

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to
Develop a Successor to Existing Net
Energy Metering Tariffs Pursuant to
Public Utilities Code Section 2827.1,
and to Address Other Issues Related
to Net Energy Metering.

Rulemaking 14-07-002
(Filed July 10, 2014)

And Related Matter.

Application 16-07-015

**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE
TO THE ADMINISTRATIVE LAW JUDGE’S RULING INVITING COMMENTS ON
STAFF PROPOSAL FOR IMPLEMENTATION OF ELECTRIC BILL SAVINGS
CALCULATOR FOR SOLAR CUSTOMERS**

Alex J. Morris
Vice President, Policy & Operations

Jin Noh
Policy Manager

CALIFORNIA ENERGY STORAGE ALLIANCE
2150 Allston Way, Suite 400
Berkeley, California 94704
Telephone: (510) 665-7811 x110
Email: amorris@storagealliance.org

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In accordance with the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the California Energy Storage Alliance (“CESA”) hereby submits these comments on the *Administrative Law Judge’s Ruling Inviting Comments on Staff Proposal for Implementation of Electric Bill Savings Calculator for Solar Customers*, issued by Administrative Law Judge (“ALJ”) Valerie U. Kao on July 18, 2019.

I. INTRODUCTION.

CESA commends the Commission’s initial efforts to implement an electric bill savings calculator for solar customers. CESA agrees with the Staff Proposal that requiring solar providers to present electric bill savings will benefit customers by allowing them to compare quotes, provide a verifiable forecast of savings relative to a no-build baseline, and create reasonable assurances that the forecasted savings are absent of exaggerated assumptions.¹ CESA believes the Staff

¹ Staff Proposal at pp. 5-6.

Proposal represents a good starting point but has a few areas of concern. First, the Staff Proposal lacks bill savings inputs and assumptions for customers that decide to install solar-plus-storage resources. Second, requiring that solar providers only present the single “CPUC” bill savings calculator to a customer at the time of sale is limiting and may not accurately represent a developer’s financing and contracting approaches that may deliver a different level of bill savings. Lastly, the Commission should carefully craft language around the savings output from the calculator when it is presented to potential customers to clarify that actual bill savings will differ to some degree with estimated bill savings. CESA explains further in our comments below.

II. MORE DETAIL IS NEEDED ON HOW STORAGE WILL BE OVERLAID ONTO THE CALCULATOR AS WELL AS WHETHER STANDARDIZED INPUTS AND ASSUMPTIONS WILL BE DEVELOPED FOR STORAGE.

The Staff Proposal lacks detail on the assumptions and inputs that would be incorporated into the proposed bill savings calculator and merely states that the “electricity bill savings calculation in this staff proposal was developed to allow for battery storage generation to be overlaid on top” of the solar bill savings calculator.”² Given recent market trends and the rollout of new time-of-use (“TOU”) periods and default TOU rates, however, the lack of more detailed consideration of storage inputs and assumptions represents a major shortcoming of the calculator. Currently, based on Self-Generation Incentive Program (“SGIP”) data, between 94% to 98% of small residential storage projects are paired with solar, while 59% to 62% of large-scale storage projects are paired with solar.³ Furthermore, under new TOU periods where peak periods have generally shifted from a 12pm to 6pm period to a 4pm to 9pm period, solar-only deployments will

² Ibid at p. 12

³ SGIP Weekly Statewide Report as of May 20, 2019. CESA calculated the percent of Electrochemical, Thermal, or Mechanical Storage SGIP-funded systems paired with renewables and excluded equity projects as well as projects that had cancelled, waitlisted, payment recalled, rejected, or suspended status.

see comparatively lower bill savings, where the ‘lost’ bill savings can be made up to varying degrees depending on the rate with energy storage pairings.⁴ With SGIP adopting a greenhouse gas (“GHG”) emission reduction compliance pathway involving solar-only charging and solar self-consumption, there will be further incentives for solar-plus-storage deployments.⁵ Taking all these factors together, the future of customer solar adoption likely involves significant storage pairings.

As a result, the Commission should more seriously consider a bill savings calculator that establishes a standardized set of operational assumptions for energy storage systems while providing flexibility in the storage ‘overlay’ to the calculator, particularly around key inputs that may vary by technology types – e.g., degradation rate, roundtrip efficiency, duration, capacity relative to solar nameplate capacity, etc. Once the California Energy Commission (“CEC”) develops and publishes its Storage Equipment List, the bill savings calculator can be updated with key inputs that are verified by the CEC, with other inputs provided through manufacturer’s technical specifications. Granted, the challenge with energy storage is that the resource is dispatchable and can have a dynamic charge and discharge profile. However, to simplify and standardize the calculator, it may be easier to assume residential customer solar-plus-storage systems are optimized to maximize solar self-consumption, given investment tax credit (“ITC”) requirements, and provide rate arbitrage to discharge during peak TOU periods.

⁴ *SGIP GHG Signal Working Group Final Report* issued on September 6, 2018 and prepared by AESC, Inc. for R.12-11-005 at p. 130.

<http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M226/K928/226928266.PDF>

⁵ Attachment A of *Decision Approving Greenhouse Gas Emission Reduction Requirements for the Self-Generation Incentive Program Storage Budget*, D.19-08-001, issued on August 1, 2019 in R.12-11-005 at p. 7. <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M310/K260/310260347.PDF>

III. THE BILL SAVINGS CALCULATOR SHOULD BE FRAMED AS A REFERENCE CASE THAT OFFERS CONSUMER PROTECTIONS.

CESA understands that one of the intents of the bill savings calculator is to protect residential consumers from unrealistic bill savings estimates due to excessive, exaggerated, or inaccurate assumptions. As such, CESA supports the bill savings calculator as an important tool to inform residential customers and support them in assessing and comparing quotes from competing vendors. At the same time, CESA believes it is important to frame the bill savings calculator estimates as a reference case to ensure that quotes from vendors are not reasonable or realistic by orders of magnitude while informing users of the tool that actual bill savings estimates can differ to some degree based on actual ‘field’ conditions, different financing mechanisms, and multiple revenue streams from pursuing incremental applications.

For example, similar to how miles-per-gallon estimates for cars have disclaimers that “actual mileage will vary” based on driving conditions that deviate from the original testing environment (*e.g.*, driving in the mountains, heavy use of the air conditioning), excessive soiling and shading are examples of unique environmental conditions surrounding the PV system that could cause deviations from the forecasted generation from PVWatts. Additionally, vendors may offer different types of financing mechanisms (*e.g.*, shared savings, power purchase agreements) that provide some guarantee or certainty to a customer’s bill savings that may deviate from the bill savings calculator’s estimates. Furthermore, some residential solar-plus-storage providers may pursue additional applications beyond rate arbitrage, such as local or distribution capacity, where capacity payments from providing these grid services can supplement the bill savings and be passed through in part or in full to the customer.

Given the various factors that could reasonably lead to some deviations from the bill savings calculator, CESA recommends that the Commission frame the calculator as a reference

case and allow solar and storage providers to be able to present their own savings model/calculator alongside the Commission-approved calculator to prospective residential customers. In this way, vendors and providers can customize their expected bill savings closer to site-specific field conditions (*e.g.*, shading, soiling), showcase potential bill reduction valuation streams that go beyond just the basic use case of solar savings, and offer greater certainty to bill savings through innovative financing and contracting opportunities.

In the future, the Commission may consider how the calculator can evolve over time to incorporate additional inputs based on expected revenues and savings from providing grid services and accessing a range of revenue streams. At this time, however, such advanced/additional features may not be necessary given the low levels of grid-service activity by residential solar-plus-storage systems.

IV. CONCLUSION.

CESA appreciates the opportunity to submit these comments on the Staff Proposal and looks forward to working with the Commission and other stakeholders in this proceeding.

Respectfully submitted,



Alex J. Morris
Vice President, Policy & Operations
CALIFORNIA ENERGY STORAGE ALLIANCE

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