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**Data and cost allocation issues for DER in IEPR update**

see attachment

*Additional submitted attachment is included below.*



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350 East Bay  
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California Energy Commission  
Docket No. 22-IEPR-01  
715 P Street  
Sacramento, California 95814-5512  
November 29, 2022

### 350 Bay Area comment on Draft 2022 Update to IEPR

Dear CEC Vice Chair Gunda and Members of the Commission:

350 Bay Area welcomes the attention in the draft 2022 IEPR update to Distributed Energy Resources (DER). California's recent rapid growth in BTM PV and BTM storage as shown in Figures 12 and 13 of the draft confirm the scale and feasibility that these resources can provide.<sup>1</sup> As demonstrated during the extreme heat event in early September 2022, battery storage (throughout the grid) and customers decreasing load in response to flex alerts were key elements of system reliability.

Fundamentally, DER have the potential to help address the upcoming challenges identified in the report—accelerating the transition to renewable energy while meeting increasing demand from transportation and building electrification, keeping electricity affordable, and addressing land conservation. Concretely, optimizing distribution grid PV generation and storage (as well as transmission/utility scale) could save \$120 billion<sup>2</sup> for

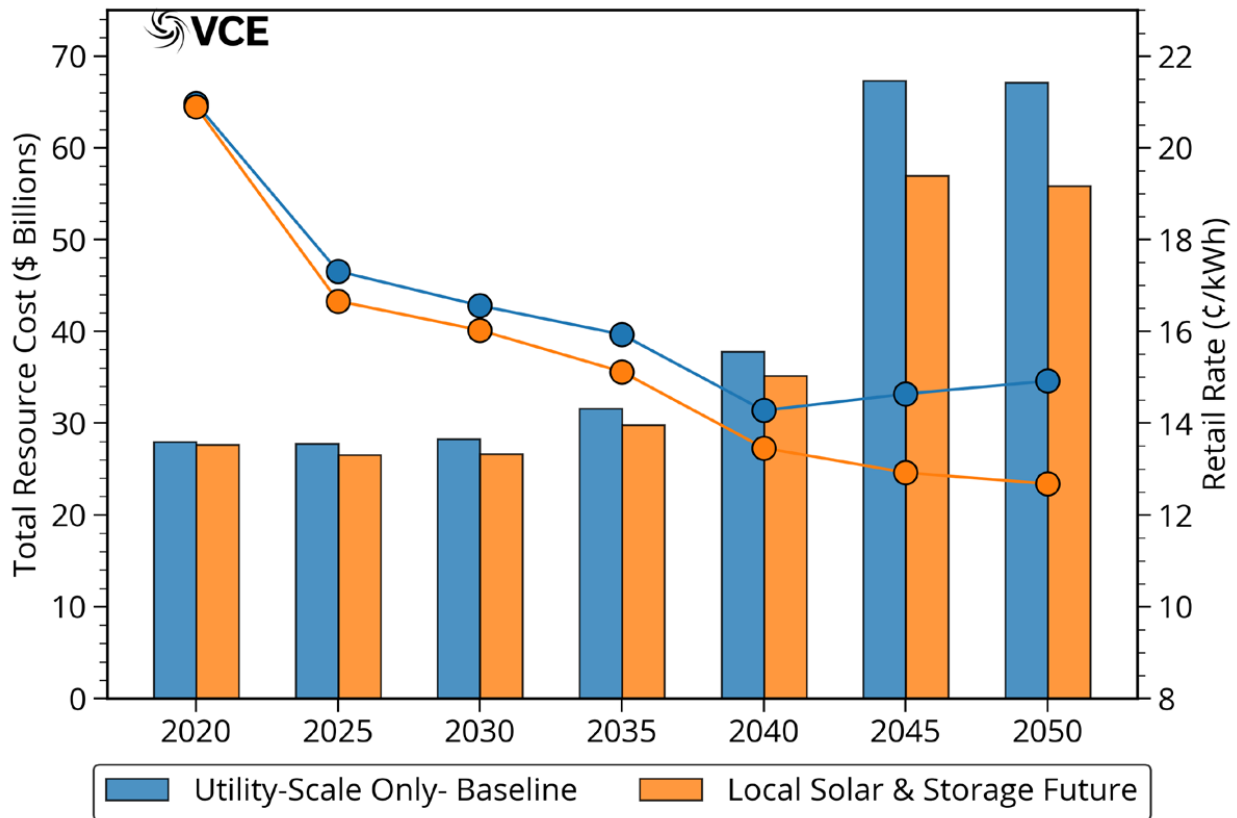
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<sup>1</sup> Draft 2022 IEPR Update Report p 51,52

<sup>2</sup> Note, total ratepayer savings are proportional to implementation, such that 50% optimal utilization would still yield \$60B in savings. Note also that additional non-optimized DER deployment was not modeled but would not be expected to reduce the value of any DER operation contributing toward the maximum optimization scenario.

California by 2050 compared to maintaining the utility scale scenario.<sup>3</sup> Furthermore, electricity rates are projected to go down in the optimized DER scenario<sup>4</sup>. Proactive CEC planning and monitoring is essential if DER are to realize anywhere close to their full potential to support California energy and climate goals.

**\$120 billion cumulative savings (2018-2050) in total system costs from “Local Solar & Storage Future” scenario compared to “Utility-scale Only”**



**Total system cost (bars) and retail rates (solid lines) in California for the two scenarios modeled.**

Our recommendations for the draft IEPR update are in two areas:

- 1) articulate the substantial potential role for DER instead of over-emphasizing the inaccurate “cost shift” narrative
- 2) assure that data about DER are available for accurate planning and tracking.

<sup>3</sup> Vibrant Clean Energy Role of distributed generation in Decarbonizing California by 2045

[https://www.vibrantcleanenergy.com/wp-content/uploads/2021/07/VCE-CCSA\\_CA\\_Report.pdf](https://www.vibrantcleanenergy.com/wp-content/uploads/2021/07/VCE-CCSA_CA_Report.pdf) p6

<sup>4</sup> ibid p 6,7

1) Emphasis on affordability from optimizing DER:

We urge the CEC to revise the section on DER on page 96-98 to reflect the core equity outcome of decreasing household energy costs by decreasing electricity rates for all. As documented in the 2021 CPUC White Paper on Affordability and Equity, the major cost drivers of California's increasing electricity rates are increasing spending on transmission, distribution infrastructure, and wildfire mitigation and liability costs.<sup>5</sup> Achieving optimal targets for DER can right size investments in transmission and distribution spending, decreasing rate increases for all, which promotes equity and beneficial electrification. However, reducing increases in transmission and distribution infra-structure costs will limit the 11% plus Return On Investment that investor owned utilities make on their transmission and distribution spending. The unrelenting emphasis by the IOU's on a "cost shift" to non-participants is a dangerous distraction which masks the potential ratepayer savings of a DER optimized scenario; the CEC should assert a forward looking, accurate, and independent perspective.

An accurate presentation would focus on appropriate "cost allocation" among **all** ratepayers of a right-sized revenue requirement, a core responsibility of rate design. Since DER can decrease electricity consumption (energy efficiency, conservation) or decrease peak load through storage and demand flexibility, this inherently reduces participant payment to the investor owned utilities. *It is a feature, not a bug*, and is consistent with California's Loading Order<sup>6</sup> and climate policy. To present it as a challenge to be fixed is illogical– in the draft, **four** of the 10 challenges for optimizing DER listed on pages 97-98 reiterate "cost shift" to non-participants and incentives to DER owners as challenges<sup>7</sup>, rather than the desirable result of meeting California's

<sup>5</sup> CPUC. UTILITY COSTS AND AFFORDABILITY OF THE GRID OF THE FUTURE AN EVALUATION OF ELECTRIC COSTS, RATES AND EQUITY ISSUES PURSUANT TO P.U. CODE SECTION 913.1 May 2021

<sup>6</sup> <https://www.cpuc.ca.gov/irp/> "These [procurement] plans must adhere to State Policies, including the Loading Order, which mandates that energy efficiency and demand response be pursued first, followed by renewables and lastly clean-fossil generation."

<sup>7</sup> Draft report p97-98

"There are many challenges that must be addressed to make the energy transition in a way that optimizes the role of DER in California's energy future, including: ....

- How can the state **ensure** that policies that promote DER adoption do not result in additional **costs and rate increases for nonparticipating households**?
- How can the state equitably **wind down prior DER incentive structures** to align DER incentives with grid needs, rate stability, and promote electrification efforts? ...

preferred resource Loading Order, or allocating costs proportionate to use and related cost causation. (Note to editors: one of the four challenges mentioning cost-shift is a duplicate of a previous challenge....) Cost allocation must be addressed—but CEC should emphasize allocation consistent with cost causation and remove the assumption that “cost shift” to non-participants should be a primary focus - where a customer increases or decreases consumption it is *appropriate* for cost allocation to shift proportionately. Would the CEC assert as a “challenge” that energy efficiency, conservation, or other customer actions mitigate growth in demand? Would the CEC consider as a principle that rural residents should have electricity service with no cost-shift to urban dwellers?

Recommendation: DER potential for affordability

Reconfigure challenges for DER to encourage appropriate cost allocation. Urge consideration of benefits to all participants, rather than the current focus on the “cost shift” to non-participants.

## 2) Data availability for monitoring and planning

We look forward to the implementation of the California Energy Planning Library as described in the draft report. The CEC plays an essential role as a reliable source of accessible data documenting California's progress toward its energy policy goals. This is particularly important for realizing the value of DER, given rapid progress in technologies, the potential transformation of the energy system from a centralized top down generation model to a more distributed energy ecosystem, and the complicated nature of energy policy making across multiple legislative and administrative bodies in California. We hope the California Energy Planning Library working with CEC staff can

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- How must the state encourage DER deployment and capturing potential DER value, while **ensuring** the potential costs associated with DER deployment are **not shifted to non-DER customers?** ....
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have as a primary organizing principle: 'Obtaining and making available the data needed for documenting progress'.

For example, California has been charged by the legislature to reach Additional Achievable Energy Efficiency (AAEE) and SB 350 doubled a target for AAEE which would reach a total of over 80,000 gigawatt-hours annual electricity savings through 2030. Initially the CEC provided information to track this, but we could not find recent information about progress toward this goal.

As another example, we recently tried to establish what proportion of California PV capacity has been installed on the distribution grid. The fragmented nature of entities reporting (IOU, Municipal, Community Choice Aggregators, DA), the separation of BTM and Front of Meter (wholesale) distribution grid connection, and the tendency to report by siloed state programs (RPS, NEM, ReMAT, BioMAT, RAM, PURPA, SGIP, etc) can make it surprisingly difficult to get accurate information on the current state of DER generation. However it appears over half (52%) of the 5360 MW of new California solar capacity installed in the past 2 years has been added on the distribution grid, two thirds of which (one third of the total) has been on residential rooftops<sup>8</sup>, demonstrating a substantial contribution to renewable generation goals. Likewise, energy efficiency has met as much as 50% of our energy needs over several decades and continues to mitigate costs associated with growth in demand.

In addition to data for monitoring progress, we hope that California Energy Planning Library together with CEC staff will pay attention to collecting data necessary for planning. The data from Vibrant Clean Energy cited above on potential cost savings from DER uses modeling that optimizes scenarios at the distribution grid level for least cost system wide. In contrast, CEC and CPUC in its Integrated Resource Planning proceedings rely on the RESOLVE optimization model that considers only utility-scale

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<sup>8</sup> California Distributed Generation Statistics, Statistics and Charts: <https://www.californiadgstats.ca.gov/charts/>; California Solar Energy Statistics and Data: [https://ww2.energy.ca.gov/almanac/renewables\\_data/solar/index\\_cms.php](https://ww2.energy.ca.gov/almanac/renewables_data/solar/index_cms.php)

solar as a single selectable PV input (the IRP use of RESOLVE incorporates estimated trends in behind-the-meter solar growth as a *fixed* input) Therefore the RESOLVE model is not able to optimize for or select wholesale distributed generation resources. Since these can be connected directly to the distribution grid, they avoid the 3-4 cents levelized cost per kWh for transmission capacity, and therefore likely would be “least [*delivered* energy] cost” compared to PV requiring transmission grid capacity for delivery. Omitting the option of selecting wholesale distributed generation locks in added costs for transmission and unnecessarily increases pressure to develop remote utility-scale projects that can have increased risk for outages, wildfire ignition, fails to address local resilience needs, and can harm the health of California’s natural and working lands. This also increases costs of mitigating line losses of distance, GHG sequestration on degraded natural and working lands, and wildfire risk reduction. Likewise, while RESOLVE addresses utility planning and procurement, it does not optimize for demand management targets and associated policy and programs which are subject to separate cost effectiveness standards not applied to utility scale resource investments.

Recommendations on data for planning and monitoring:

The California Energy Planning Library should explicitly identify and make available data needed to monitor policy implementation as an organizing principle for its implementation.

California Energy Planning Library and the CEC should be considered as a repository for statewide data of importance for monitoring progress toward state goals, responsible for analyses that can cross compensation models and procurement entities.

CEC should reinstate its tracking and reporting of California's achievement of Energy Efficiency goals as mandated by legislation and make those data available on the California Energy Planning Library

CEC and California Energy Planning Library should use models for forecasting future scenarios that are capable of optimizing DER. RESOLVE as currently used is manifestly inadequate.

Thank you for the opportunity to comment.



With regards,

/s/

Claire Broome, MD

Representing 350 Bay Area

350 Bay Area is a non-profit organization focused on ensuring a sustainable climate and associated environmental and economic justice for all, with a reach of over twenty two thousand people, primarily concentrated in the nine Bay Area counties. We thus comment from both an environmental and ratepayer perspective.