

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE
STATE OF CALIFORNIA



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Order Instituting Rulemaking to Consider
Distributed Energy Resource Program Cost-
Effectiveness Issues, Data Access and Use, and
Equipment Performance Standards.

Rulemaking 22-11-013
(Filed November 17, 2022)

**CENTER FOR BIOLOGICAL DIVERSITY,
THE PROTECT OUR COMMUNITIES FOUNDATION,
350 BAY AREA, AND
CLEAN COALITION
OPENING COMMENTS ON PROPOSED DECISION
ADOPTING THE SOCIETAL COST TEST**

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June 13, 2024

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ADOPTING THE SOCIETAL COST TEST**

Pursuant to Rule 14.3 of the Commission’s Rules of Practice and Procedure, the Center for Biological Diversity (“Center”), The Protect Our Communities Foundation (“PCF”), 350 Bay Area and Clean Coalition submit these opening comments on the Proposed Decision (“PD”) Adopting the Societal Cost Test (“SCT”). Recommended changes to the PD are included in the Appendix.

I. THE COMMISSION SHOULD REVISE THE PD TO INCORPORATE THE FOLLOWING COMMENTS.

A. The PD Correctly Adopts the Societal Cost Test and Requires Its Use in All DER Proceedings.

The Center, PCF, 350 Bay Area and Clean Coalition concur with the PD that Public Utilities Code § 701.1 requires the Commission to adopt the SCT.¹ As discussed below, however, the Commission must over time add additional factors, including those currently being

¹ PD at 3.

assessed by the Energy Commission (“CEC”) in its Order Instituting Informational Proceeding on Non-Energy Benefits and Social Costs (24-OIIP-03). Those additional factors include water quantity, water quality, resilience, local economic development, and avoided land use impacts.

The Center, PCF, 350 Bay Area and Clean Coalition further concur with the PD that the SCT must be used in all DER proceedings.² This is a promising first step to meet the plain language and intent of section 701.1(c), but as discussed in the next section of this comment, the Commission should determine how the SCT could be used alongside an adequate Total Resource Cost (“TRC”) test as the primary determinants of cost-effectiveness in all Commission proceedings in order to minimize the costs to society.³

B. The PD Should Be Revised to Direct, As a Next Step, the Commission to Determine How the SCT Can More Fully Inform Resource Procurement and Investment Decisions.

The informational use of the SCT in all DER proceedings is a significant step forward, but still falls short of informing cost-effectiveness determinations to drive planning and investment decision-making, as required by section 701.1(c): “[i]n calculating the cost-effectiveness of energy resources . . . the commission *shall* include . . . a value for *any* costs and benefits to the environment, *including* air quality.”⁴ To meet the plain language and statutory intent of section 701.1(c), the Commission should adopt the SCT as a primary cost-effectiveness test, alongside the TRC test. Nevertheless, it makes sense to adopt the SCT for use in all DER

² See e.g. PD at 25.

³ See also SB 350 Low-Income Barriers Study, Part A (December 2016) at 5, available at https://assets.ctfassets.net/ntcn17sslow9/3SqKkJoNIvts2nYVPAOmGH/fe590149c3e39e51593231dc60e0eeff/TN214830_20161215T184655_SB_350_LowIncome_Barriers_Study_Part_A_Commission_Final_Report.pdf. (Establish common definitions of non-energy benefits, develop standards to measure them, and attempt to determine consistent values for use in *all energy programs*.)

⁴ Cal. Pub. Util. Code § 701.1(c) (emphasis added). See also, *Cacho v. Boudreau*, 40 Cal. 4th 341, 352 (2007); *People v. Guzman*, 8 Cal. 5th 673, 682 (2019) [agency must “give effect wherever possible to every word” of a statute].

proceedings for informational purposes at this stage while the Commission, in conjunction with the CEC, corrects the omission of significant electricity generation costs in the TRC test, RESOLVE and the SB 100 capacity expansion model.

The PD determines that the SCT could be used to “produce useful results when comparing DER measures to each other.”⁵ We agree. However, the Commission should go further to “minimize costs to society,” by comparing resources with more social costs or local impacts with those resources that present fewer social costs or local impacts. Only then can “using the SCT to guide decision-making . . . mitigate the environmental harms of fossil-based energy production, which have disproportionately impacted low-income and disadvantaged communities.”⁶

In order to adequately determine any potential impacts on rates of selecting energy resources that minimize impacts to public health and the environment, however, the Commission and the CEC must also remedy the TRC test inputs, and other cost-effectiveness determinants, including RESOLVE and the SB 100 capacity expansion model.

The TRC test is required to measure benefits of avoided supply costs, which “should be calculated using net program savings, savings net of changes in energy use that would have happened in the absence of the program.”⁷ In theory, “*all* equipment costs, installation, operation and maintenance, cost of removal (less salvage value), and administration costs, no matter who pays for them, are included in this test.”⁸ This includes subsidies and incentives.⁹

⁵ PD at 11.

⁶ *See* PD at 23.

⁷ California Standard Practice Manual at 18.

⁸ *Id.* (emphasis added).

⁹ *Id.*

However, that is not the case in practice with the TRC test, which, as the record of this proceeding demonstrates, includes artificially low avoided transmission and distribution costs.

Moreover, the Commission and CEC should also determine whether the TRC test and RESOLVE consider the full capital, operation and maintenance costs (including state and federal incentives and subsidies) of biomethane produced from concentrated animal feeding operations' waste, biomass, hydrogen, carbon capture sequestration and utilization, and other combustion resources, including pipeline costs and a full lifecycle assessment of other costs.

Until the Commission determines the actual avoided transmission and distribution costs, and fully accounts for the costs of other non-DER energy resources, it is simply impossible to determine any potential rate impacts of selecting a socially and environmentally responsible energy portfolio. In other words, California does not currently have an accurate baseline of energy costs.

Therefore, for now, informational purposes suffice, and as the PD notes, can also assist in meeting certain ESJ Action Plan goals.¹⁰ The Commission must, however, also commit to remedying the omissions in the TRC test and RESOLVE, establish an adequate baseline to draw conclusions, and then at that point, adopt the SCT as the primary test alongside an adequate TRC test to fully meet the plain language and intent of section 701.1(c).

C. The PD Should be Revised to Ensure that the Commission's Iterative Process to Refine SCT Input Values Include Additional Inputs and Incorporate the California Energy Commission's Anticipated Findings As Soon as Practicable.

The Center, PCF, 350 Bay Area and Clean Coalition concur with the PD that "The values adopted in this decision for the four SCT inputs may be reevaluated during any ACC update

¹⁰ See e.g. PD at 24.

cycle as appropriate, with stakeholders being afforded opportunities to provide comments.”¹¹ However, should the CEC progress its work on NEBs and social costs prior to the next ACC update cycle, the Commission should integrate those findings as soon as practicable and in each proceeding where the ACC is utilized. The CEC is currently examining values for local air quality, water quality and quantity, resilience, local economic development and avoided land use impacts.¹²

Furthermore, the Commission must add additional SCT inputs. Section 701.1(c) requires values for *any* costs and benefits to the environment, *including* air quality. The Legislature did not limit the inquiry of societal costs to *only* air quality. Rather, the Legislature was more concerned that air quality represents but one of *any* costs and benefits to the environment.¹³ The PD states that the IRP process also meets section 701.1(c), “specifically targeting greenhouse gas (GHG) emissions and including an analysis of air quality benefits.”¹⁴ That IRP inquiry, however, is also limited to the minimum threshold of social cost factors required by section 701.1(c).

It is exactly because of this limited inquiry that the staff improperly determined that the SCT would not make a significant impact on stationary source resource procurement. Specifically, while it is conceivable that there is little difference in procurement for solar PV (utility-scale or DER) when considering local air quality *alone*, such selective cherry-picking of a single NEBs factor glazes over the importance of considering NEBs and social costs

¹¹ PD at 25.

¹² See CEC Order Instituting Informational Proceeding on Non-Energy Benefits and Social Costs, available at <https://efiling.energy.ca.gov/GetDocument.aspx?tn=255178&DocumentContentId=90863>.

¹³ See e.g. *Stephens v. County of Tulare* (2006) 38 Cal.4th 793, 801-02 [explaining that statutory interpretation looks to “the plain meaning of the actual words of the law”].

¹⁴ PD at 3.

holistically.¹⁵ For instance, the buildout of utility-scale resources presents significant land use and biodiversity impacts that DERs do not.¹⁶ Similarly, DERs provide greater resiliency benefits compared to the bulk system.¹⁷ Consideration of these other impacts and benefits will certainly produce a different procurement mix.

The Commission should therefore ensure that the SCT process is also an iterative process, where values will be refined over time, and additional inputs will be identified and included. The Commission should modify the PD accordingly.

D. The PD Should Direct the Energy Division to Refine the Local Air Quality Benefit Value As Soon As Possible.

“As is the case generally for cost benefit consideration of renewable energy, there is cause for serious concern that costs are systematically overvalued while benefits are

¹⁵ PD at 10.

¹⁶ See e.g. CEC, Staff Report, Land-Use Screens for Electric System Planning (September 2023) available at <https://efiling.energy.ca.gov/GetDocument.aspx?tn=252354&DocumentContentId=87368> (at 5: “There are several benefits to integrated energy and land-use planning, such as the early identification of issues or barriers to development, increased transparency in decision-making, limiting impacts, more rapid deployment of environmentally and socially responsible renewable energy projects, and guiding transmission planning.”)

¹⁷ Gridworks & GridLAB, *The Role of Distributed Energy Resources in Today’s Grid Transition*, 7-9, (Aug. 2018) available at http://gridlab.org/wp-content/uploads/2019/04/GridLab_RoleOfDER_online-1.pdf; Paul W. Parfomak, *Physical Security of the U.S. Power Grid: High Voltage Transformer Substations*, Cong. Rsch. Serv., June 17, 2014. Numerous studies and reports highlight the climate resiliency advantages of DERs. See e.g. Nat’l Acad. of Science, Eng’g & Med., *Enhancing the Resilience of the Nation’s Electricity System*, Washington, DC: The National Academies Press 108 (2017) available at <https://nap.nationalacademies.org/catalog/24836/enhancing-the-resilience-of-the-nations-electricity-system>; Dyson, M. and B. Li, *Reimagining Grid Resilience: A Framework for Addressing Catastrophic Threats to the US Electricity Grid in an Era of Transformational Change* (2020) available at https://rmi.org/wp-content/uploads/2020/07/reimagining_grid_resilience.pdf; See also Weinrub & Fairchild; Sherry Stout et al., Nat. Renewable Energy Lab., *Distributed Energy Planning for Climate Resilience* (2018) available at <https://www.nrel.gov/docs/fy18osti/71310.pdf>; See also John Farrell, *The New Rules Project, Community Solar Power: Obstacles and Opportunities*, Institute for Local Self-Reliance (2010) available at <https://ilsr.org/wp-content/uploads/files/communitysolarpower2.pdf>

systematically discounted.”¹⁸ Moreover, there can be no standardized value for human or wild life.¹⁹ As leading scholars have explained, “[t]he basic problem with narrow economic analysis of health and environmental protection is that human life, health, and nature cannot be described meaningfully in monetary terms; they are priceless.”²⁰

As our prior comments have emphasized, the SCT’s local air quality value is flawed due to both of these problems, and drastically underestimates the community health and environmental benefits of considering NEBs and social costs. In particular, the SCT air quality adder (“AQA”) improperly reduces local air quality benefits of DERs by utilizing a statewide average for air quality benefits, despite also determining that electrification disproportionately benefits disadvantaged communities (“DACs”).²¹ Certainly, it is well settled that dirty energy resources disproportionately impact DACs. It does not make sense to include a “statewide average” when the harms and benefits of avoiding those harms disproportionately accrue to DAC residents. Averaging the benefits of local air quality forecloses an accurate examination of this public health benefit, and consequently diminishes the local benefits of improved air quality from less polluting resources.

¹⁸ See Center for Biological Diversity, Central California Asthma Collaborative, California Environmental Justice Alliance, Asian Pacific Environmental Network, Greenlining Institute, Local Clean Energy Alliance, Sierra Club California, The Climate Center, the Center on Race, Poverty and the Environment, Clean Coalition, 350 Bay Area, GRID Alternatives, The Protect Our Communities Foundation, the BEEP Coalition, the Local Government Sustainable Energy Coalition, and Environment California, *Petition for Rulemaking to Integrate NEBs and Social Costs into Resource Planning and Investment Decision-Making* (“Petition”) (February 5, 2024) at 26-27, available at <https://biologicaldiversity.org/programs/energy-justice/pdfs/Center-petition-CA-Energy-Commission-Net-Energy-Benefits-02052024.pdf>.

¹⁹ *Id.* at 21-22.

²⁰ *Id.* at 21-24; see also Fran Ackerman and Lisa Heinzerling, *Priceless* (2004) at 8.

²¹ See also CPUC Rulemaking 22-11-013, Center for Biological and The Protect Our Communities Foundation Comments on Societal Cost Test and Air Quality Research Results at 23-25 (April 28, 2023), available at <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M507/K820/507820041.PDF>.

The AQA is also based on the EPA CO-Benefits Risk Assessment Health Impacts Screening and Mapping Tool to “estimate the air quality impacts of natural gas generation,” but then improperly assumes no gas capacity retirement by 2045, despite SB 100’s mandates.²² Of course there is little air quality improvement if dirty resources are not retired, and the Commission is not even examining the local air pollution impacts of other non-fossil gas combustion resources.

Consequently, the Commission should require the Energy Division to update the AQA as soon as possible to reflect the full benefits of not only natural gas retirement, but also other combustion resource retirement in DACs. While we understand the PD’s concern that “today’s modelling techniques are not able to model local air quality impacts,”²³ the Commission should leverage the CEC’s ongoing NEBs and social costs work that is also examining local air quality benefits. Until then, a statewide estimate of the avoided costs of natural gas generation on human health suffices, at least to establish a framework to refine in the future. The Center, PCF, 350 Bay Area and Clean Coalition, however, urge the Commission to make this much needed refinement to address environmental justice concerns as soon as possible, and modify the PD accordingly.

E. The PD Should Include an Updated Social Cost of Carbon.

As the PD recognizes, “[r]ecent scientific research and studies show that the social costs of carbon may be similar to *or even greater than* the High SCC value.”²⁴ The PD should be modified to include these greater values.

²² CPUC SCT Evaluation at 14.

²³ PD at 35.

²⁴ PD FoF 24.

The Commission used values for the Social Cost of Carbon and a Societal Discount Rate that were current at the time of the evaluation. However, in November 2023, the Biden Administration issued the final regulation for the Social Costs of Carbon, Methane, and Nitrous Oxide. The EPA 2020 meta-analysis value was \$200 per metric ton of CO₂, above the \$155 “high” value considered in the SCT Evaluation, and well over 3 times the base case of \$53. The mid-point discount rate used in the EPA regulation was 2%, in contrast to the 3% used in the CPUC evaluation.²⁵

This data is readily available, and the PD should be revised to direct the Energy Division to include this greater value as soon as possible. The PD’s concern about potential rate impacts is addressed in the next section of this comment.

F. The Premature Determination that a Socially and Environmentally Responsible Energy Portfolio will Increase Rates Should be Removed from the PD.

The PD states that “[a]ll else being equal (i.e., DER programs being funded by ratepayers through rates), electric rates would increase and electricity would become less affordable, particularly for low-income and disadvantaged customers who spend a higher proportion of their income on energy.”²⁶ The Commission should delete this inaccurate statement. As detailed above, the Commission does not currently have an accurate baseline to determine whether electric rates would increase. “All else being equal” requires two significant and flawed assumptions: first, adequate modeling and optimization that includes all costs of non-DER

²⁵ EPA, *Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances* (November 2023) available at https://www.epa.gov/system/files/documents/2023-12/epa_scghg_2023_report_final.pdf.

²⁶ PD at 10-11.

resources; and second, that DER programs, especially those targeting DAC and low-income communities, are not funded by subsidies.

As noted above, the Commission should first determine whether the TRC test and the RESOLVE optimization model include all of the costs recommended by the Standard Practice Manual. Until then, arguments that DERs increase rates are simply a straw man for the actual question at hand: could a cleaner, and socially and environmentally responsible energy portfolio that avoids environmental injustices also potentially decrease rate impacts? To answer this question, however, it is imperative to conduct a proper accounting of energy costs, and determine a baseline that includes the accurate avoided costs of depending on the bulk system for electricity generation (whether through utility scale renewables or combustion resources, including hydrogen, biomass, biomethane and carbon capture and sequestration). This includes future pipeline infrastructure costs and subsidies. The EPIC program, for instance, has invested—and arguably wasted—hundreds of millions of ratepayer dollars in controversial carbon capture, utilization and sequestration, dairy biomethane, and biomass projects.²⁷

The PD also relies on the flawed assumption that all DERs will be paid for through rates *alone*.²⁸ This ignores private investment, as well as state and federal subsidies, which could all be encouraged or bolstered once the full range of community and environmental benefits of certain energy resources are understood. These additional subsidies are substantial.

For example, in 2018-2020, Energy Efficiency Program Administrators received a budget of \$2.0 billion.²⁹ Expenditures, however, only reached \$1.6 billion “with annual spending levels

²⁷ See e.g. EPIC Database, available at <https://database.epicpartnership.org/projects>.

²⁸ See CPUC SCT Evaluation at 6.

²⁹ CPUC, Report on Energy Efficiency Portfolio Pursuant to PUC Section 913.5 (July 2022) at 14 available at <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/office-of-governmental-affairs-division/reports/2022/2022-cpuc-ee-portfolio-legislative-report.pdf>.

decreasing over time.”³⁰ Almost half a billion ratepayer dollars subsequently reverted to the IOUs, but could have reached the hardest to serve residences with an adequate consideration of NEBs.

Similarly, the federal Environmental Protection Agency (“EPA”) has determined a priority project area for EPA to achieve federal Greenhouse Gas Reduction Fund program objectives and the near-term climate goals of the United States: “Distributed Power Generation and Storage.”³¹ This include “[p]rojects, technologies, or activities that generate and/or store zero-emissions power near to the point of use, instead of in centralized plants. Examples include distributed solar, distributed wind, geothermal, stand-alone energy storage, and community-wide microgrids.”³² EPA has similarly just launched the \$7 billion Solar for All program, with California receiving at least \$250 million.³³

Even so, there are other reasons for rate increases that the Commission should also address, in conjunction with determining an adequate energy cost baseline. As the below chart for one utility (SCE) shows, taking out fixed costs (for instance, the power charge indifference adjustment, or the nuclear decommissioning charge), still reveals startlingly increasing rates due to transmission spending and uncontrolled and unexplained distribution spending.³⁴

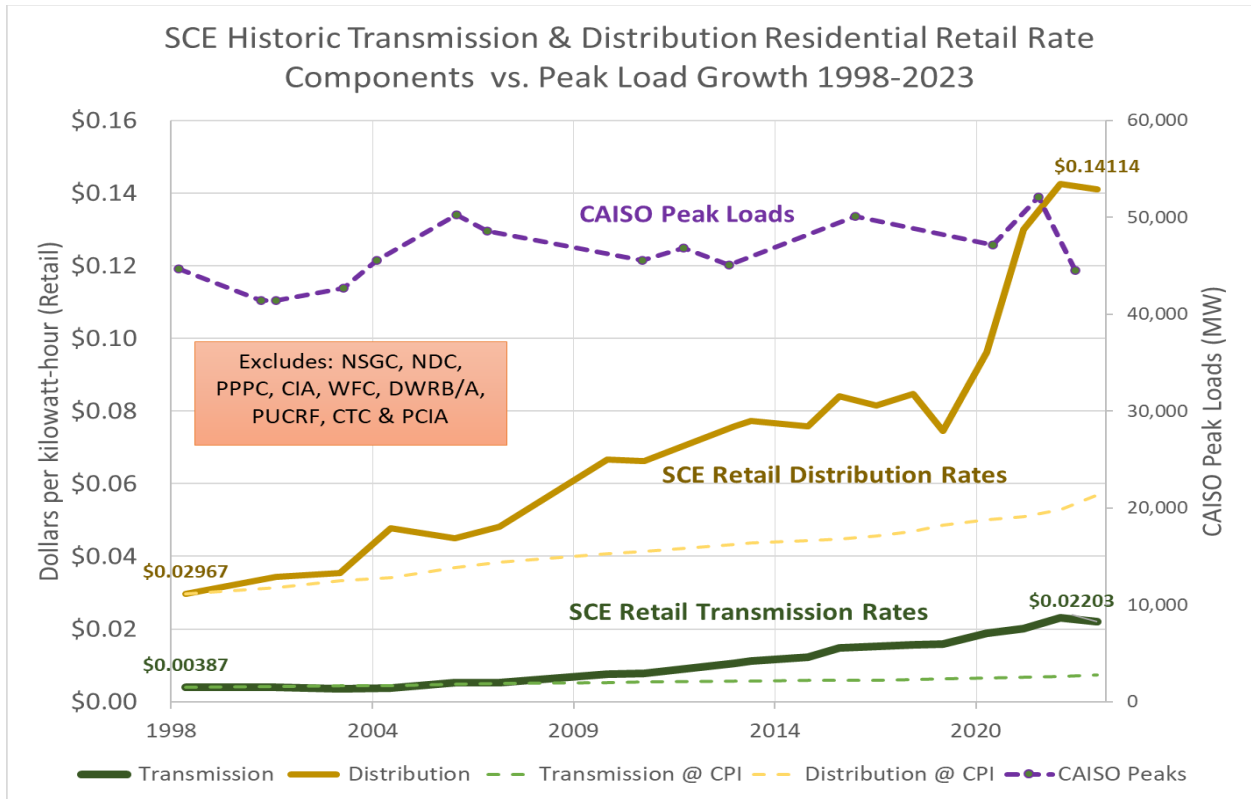
³⁰ *Id.* at 15.

³¹ EPA’s Implementation Framework for the Greenhouse Gas Reduction Fund, *available at* https://www.epa.gov/system/files/documents/2023-04/GGRF%20Implementation%20Framework_730am.pdf

³² *Id.* at 16.

³³ EPA, *Solar for All*, *available at* <https://www.epa.gov/greenhouse-gas-reduction-fund/solar-all>.

³⁴ *See also* San Francisco Chronicle, Opinion, Loretta Lynch, *Here’s the real reason PG&E rates are skyrocketing in California* (April 20, 2024), *available at* <https://www.sfchronicle.com/opinion/openforum/article/california-electric-bills-news-puc-19410274.php>



(Source: Richard McCann, M.Cubed)

There are clearly reasons for rate increases, independent of NEBs and social costs, which DERs can help avoid but which are yet to be adequately reflected in the Commission’s cost-effectiveness tests.

II. CONCLUSION

For the foregoing reasons, the Center, PCF, 350 Bay Area and Clean Coalition respectfully request the Commission adopt the SCT, subject to the modifications proposed in this comment and the appendix.

Dated: June 13, 2024

Respectfully submitted,

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APPENDIX

Findings of Fact

1. Societal Costs are the monetized indirect costs that result from the provision of energy service borne by all members of society, including future generations, and include the costs of adverse health impacts, air pollution, climate change, and other environmental damages resulting from the production of energy.
2. The costs and benefits to the environment, including air quality, are encompassed in the quantification of societal costs.
3. The SCT is designed to incorporate the quantified societal costs and benefits of avoided energy generation, including the costs to the environment and air quality, in measuring the cost-effectiveness of DER programs.
4. The SCT is one of the five cost-effectiveness tests identified in the SPM to assess DER programs.
5. The other four cost-effectiveness tests identified in the SPM are the Participant test, RIM test, PAC test, and TRC test.
6. Pursuant to the IDER Decision, the TRC test, which assesses cost-effectiveness from the perspectives of the program administrator and the program participant, is currently the primary cost-effectiveness test to assess DER programs.
7. The IDER Decision authorized Energy Division staff to perform an evaluation of the SCT in the IRP proceeding.
8. The IDER Decision directed Energy Division to test three inputs of the SCT, which are the societal discount rate, the avoided social cost of carbon, and the air quality adder, and authorized the testing of a fourth input, the methane leakage adder.
9. In January 2022, Energy Division staff issued the Staff Report, with the results of its study on the impacts of using an SCT.
10. The Staff Report shows that using central estimates for ~~all~~ **only** four societal cost components in the SCT leads to minimal changes to the supply-side energy resources and minimal changes to the cost-effectiveness of DERs, except to electrification measures.
11. In January 2022, E3 and APEP jointly published the Air Quality Impact Report, which quantifies the impacts of climate change mitigation and air pollution mitigation policies on the health of people living in California using comprehensive modeling of air quality impacts.

12. The SCT provides the Commission with the critical analyses needed to evaluate, measure, and consider societal costs and benefits when assessing the cost-effectiveness of demand-side energy resources.
13. The adoption of an information-only SCT gives the Commission the flexibility to consider and balance multiple factors and achieve broader social goals, such as those outlined in the DER Action Plan 2.0 and the ESJ Action Plan, when appropriate. **The Commission will consider how to use the SCT test alongside the TRC test as the primary tests for cost-effectiveness as soon as practicable.**
14. The record does not support the claim that the evaluation of societal costs and benefits of avoided generation is only relevant to certain DER proceedings.
15. The SCT is relevant in all Commission activities requiring DER cost-effectiveness analysis.
16. The SPM does not limit the application of the SCT to certain settings.
17. Requiring the SCT across all DER proceedings ensures that societal costs and benefits are considered in all DER proceedings.
18. Requiring SCT results to be submitted across all Commission activities where DER cost-effectiveness analysis occurs ensures that societal costs and benefits are considered.
19. The SCC measures the costs of the damages, discounted to present value, caused by one additional ton of carbon dioxide emitted.
20. Energy Division staff, in compliance with the IDER Decision, tested two values of SCC, the High SCC and the Base SCC.
21. The Base SCC value assumes approximately \$53 (in nominal 2020 dollars) of damages per metric ton of carbon dioxide emitted.
22. The High SCC, which reflects the 95th percentile of possible climate impacts from IWG's modeling, assumes approximately \$144 (in nominal 2020 dollars) of damages per metric ton of carbon dioxide emitted.
23. The Base SCC is currently consistent with values that have been used by the federal government, California Air Resources Board and the National Academies of Science.
24. Recent scientific research and studies show that the social costs of carbon may be similar to or even greater than the High SCC value.
25. Using the SCT results of modelling the High SCC value to guide the approval of demand-side resource programs could lead to increased electric rates and decrease affordability.

26. Adopting both the Base SCC and High SCC values as inputs in the SCT provides the Commission with analyses of a range of societal outcomes and costs.
27. Conducting the SCT with both the Base SCC and High SCC values provides the Commission with analyses of a range of societal outcomes and costs as well as policy options to determine the best societal outcome while balancing ratepayer costs and affordability, and should be updated as soon as practicable to conform to federal standards.
28. The Social Discount Rate is the discount rate used in the SCT model to discount future social costs to the present.
29. A higher discount rate causes future costs to be valued less and a lower discount rate causes future costs to be valued more.
30. The IDER Decision specified testing both the Social Discount Rate of three percent and the utilities' weighted average cost of capital, which was five percent.
31. Recent studies show that the actual social discount rate may be lower than the social discount rates that staff tested.
32. Between the rates that were tested in the study for the Staff Report, which were three percent and the weighted average cost of capital of five percent, three percent is the lower of the two rates.
33. The Base methane leakage adder is derived from IWG's main value stream for the projected social cost of methane, using the national average leakage rate of 2.3%.
34. Because California imports approximately 95% of its natural gas, the total lifecycle leakage rate of methane from the natural gas consumed in California is likely closer to the estimated national average leakage rate of 2.3% of consumption.
35. ~~There is a lack of research on the appropriate value for the methane leakage adder.~~
36. The AQA measures the impact of gas generation on human health.
37. The IDER decision ordered Energy Division staff to test an interim AQA value of \$6.00/MWh in the study and authorized staff to use more robust values in the SCT study if these values become available.
38. Based on the results of the Air Quality Impact Report, Energy Division staff set an updated AQA value at \$14/MWh and tested this updated AQA value in the SCT study.

39. With an AQA value of \$14/MWh, the SCT estimates that the society would incur \$14 in monetized costs of adverse health impact for every megawatt-hour of energy produced by gas generation.
40. Compared to the interim AQA value of \$6/MWh, the updated AQA value of \$14/MWh attributes a higher cost of gas generation impacts on human health.
41. The updated AQA is also more accurate than the interim AQA, because the updated AQA is derived from the most recent air quality modelling.
42. At a value of \$14/MWh, the impact of gas generation on human health is not insignificant and should be evaluated and modelled in the SCT.
43. The AQA value of \$14/MWh is the statewide estimate of the avoided costs of natural gas generation on human health. **This value, however, does not reflect the full benefit of local air quality improvements to disadvantaged communities, which the Commission will assess as soon as practicable and in consultation with the California Energy Commission’s Order Instituting Informational Proceeding on Non-Energy Benefits and Social Costs (24-OIIP-03).**
44. The data results from the Air Quality Impact Report were derived from the most advanced and comprehensive atmospheric transport modeling techniques available and reflect the most updated and accurate estimates of the impacts of climate change mitigation policies on the air quality in California.
45. The data results from the Air Quality Impact Report are reflective of today’s **modelling techniques that are not able to model local air quality impacts**~~-environment~~.
46. The updated AQA value of \$14/MWh is the most up-to-date and accurate estimate available.
47. Under the SPM, federal tax benefits or subsidies are treated as transfer payments from one member within the society to another and are not included as a benefit when calculating the SCT.
48. Under the paradigm of a societal cost-benefit perspective, tax payments or credits are transfers of payments between different members of society that net to zero.
49. Including federal tax benefits in the SCT not only leads to inconsistent modelling and measurement of societal costs and benefits, but also inappropriately favors DERs such that the SCT may determine DERs to be more cost-effective than they are.
50. Section 701.1(c) states that, “in calculating the cost-effectiveness of energy resources, including conservation and load management options, the commission shall include, in addition

to other ratepayer protection objectives, a value for any costs and benefits to the environment, including air quality.”

51. Section 701.1(c) mandates the Commission to consider the costs and benefits to the environment, including air quality, when assessing the cost-effectiveness of energy resources.

51. The appropriate values for SCT inputs, including water quantity, water quality, avoided land use impacts, resiliency and local economic development may change over time.

52. The values and inputs adopted in his decision for the SCT may be re-evaluated and supplemented during any Avoided Cost Calculator update cycle or in a proceeding utilizing the Avoided Cost Calculator, as appropriate and as soon as practicable, and will coordinate with the California Energy Commission’s Order Instituting Informational Proceeding on Non-Energy Benefits and Social Costs (24-OIIP-03).

Conclusions of Law

1. The Commission should adopt the SCT with the following four inputs, **and should be updated as soon as practicable to reflect the benefits of pollution reduction in DACs, and add additional factors including but not limited to water quality and quantity, resiliency and avoided land use impacts as determined by the California Energy Commission, and conform to federal GHG standards:**

(a) Two Values for the Social Cost of Carbon (SCC):

Base SCC = per metric ton values (in nominal 2020 dollars) in the range of approximately \$53 in 2020 and approximately \$81 in 2045

High SCC = per metric ton values (in nominal 2020 dollars) in the range of approximately \$155 in 2020 and approximately \$249 in 2045 (95th percentile of possible climate impacts)

(b) Social Discount Rate of three-percent

(c) Base Value of Methane Leakage (Based on the National Average Natural Gas Leakage Rate of 2.3%)

(d) A Statewide Air Quality Adder of \$14 per megawatt-hour

2. The SCT, described and being considered for adoption in this decision, requires the Commission to use the SCT when calculating the cost-effectiveness of energy resources, ~~and thus complies with the statutory mandates in Section 701.1(c) for the Commission to include environmental values, including air quality values, in resource cost effectiveness evaluation.~~

3. The Commission should adopt the SCT as ~~an information-only~~ a cost-effectiveness test.
4. The Commission should ~~not~~ consider using the results of the SCT as the primary determinant in making cost-effectiveness assessments and funding decisions for DER programs, **alongside the TRC test, as soon as practicable.**
5. **In the interim,** ~~†~~the Commission should retain the TRC as the primary DER cost effectiveness test in making cost-effectiveness assessments and funding decisions for demand-side resource programs.
6. ~~As an information-only cost-effectiveness test,~~†The Commission should review and consider the results of the SCT to assess the cost-effectiveness of DER programs.
7. The investor-owned utilities or program administrators should be required to submit SCT results in all Commission activities requiring cost-effectiveness analysis of DERs, except where expressly prohibited by statute or Commission decision.
8. It is appropriate to maintain the current treatment of federal tax credits and subsidies under the SPM, in which federal tax credits or subsidies are not included in the calculation of the SCT.
9. It is reasonable to use the results of the Air Quality Impact Report to derive inputs in the SCT.
10. **The values and inputs adopted in this decision for the SCT should be re-evaluated and supplemented during any Avoided Cost Calculator update cycle or in a proceeding utilizing the Avoided Cost Calculator, as appropriate and as soon as practicable, and will coordinate with the California Energy Commission's Order Instituting Informational Proceeding on Non-Energy Benefits and Social Costs (24-OIIP-03).**
110. The proceeding should remain open.