side resources, they also make DERs falsely appear more expensive to ratepayers by comparison, amounting to unjust and unwarranted discrimination.

The Commission, to better provide for a more cost-effective overall system, should closely examine the metrics applied to both DERs and supply-side resources. A level playing field is essential to ensuring that truly least-cost resources prevail, and that ratepayers can afford the cost of achieving California's and the Commission's policy goals.

6. <u>Conflicting with the Commission's intent to develop a credible and robust CRVM.</u>

The Proposed Decision affirms the Commission's overarching objective to develop a CRVM, and the intent of that metric to fully optimize demand- and supply-side resources to meet system or societal needs.[21] The Proposed Decision conflicts with that objective, however, by espousing metrics that fail to account for those needs.

Ultimately, the Commission can only find least-cost, least-risk paths towards the energy future we all want for California through metrics that actually value California's energy objectives. The CRVM must account for all of the benefits and costs relevant to the Commission's policies, in a symmetrical fashion. To make successful attainment of policy objectives more achievable and affordable, the metrics must apply in a manner that allows for a fair comparison between DERs and supply-side resources. This is the only path compatible with harnessing competition to lower costs and enhance performance, and it is essential to avoiding inefficient procurement at a time when increasing rates threaten investment towards policy goals.

[21] Proposed Decision, at p. 31.

The metrics proposed in the Proposed Decision would detract from development and deployment of a CRVM. We urge the Commission to start the work now on building a strong foundation for a thoughtful CRVM that can be applied without discrimination, enabling DERs to maximize the benefits they can provide to California.[22]

IV. CONCLUSION

The modification of the TRC, PAC and RIM tests to update the GHG adder would improve the status quo, as would deployment of the SCT. These steps would not align resource valuation metrics with California's or the Commission's energy, renewable integration, reliability, equity, climate or other environmental goals, however. The continuing mismatch of the PD's proposed metrics with the Commission's policies would cause underinvestment in the least cost resources, overinvestment in more costly options, and a more difficult, more expensive and unnecessarily risky path to achieving its ambitious energy sector objectives.

The solution is clear. The Commission should proceed with all deliberate speed to develop a CRVM focused on valuation that compares resources to other alternatives on their relative ability to contribute towards meeting the Commission's and California's policies, now including SB 100 and EO B-55-18. In the interim, while a resource valuation approach is developed that aligns with policy goals, the Commission should deploy a further modified TRC or SCT as discussed in these comments, weighted at a one-third to two-thirds ratio with the modified PAC.

Dated: April 15, 2019

Respectfully submitted,

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[22] It is also important that the CRVM be inclusive of DERs serving all customer segments; this will encourage increased attention to the needs of CARE/FERA/DAC customers beyond the ESA program.

APPENDIX A

CALIFORNIA EFFICIENCY + DEMAND MANAGEMENT COUNCIL'S PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDERING PARAGRAPHS FOR THE PROPOSED DECISION ADOPTING COST-EFFECTIVENESS ANALYSIS FRAMEWORK POLICIES FOR ALL DISTRIBUTED ENERGY RESOURCES

The California Efficiency + Demand Management Council (the "Council") proposes the following modifications to the Findings of Fact, Conclusions of Law, and Ordering Paragraphs of the Proposed Decision mailed in R.14-10-003 (IDER) on March 25, 2019 (Proposed Decision).

Please note the following:

- A page citation to the Proposed Decision is provided in brackets for each Finding of Fact, Conclusion of Law, or Ordering Paragraphs for which a modification is proposed.
- Added language is indicated by **bold type**; removed language is indicated by **~~bold strike-through~~**.
- A new or added Finding of Fact, Conclusion of Law, or Ordering Paragraph is labeled as "**NEW**" in **bold,** underscored capital letters.

PROPOSED FINDINGS OF FACT:

4. [53] **~~Because modeling occurring in the Integrated Resource Planning proceeding uses estimates based on the TRC, designating the TRC as the primary test for evaluating the cost-effectiveness of distributed energy resources will facilitate the alignment between the two proceedings.~~ The proposed use of the modified TRC as the primary cost-effectiveness test for distributed energy resources (DERs) is inconsistent with the Commission's economic, environmental and equity policy objectives.**

5. [53] There is **~~no~~ sufficient** evidence to support adoption of the SCT **~~as the primary cost-effectiveness test~~ on an interim basis**. **Until new metrics aligned with policy goals are implemented, the Commission should apply the modified SCT and PAC, on a weighted one-thirds to two-thirds basis, to evaluate DERs.**

16. [54] There is ~~no~~ **sufficient** evidence to ~~**determine how**~~ **adopt** the SCT ~~**should be used on an interim basis**~~ in evaluating distributed energy resources**, as part of the process of** ~~**or whether and how it can evolve**~~ **evolving** toward the Common Resource Valuation Method.

17. [55] ~~**Adopting the SCT for testing in the Integrated Resource Planning proceeding is a prudent approach to learn more about the elements of the SCT.**~~

21. [55] ~~**The data gathered from testing the SCT will allow the Commission to evaluate the elements of the SCT and determine how best they can be used in individual resource proceedings**~~

22. [55] ~~**Testing the SCT through December 31, 2020 should ensure that we have sufficient data to evaluate the elements of the SCT.**~~

23. [55] ~~**An additional year of the pilot is needed to evaluate the information, share the evaluation with parties and allow for comment, and issue a decision on the final elements of the SCT including details of how the Commission will use it.**~~

33. [56] ~~**Because we are adopting the elements of the SCT on an interim basis for testing, it is reasonable to require that the SCT be tested using both the high impact value and the average value.**~~

34. [56] ~~**Requiring the SCT to be tested using both the high impact value and the average value will allow the Commission to compare the outputs of using both values.**~~

36. [56] ~~**The SCT will only be used for planning purposes in the Integrated Resource Planning proceeding during testing.**~~

NEW [58] The TRC metric proposed by the Proposed Decision cannot indicate the comparative value of a DER in contributing to both energy and non-energy policy needs, particularly in an energy system increasingly comprised of clean energy resources.

NEW [58] The TRC attributes excessive costs to DERs and does not count non-energy benefits important to achieving policy objectives.

NEW [58] Over-counting costs and under-counting benefits is likely to cause inefficient procurement that increases energy costs and decreases resources available to invest in a cleaner energy future.

NEW [58] Using the TRC or the SCT in isolation is inconsistent with California's Standard Practice Manual and would inhibit the private investment needed to drive energy sector objectives.

CONCLUSIONS OF LAW:

2. [58] The Commission should **~~designate~~ utilize** the **~~TRC~~ SCT and PAC ~~as the primary test~~ tests on a weighted basis** for evaluating the cost-effectiveness of distributed energy resources **on an interim basis, while tests are developed that align with the Commission's policy objectives**.

5. [59] The Commission should adopt the three-element SCT **~~for informational purposes during a three-year testing and evaluation process~~**.

7. [59] **~~The Commission should use the three-element SCT, for planning purposes in the Integrated Resource Planning proceeding during the testing and evaluation period.~~**

12. [59] **~~The Commission should require the SCT to be tested using the $6.00/MWh value for the interim Air Quality Adder during the three-year pilot.~~**

NEW [60] The Commission should commence a series of workshops on metrics specifically designed to select the resources best suited to attain California's and the Commission's policy objectives for the energy sector.

NEW [60] The Commission should proceed to develop a CRVM focused on valuation that compares resources to other alternatives relative to their ability to contribute to meeting the Commission's and California's policies, now including SB 100 and EO B-55-18.

NEW [60] In the interim, while tests designed to align with the Commission's policies are developed, the Commission should deploy the SCT, weighted at a one-third to two-thirds ratio with the modified PAC.

NEW [60] The Commission, to better provide for a more cost-effective overall system, should closely examine the metrics applied to both DERs and supply-side resources and ensure a level playing field in which the truly least-cost resources will prevail.

ORDERING PARAGRAPHS:

1. [60] Beginning on July 1, 2019, **and for an interim period,** the ~~**Total Resource Cost**~~ **Social Cost Test (SCT)** ~~**test**~~ shall be considered the primary test for all Commission activities, including filings and submissions, requiring cost-effectiveness analysis of distributed energy resources. **During this interim period, the SCT will be weighted at a one-third to two-thirds ratio with the modified PAC test.**

4. [61] ~~**Through December 31, 2020, the Integrated Resource Planning proceeding (Rulemaking 16-02-007) shall test the three-part Societal Cost Test (SCT), as described in Ordering Paragraphs Nos. 5 through 7. Through December 31, 2020, the results of the SCT shall be collected for evaluation purposes of each of the three elements described in Ordering Paragraphs Nos 5 through 7.**~~

5. [61] The Societal Cost Test (SCT) adopted in Ordering Paragraph **1 4** shall include a Social Cost of Carbon value. ~~**During the data collection period (through December 31, 2020), the SCT shall be tested in the Integrated Resource Planning proceeding modeling using two different values for the Social Cost of Carbon: the high impact value and the average value as shown in Table 2 of this decision.**~~

6. [61] The Societal Cost Test (SCT) adopted in Ordering Paragraph **1 4** shall include an Interim Air Quality Adder of $6.00/MWh. ~~**The SCT shall be tested using this value**~~.

7. [61-62] The Societal Cost Test (SCT) adopted in Ordering Paragraph **1 4** shall include a Social Discount Rate of three percent real. ~~**During the data collection period (through December 31, 2020), the SCT shall be tested using both the social discount rate and a value representing the utilities' weighted average cost of capital.**~~

8. [62] The Director of the Energy Division (Energy Division) is authorized to ~~**perform an evaluation of the Societal Cost Test (SCT) and its elements as adopted in Ordering Paragraph Nos 4 through 7. The evaluation shall be performed and completed in 2021, following the data collection period (through December 31, 2020) of Integrated Resource Planning proceeding modeling test results. The evaluation shall include a review of each of the three elements of the SCT: the Avoided Social Cost of Carbon, the Interim Air Quality Adder, and the Social Discount rate versus the utilities' weighted average cost of capital.**~~

~~**The final evaluation report shall include recommendations regarding the three elements of the SCT and how the SCT should be used in decision-making. Energy Division will ensure that parties are provided an opportunity to comment on the development of the evaluation metrics, the evaluation results, and staff recommendations for the SCT and its elements. As part of the evaluation, Energy Division is authorized**~~ to **commence holding workshops** ~~**hold a workshop**~~ in 2019 to **address development of tests that align, as closely as possible, with California's and the Commission's policy objectives for the energy sector** ~~**discuss recommendations for the development of the evaluation, including metrics**~~.

APPENDIX B
Letter from Joint Parties

We write to express our serious concern that California's ability to attain its energy policy objectives would be significantly impaired by the cost-effectiveness approach set forth by the Proposed DER Cost-Effectiveness Decision Adopting Cost-Effectiveness Analysis Framework Policies for all Distributed Energy Resources (the "Proposed DER Cost-Effectiveness Decision"). At a time that energy rates are forecasted to increase, and utility costs of capital are elevated, a cost-effectiveness approach must encourage private clean energy investment, recognize value in the social and equity objectives sought by the Commission and the state, and build flexible demand capacity through distributed energy resources (DERs).

Unfortunately, the primary metric proposed, the Total Resource Cost (TRC) test, as it has been interpreted and applied in California, would have the opposite effect. It treats private investment equivalently to ratepayer spending, assigns no benefits to social policy objectives, and is fundamentally incompatible with a number of California's clean energy and affordability objectives. The approach outlined in the Proposed DER Cost-Effectiveness Decision would needlessly increase both the costs and the difficulty of attaining a least cost, reliable, equitable and climate-protective energy system—and would inhibit acquisition of the increased quantity and diversity of clean energy resources California will need to satisfy SB 100 and Executive Order B-55-18, both of which took effect after the record was completed. Resource valuation using metrics that are misaligned with important policy requirements results in underinvestment in essential long-term priorities, and triggers overinvestment in other resources that, in total, are

more expensive to ratepayers. Once the wrong investments in our energy system have been made, policy goals may become unreachable for both economic and practical reasons. A transparent process to align metrics with objectives is required for success, and the work should begin immediately.

We support the Commission's intent to develop a Common Resource Valuation Method (CRVM), a tool intended to keep resource procurement of all types focused on the Commission's goals. The Proposed DER Cost-Effectiveness Decision would unfortunately frustrate that intent, entrenching an approach that cannot succeed as proposed, rather than progressing towards metrics capable of realizing the Commission's vision. Ultimately, the question that must be asked through the CRVM, and under any other metrics applied to DERs, is not whether a resource is competitive with conventional resources plus a greenhouse gas adder, but rather how the resource compares with other options that could be used to achieve an energy system satisfying the Commission's policies, and lay the foundation for achieving SB 100 and EO B-55-18 targets. We cannot hope to select the resources needed to create that energy system if the valuation metrics are not designed, from the outset, to achieve the Commission's and the state's objectives.

The proposed use of the modified TRC as the primary test for DERs, particularly combined with the deferral of the SCT, is simply inconsistent with the economic, environmental and equity policy objectives of the state and the Commission. The many factual, legal and technical errors in Proposed DER Cost-Effectiveness Decision are material, and include:

- Omission of the comparative value of the resource to achieving the Commission's goals for our future energy system, including implementation of SB 100 and EO B-55-18;
- Counting private capital investment in DERs against their cost-effectiveness, creating a perverse disincentive for private investment that is particularly harmful as the utility cost of capital has increased;
- Lack of consideration of non-energy benefits relevant to the Commission's and California's policy goals;
- Undue reliance on the TRC, which formalizes priorities inconsistent with California's clean energy and affordability vision;
- Omission of significant cost savings resulting from reduced energy use subsidies; and
- Inconsistency with the Commission's stated objective of developing a CRVM that can optimize across all resource choices, which would offer the best chance of discerning affordable paths to success for California's energy policy goals.

We are confident the Commission can usher in an energy system that fully meets its policy goals and those of the state, but we are equally confident that the approach contained in the

Proposed DER Cost-Effectiveness Decision would be the wrong road, taking us further from those goals. In this challenging time for California's energy sector, we cannot afford to be making inefficient investments- or to inhibit private investment in our energy future. We therefore ask that the Commission take the following actions:

- Commence a series of focused workshops on metrics specifically designed to select the resources best suited to attain California's energy sector goals;
- On an interim basis, while the workshops are underway, modify the TRC, the Program Administrator Cost (PAC) test, and the Ratepayer Impact Measure test with the Greenhouse Gas Adder values adopted in D.18-02-018; and
- Until the new metrics developed through the workshops are implemented, apply the modified TRC and the PAC, on a weighted basis, as well as the SCT to evaluate DERs.

The Commission has outlined an ambitious agenda for California's energy future, which we fully support. By taking these actions, the Commission can avoid unnecessary and unwelcome barriers, and make confident progress towards realizing its vision.

Sincerely,

Coley Girouard, Principal
Advanced Energy Economy

Arthur Haubenstock, Executive Director
California Efficiency + Demand Management Council

V. John White, Executive Director
Center for Energy Efficiency and Renewable Technologies

Mohit Chhabra, Senior Scientist
Natural Resources Defense Council