

# Rooftop solar incentive to cost customers without solar an estimated \$6.5 billion in 2024

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**SUMMARY:** California’s main rooftop solar incentive program (“net energy metering”) will cost customers without solar an estimated \$6.5 billion in 2024, according to a new Public Advocates Office analysis. The annual cost of the program on customers without solar will approximately have doubled since 2021. The recent cost increases are driven by two main factors: (1) a surge in customers installing solar prior to the phase out of unsustainably lucrative program compensation terms, and (2) higher compensation to customers with rooftop solar for the excess energy their systems generate.

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## DISCUSSION

The main economic incentive for households to install rooftop solar is a program called net energy metering, which is managed by the California Public Utilities Commission (CPUC). Net energy metering compensates rooftop solar owners for the electricity they generate by more than seven times its relative value to the electric grid. This subsidy is effectively paid by other customers that choose not to install solar or do not have the means to do so. Over 1.5 million households that are served by the State’s three largest electric utilities have rooftop solar.

The Public Advocates Office estimates Pacific Gas and Electric, Southern California Edison, and San Diego Gas & Electric customers<sup>1</sup> without solar will pay an additional \$6.5 billion in 2024 to support the program. In 2021, the cost was approximately \$3.4 billion. Our analysis estimates that in 2024, more than 15% of the average household’s electricity bill will go to subsidizing the program across all utilities if they do not have solar. The amount has trended upward in recent years: the program made up 8 to 17% of the average customer’s bill in 2022, according to a prior CPUC estimate.<sup>2</sup>

The main drivers of recent increases were:

- Record rooftop solar installations. 2023 was the last year new rooftop solar projects could qualify for a more lucrative version of the net energy metering program. Prior to the phase out, households installed a record number of rooftop solar systems.
- Increased residential electric rates. Rooftop solar systems are compensated for any excess electricity they produce based on residential retail electricity rates. In the last year alone, PG&E residential electricity rates increased by approximately 30% to fund new wildfire mitigation efforts and other initiatives. Compensation increases commensurate with electric rate increases, regardless of the value of the energy provided by rooftop solar systems.

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<sup>1</sup> Residential and non-residential customers (e.g., small businesses)

<sup>2</sup> California Public Utilities Commission. *2023 Senate Bill 695 Report: Report to the Governor and Legislature on Actions to Limit Utility Cost and Rate Increases Pursuant to PUC Code Section 913.1*. Page 55. (May 2023).

In December 2022, the CPUC voted to reform net energy metering to better align its incentives with the value enrolled systems provide. The Public Advocates Office supported the CPUC’s new program (“net billing tariff”) because it will reduce the program’s relative cost on customers without solar and promote the adoption of paired batteries.

We are also actively developing additional solutions to encourage the sustainable growth of rooftop solar and provide rate relief for all households. These solutions include alternative incentive structures and financing models.

## METHOD

The total cost of the program on households without solar is the difference between the total amount that net energy metering customers are compensated and the total benefits solar projects provide. These benefits include greenhouse gas emissions reductions, power plant fuel and generation cost savings, and other avoided grid infrastructure costs. To inform its policy recommendations, the Public Advocates Office routinely estimates historic and future cost burdens based on the latest rooftop solar deployment data, the Commission distributed energy resource valuation outputs, retail rate information, and a host of other factors.

The following equation is a simplified representation of the cost burden calculation we used per year by customer class:

$$\text{Cost Burden}_{yj} = PVkWh_{yj} \times (\text{Retail Energy Rate}_j - \text{Avoided Cost})$$

*Where*

*y* = year the cost burden is evaluated

*j* = customer class (e.g., residential, small commercial, medium, and large industrial, and agricultural)

*PV kWh<sub>yj</sub>* = total annual solar production (kWh) in year “y” attributed to class “j”

*Retail Energy Rate<sub>j</sub>* = the average PV-weighted retail rate attributed to class “j” (\$/KWh).

*Avoided cost* = average avoided costs of PV generation (\$/kWh).

*Note: The estimate was revised from \$6.8 billion to \$6.5 billion on February 28, 2024 based on updated avoided cost assumptions.*

The Public Advocates Office represents utility customer interests before the California Public Utilities Commission and other forums. We develop recommendations that advance the state’s energy and climate goals in the most affordable ways for ratepayers. For more detailed information, please contact us at [publicadvocatesoffice@cpuc.ca.gov](mailto:publicadvocatesoffice@cpuc.ca.gov) or visit our website at [www.publicadvocates.cpuc.gov](http://www.publicadvocates.cpuc.gov)