

BY DAVE ROSENFELD

The Utility “Cost Shift” Fallacy

The accounting methods behind the utilities’ claims about rooftop solar



Rooftop solar. Photo by Birgitta Jansen

The continued growth of rooftop solar and battery storage is key to a successful clean energy transition, one that puts the needs of the public at the center, with lower costs, protection from black-outs, and quicker pollution reductions. Because remote, industrial scale generation has long worked to the advantage of California’s Investor Owned Utilities, they have actively lobbied for state regulations that would discourage rooftop solar. It is the purpose of this article to counter their principal arguments.

The most detailed study of its kind shows that integrating lots of local solar and storage with large-scale renewables as part of the clean energy transition could save Californians \$120 billion over the next thirty years. These savings occur because local distributed energy reduces the price tag of long-distance power lines and peak demand infrastructure.¹ It does not eliminate the power lines altogether. But it reduces their risk and expense, with major economic benefits flowing to individuals and the community.

These savings are happening right now and will increase if rooftop solar and storage keeps growing. For example, in 2018, rooftop solar and energy efficiency prompted the state to scale back more than twenty power line projects, saving \$2.6 billion in unneeded investment.²

Growing rooftop solar is the majority position of the California public and social change community

Public opinion polling shows overwhelming support for the foundational policy driving rooftop solar growth – net metering. 64% are opposed to making negative changes to net metering. In addition, seven out of ten voters believe California should do more, not less, to support the expansion of solar energy.³

Over 600 local, state, and national organizations have come together to call for the continued and equitable expansion of rooftop solar and battery storage and stand in opposition to utility-led efforts to make rooftop solar unaffordable for the working class. These groups are committed to environmental and racial justice, consumer protection, affordable housing, community empowerment, climate change, land conservation, and faith-based stewardship.

Utilities want to slow down the growth of rooftop solar

In their argument to the California Public Utilities Commission (CPUC), the Investor Owned Utilities have a different story: they claim that rooftop solar is bad for California. They assert that solar users impose an annual cost of \$3 billion on other ratepayers.⁴ This “cost shift,” as they call it, happens because solar users don’t pay their fair share for the electrical grid, and that the credit solar users receive for the energy they share back to the grid is overvalued. These claims are unsupported by the evidence and are promoted using three questionable accounting fallacies.

How the utilities justify their claim: Three accounting fallacies

The utilities base their claims on computer models that purport to account for the value to ratepayers of each kilowatt-hour of solar energy generated by on-site (i.e. rooftop) solar, both in the past, present, and future. The utilities make their claim of a solar “cost-shift” by manipulating the computer modeling, specifically through three accounting fallacies, outlined below. When these accounting fallacies are corrected, the cost shift claim falls flat.

Accounting fallacy #1: Counting solar energy made and used on-site (instead of buying it from the utility) as a “cost” to other ratepayers

When solar users make and use their own solar energy on-site, they reduce the amount of electricity they would otherwise receive from the electrical grid. These “load reductions” add up, reducing strain on the California electric grid which, in turn, reduces total costs of building and maintaining the power grid. These cost reductions benefit all ratepayers.

The most detailed energy modeling ever performed in the U.S. shows that if we do not increase local generation as we turn to electric vehicles and electrified buildings, it will lead to a super-sized grid that has supersized costs.⁵

In contrast to the evidence and common sense, the utilities assume that self-consumed energy from rooftop solar does not significantly reduce the total costs of the grid.⁶ They thus conclude that the energy produced and used by rooftop solar owners – and the subsequent bill savings – should be counted as a “cost” to other ratepayers.

This is similar to arguing that households that hang-dry their clothing force households that use a clothes dryer to pay more for electricity. It also flips a standard principle of ecology on its head, suggesting that reducing one’s burden on society’s infrastructure is negative and should be penalized.

Accounting fallacy #2: Omitting over a decade of rooftop solar benefits

Typical energy planning credits the benefits of an “energy asset” to all ratepayers for the asset’s entire lifetime. An energy asset is a power plant, a wind turbine, or in this case, a rooftop solar system. Rooftop solar systems are usually warranted for twenty to twenty-five years and can actually last a lot longer. That means that we should calculate the costs and benefits of each rooftop solar system over that time period. In contrast, the utilities only calculate a single year of rooftop solar benefits, and then attribute those benefits for only the next ten years (2020-2030).⁷

This method shortchanges the true value of rooftop solar, and only provides a partial picture of rooftop solar’s savings over time. It hides the fact that rooftop

solar’s value *increases* in the later years of the clean energy transition, as it gets harder to site and build large scale energy and power lines over time. Rooftop solar installed today will be there in the future when we need it even more.

Accounting fallacy #3: Lowballing the long-distance power line costs that rooftop solar helped avoid

The computer model used by the CPUC is supposed to include assumptions about how rooftop solar reduces spending on long-distance power lines, but the computer model shortchanges these savings. Specifically, the CPUC’s computer model only counts deferred long-distance power line spending. It doesn’t count spending that was proposed and eliminated due to rooftop solar, and thus never built.

This is a critical omission. The Protect Our Communities Foundation estimates that the transmission costs avoided by rooftop solar are more than twice that of the utilities’ alleged “cost shift.”⁸ In 2018, the California Independent Systems Operator (CAISO) canceled \$2.6 billion in proposed transmission projects in the Pacific Gas and Electric (PG&E) service territory, citing both rooftop solar and energy efficiency. Protect Our Communities Foundation estimates that each solar system installed in PG&E territory in the 2015-2017 period alone avoided approximately \$620/yr in new transmission costs. These savings far outweigh the alleged “cost shift” but are not included in the computer model.⁹

This is not a one-time effect. CAISO’s recent 2020-2021 report continues to credit rooftop solar and efficiency for reducing transmission line spending.¹⁰ Protect Our Communities Foundation shows how this effect could be even greater were it not for the utilities’ influence at the CPUC to approve unnecessary transmission projects, such as the \$1.8 billion Sunrise Powerlink Trans-mission line and the \$3.07 billion Tehachapi Renewable Transmission Project.¹¹

The real cost shift: Rate hikes, blackouts, and wildfires

These irregular accounting methods help the utilities deflect attention from the root cause of California’s ever-rising electricity bills – the escalating costs of long-distance power lines. California’s utilities are incentivized by the government to maximize spending on this infrastructure, reaping a guaranteed 7-10% profit margin for every ratepayer dollar spent. This perverse incentive, coupled with lax regulatory oversight, has led to a massive spending spree by utilities – all shouldered by ratepayers.¹²

This infrastructure involves the same power lines that have sparked massive wildfires due to utility neglect, causing death and destruction, and more rate hikes to pay for expensive “wildfire mitigation.” These same power lines must now be de-energized for extended periods of time every year, as the planet warms

→ PAGE 28

Over 600 local, state, and national organizations have come together to call for the continued and equitable expansion of rooftop solar and battery storage and stand in opposition to utility-led efforts to make rooftop solar unaffordable for the working class.

The Utility “Cost Shift” Fallacy

→ PAGE 27

and wildfire threats intensify. These rolling blackouts pile on even more economic loss and danger to the public, in the form of lost work and school days, food and medicine spoilage, and loss of life-supporting medical devices.

California utilities and their allies are now pushing to make the current system the exclusive path forward. By excluding consumer choice and prosumer solutions like rooftop solar, it is a recipe for failure. California needs all clean energy and decarbonization strategies on the table. And, as noted earlier, the data points to a much better way.

The utility echo chamber

One of the first times the phrase “cost shift” appeared in print was in a leaked 2016 utility industry strategy memo. The memo was part of an effort by the American utility industry to figure out a way to blunt the impact of rooftop solar through propaganda.¹³ Armed with this new strategy, the California utilities spent over \$30 million in campaign donations to California politicians, nonprofit organizations, and academic research groups aimed at building an echo chamber of voices making the cost shift claim.¹⁴

Today, the utilities’ “cost shift” claim is promoted by a small group of seemingly independent utility allies in coordination with the major investor-owned utilities. These include organizations who should know better: the Energy Institute at the Haas School of Business at UC Berkeley, Natural Resources Defense Council (NRDC), The Utility Reform Network (TURN), Public Advocate’s Office at the California Public Utilities Commission (CPUC), AARP and utility-favored consulting firms like Energy & Environmental Economics (E3) and Verdant Associates.

Each of the organizations listed above use the same accounting methods outlined earlier to justify their position, in many cases referring to each other in a circular pattern, and in one instance, simply using the utilities’ raw calculations.

Take for example the CPUC’s favored consultant, E3. Because they are the CPUC’s official consultant, their work is assumed to be independent. However, E3 is also a vendor for utilities nationwide, including PG&E, SDG&E, and SoCal Edison.¹⁵ This strongly suggests a significant conflict of interest. Unsurprisingly, E3 uses the utilities’ accounting fallacies listed above to reach their conclusions, including counting behind the meter consumption (energy produced and used on site without ever entering the grid) as a cost^{16, 17} and omitting a decade of rooftop solar benefits.¹⁸

NRDC and TURN rely on E3’s work to justify their claims, or employ the same accounting fallacies in their own work.^{19, 20, 21} NRDC’s co-founder was also the CEO of Edison International.²² The organization has public-

ly entered into numerous strategic alliances with the American utility industry that led NRDC to promote deregulation,²³ shield the utilities from liability,²⁴ and lobby side-by-side with utilities to undermine rooftop solar going as far back as 2016.²⁵ More about NRDC and TURN respectively on the Solar Rights Alliance blog.

The Public Advocate’s Office, which is supposed to be an independent advocate for rate-payers, is even more transparent about its coordination with the utilities. In response to a data records request, the Public Advocate revealed that their supposedly independent analysis is simply a copy/paste of the utilities own calculations that we cited above.^{26, 27}

The Haas School of Energy at Berkeley also uses the accounting fallacies outlined in this article.^{28, 29} Haas is led by an individual who has a long track record of making incorrect energy predictions. Utilities are among Haas’ funding sources.³⁰ More about the Energy Institute on the Solar Rights Alliance blog. <https://solar-rights.org/haas-rooftop-solar>

Conclusion: Rooftop solar saves all ratepayers money and should be expanded, not blocked. The real “cost-shift” is our continued reliance on PG&E and the other profit-driven utilities.

At this writing, state officials at the California Public Utilities Commission (CPUC) are considering utility-backed changes to rooftop solar policy that would put local clean energy out of reach for most consumers. The CPUC is pointing to the utilities’ cost shift claims as the reason why their proposed changes are necessary. The CPUC is expected to make a final decision before the year ends.

It would be a tragedy if California’s rooftop solar success was ended because of a clever deception. We urge members of the news media, policymakers, and the public to closely examine the utilities’ cost shift claims to understand their questionable underpinnings, and hold state officials accountable for allowing the utilities to have so much influence over their supposedly independent fact-finding.

Dave Rosenfeld is Solar Rights Alliance’s executive director. Solar Rights Alliance is the nonprofit association of California solar users. We believe you have the right to make energy from the sun without unreasonable interference by the utility. Learn more at www.SolarRights.org.

Footnotes cited in the article can be accessed at www.desertreport.org by selecting “references” at the bottom of the home page.