



# **Saving rooftop solar to save desert lands: The role of Transmission Access Charges reform**



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## Mission

To accelerate the transition to renewable energy and a modern grid through technical, policy, and project development expertise.

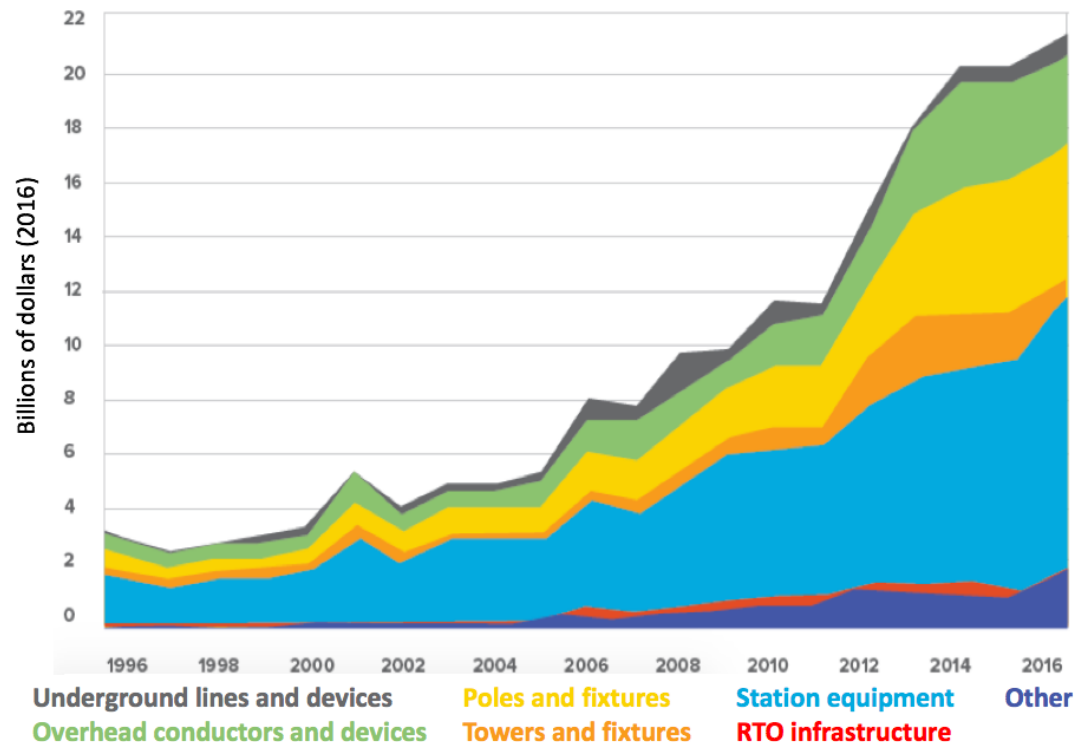
### 100% renewable energy end-game

- 25% local, interconnected within the distribution grid and facilitating resilience without dependence on the transmission grid.
- 75% remote, dependent on the transmission grid for serving loads.

# Transmission costs are fastest-growing component of electricity costs

- Transmission costs are the fastest-growing component of your electricity bill.
- Guaranteed 12% return-on-equity (ROE) for transmission investments leads to [conflicts of interest](#) and perverse market outcomes — like the [Transmission Access Charges \(TAC\)](#) market distortion, **the real cost shift happening in California.**

The explosion in transmission spending by major utilities, 1996 - 2016



# Transmission costs higher than they seem due to O&M driving ~10x increase to upfront costs



- Capital costs of transmission infrastructure represent a fraction of total transmission costs.
- Operations and maintenance (O&M) and ROE drive up transmission costs significantly over asset lifetime, with those excessive costs borne by ratepayers.

## Nominal costs

|   |              |
|---|--------------|
| Asset value capital cost (\$100 base)                               | \$100        |
| Return  | \$197        |
| O&M   | \$631        |
| <b>Total nominal ratepayer cost per \$100 investment (50 years)</b> | <b>\$928</b> |

## Real costs, discounted for inflation

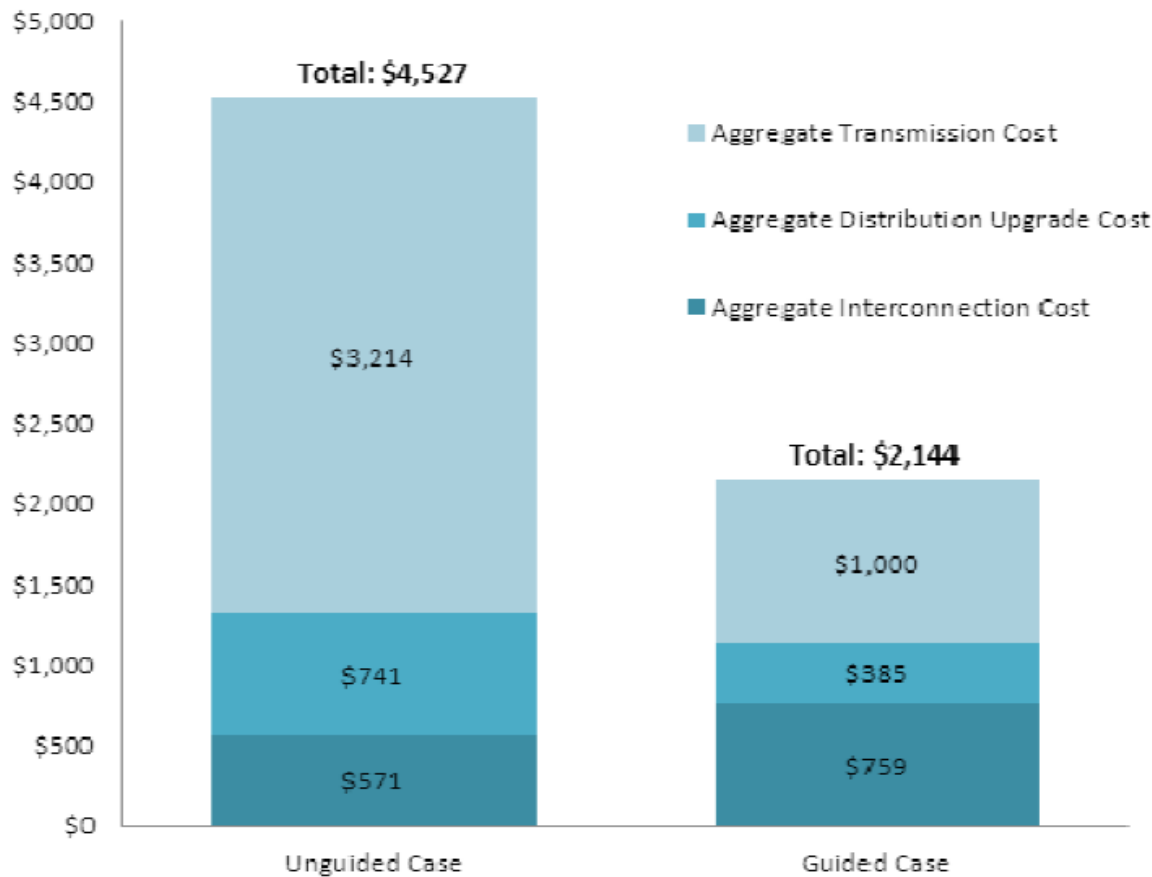
|   |              |
|---|--------------|
| Discount rate   | 2.19%        |
| Asset value capital cost (\$100 base)   | \$100        |
| Return, discounted  | \$140        |
| O&M, discounted   | \$296        |
| <b>Total discounted (real) ratepayer cost per \$100 investment (50 years)</b> | <b>\$536</b> |

*In nominal dollars, total lifetime ratepayer cost is nearly 10x the initial capital cost; O&M accounts for 68% of this because it increases much faster than inflation. In real dollars (constant value dollars, accounting for inflation), the total lifetime cost is 5x the initial capital cost, and O&M accounts for 55% of this.*

# Local solar+storage optimize the grid for ratepayer savings



- Intelligently siting 4 GW of local solar would preempt over **\$2.2 billion** in new transmission infrastructure investments — about **\$20 billion** in ratepayer savings when considering O&M. (Southern California Edison study)
- Transmission costs are always borne by ratepayers, while distribution & interconnection costs are borne by solar project developers.



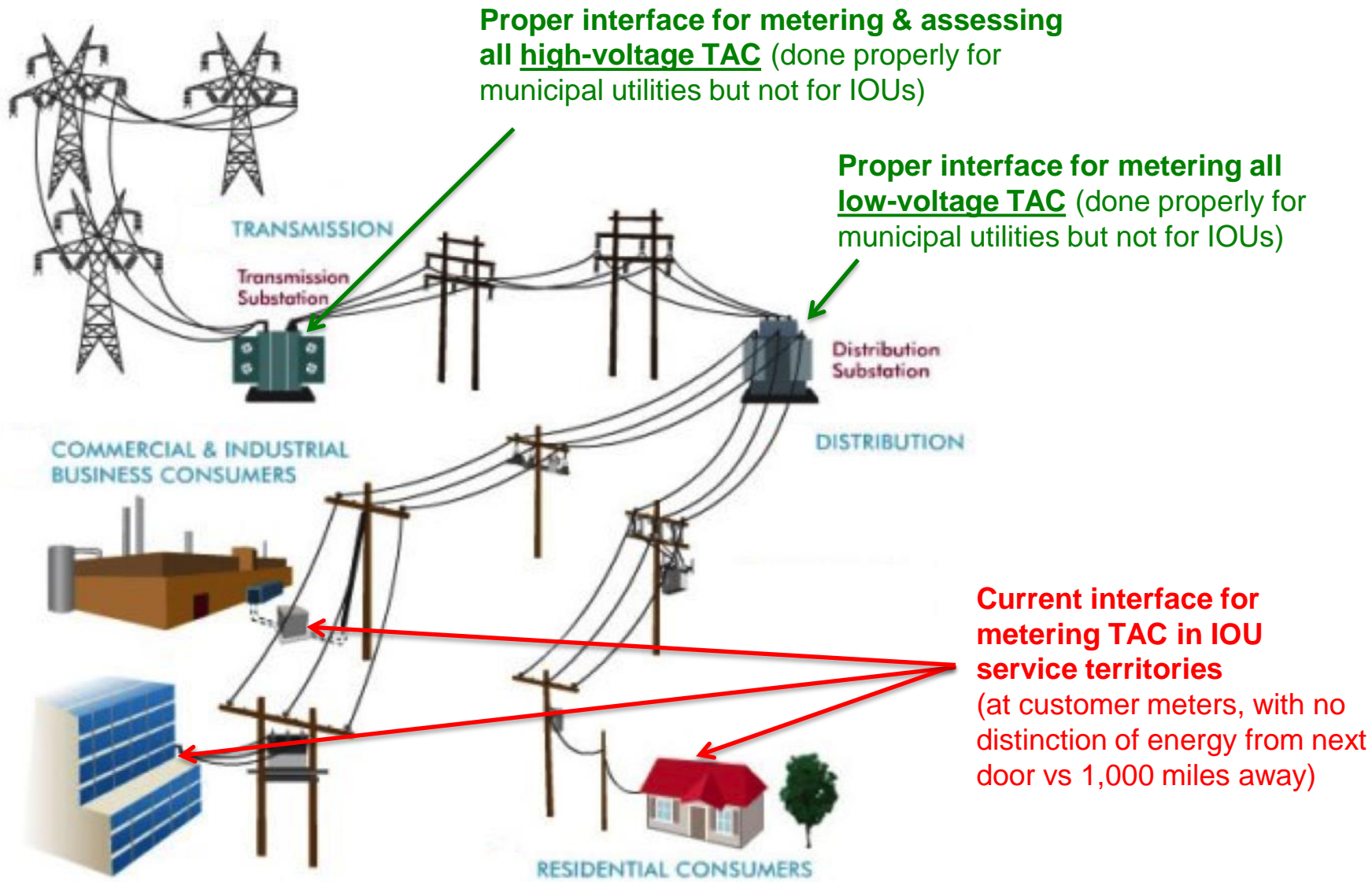


# Evidence that local renewables defer transmission spending

- Preempting transmission spending by deploying local renewables is not theoretical.
- In CAISO's 2017–2018 planning process, they **deferred \$2.6 billion in planned transmission spending.**
- This was due in large part to increased deployment of local renewables + increased energy efficiency (see <https://www.utilitydive.com/news/efficiency-ders-saving-26b-in-avoided-transmission-costs-caiso-says/519935/>)



# TAC cause massive market distortions — the real cost shift happening in California





# TAC market distortion: The real cost shift

- [Transmission Access Charges \(TAC\)](#) in California's IOU service territories are metered and assessed incorrectly, at the customer meter.
- That's like paying extra shipping & handling fees for something you pick up next door, or paying a toll if you don't cross a bridge.
- This is the real cost shift happening in California.

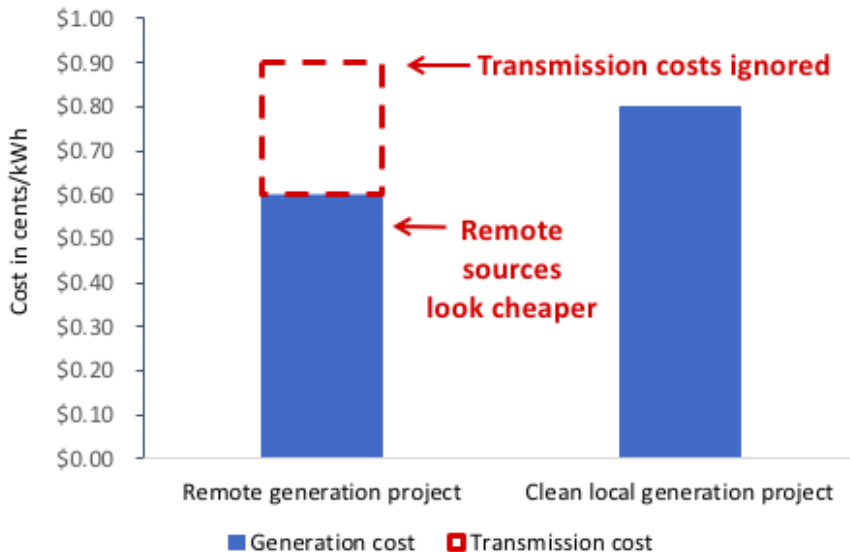




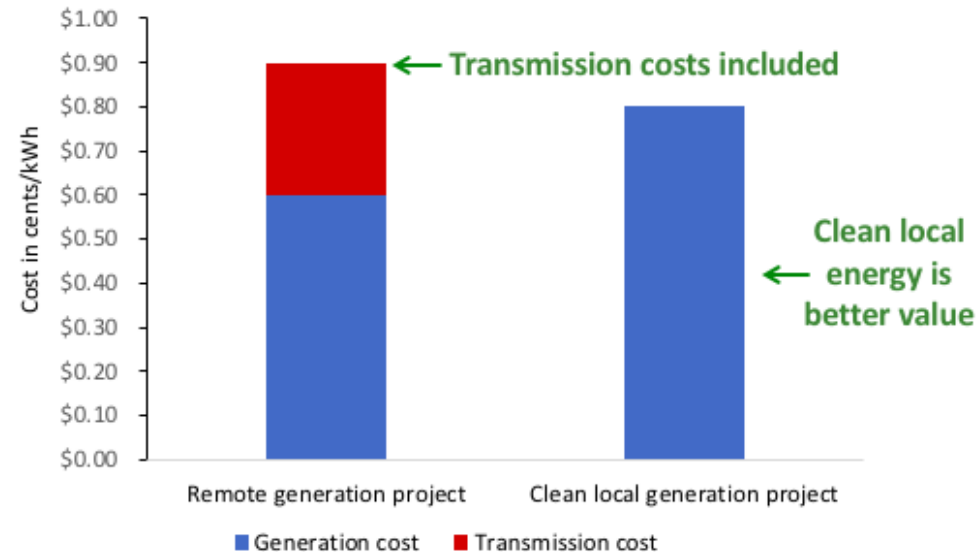
# How the TAC market distortion cost shift makes local renewables look less cost-effective

- 3¢/kWh is being stolen from local renewables, making them look more expensive.
- Stealing funds from local renewables, and from DER-driven Community Microgrids that deliver [community resilience](#).

**When transmission costs are invisible, remote energy sources look cheaper**

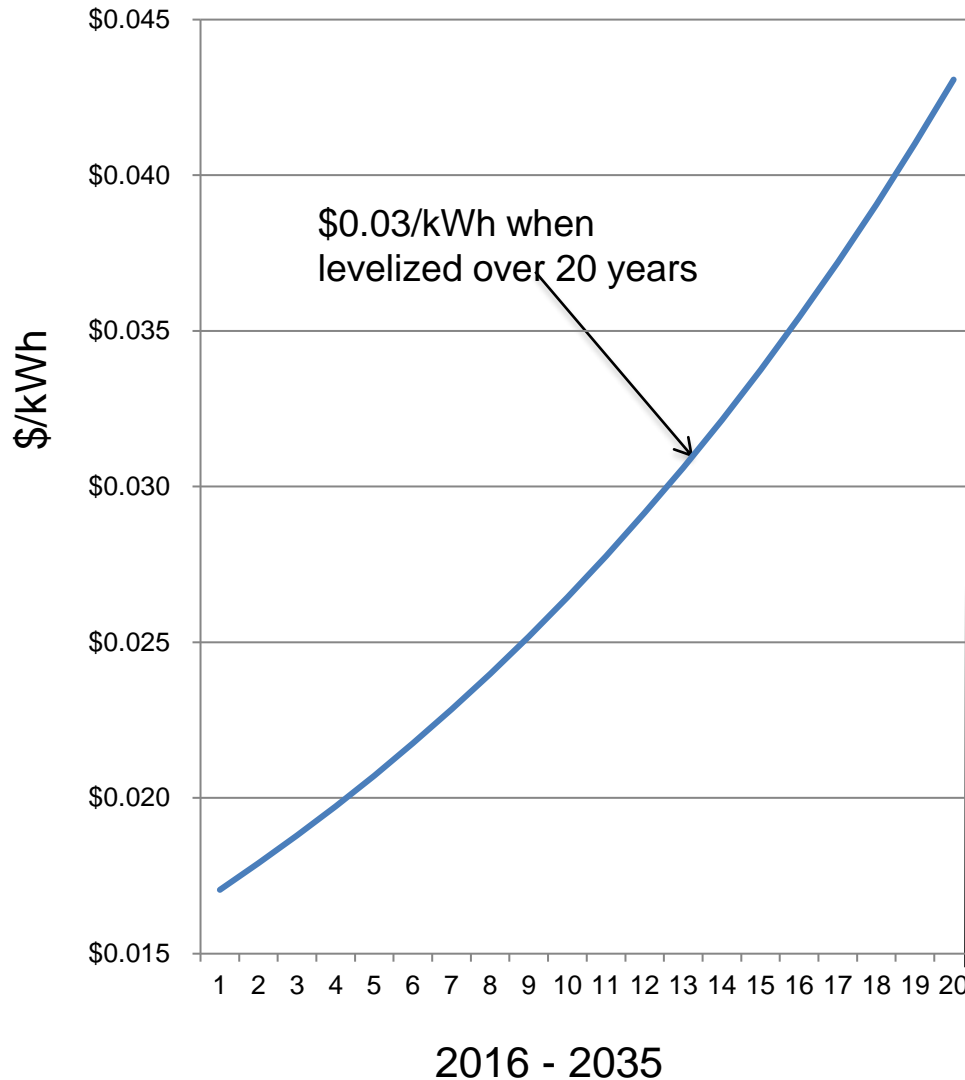


**When transmission costs are visible, local energy sources may be cheaper**



# TAC are growing fast to ~4.5 cents/kWh over 20 years (levelized 3 cents/kWh)

### Forecasted PG&E Total TAC Rate

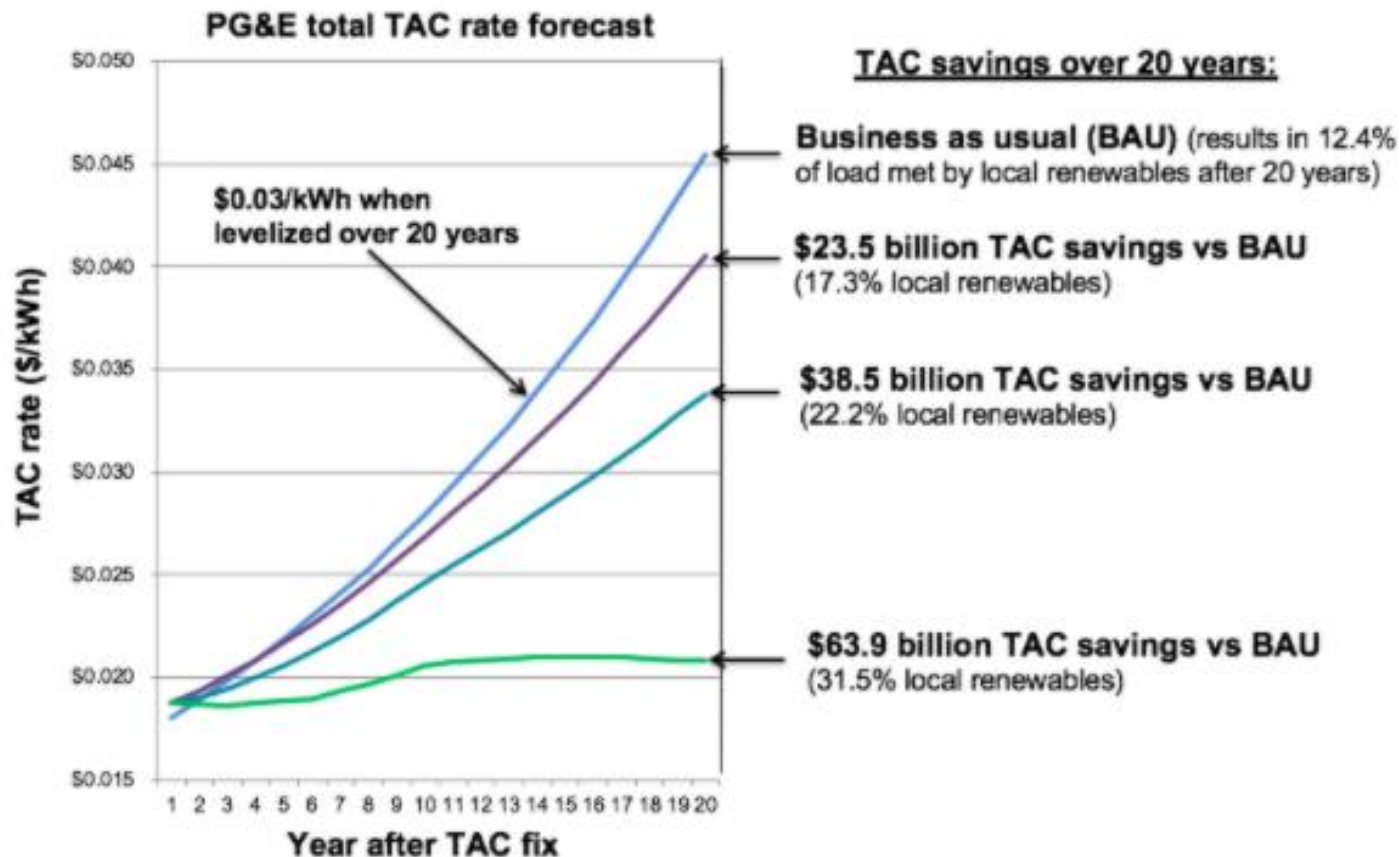


— Business As Usual (BAU)

**The 20-year levelized TAC is about 3 cents/kWh, which is roughly 50% of the average wholesale cost of electricity in California!**

# Not fixing TAC could cost Californians \$60 billion over the next two decades

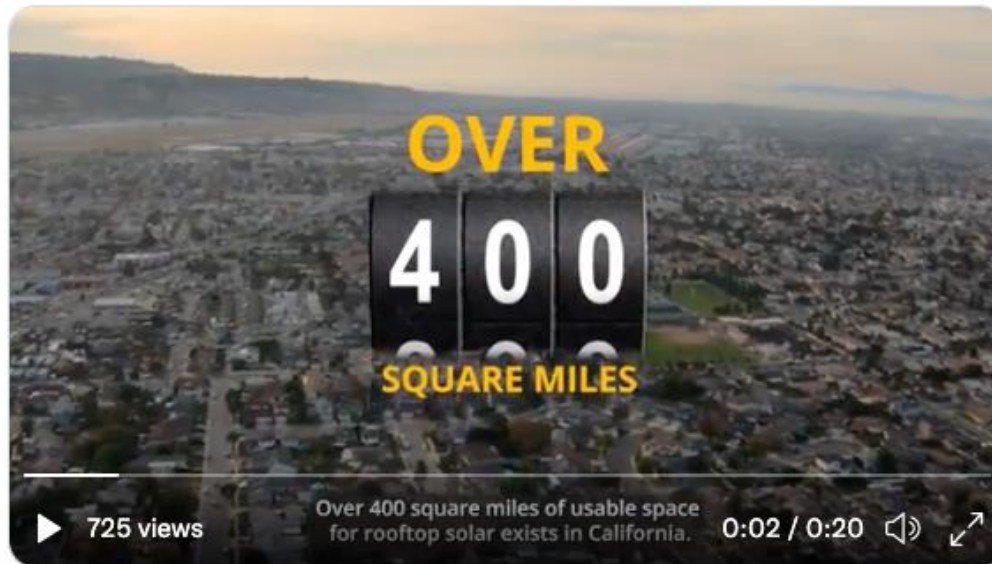
- Generating energy closer to where we use it = less expensive transmission infrastructure, which lowers costs for ratepayers.
- Continuing with business as usual could cost Californians ~\$60 billion in avoidable transmission costs over 20 years.





Solar Rights Alliance  
@solar\_rights

California could put solar on 400 square miles of rooftops. Instead, utilities like PG&E, SCE, and SDG&E are working to disturb pristine habitats with large scale solar projects. We need all of the above, but let's use our rooftops first! #SaveSolar #UtilityProfitGrab



- The Clean Coalition's Solar Siting Surveys show ample space for siting solar in dense urban environments — on rooftops, parking lots, and parking structures: <https://clean-coalition.org/solar-siting-surveys/>



# We can site more solar on landfills than people think

## Landfills could host more than 60 GW of solar, RMI says

Landfill sited solar capacity would nearly double Biden administration goals to grow community solar while increasing total U.S. solar power capacity by about 58%.

NOVEMBER 18, 2021 **JOHN FITZGERALD WEAVER**

COMMUNITY

RESEARCH

UTILITY SCALE PV

UNITED STATES



- The 10,000 closed landfills in the U.S. could be used to generate 10% of our electricity (<https://pv-magazine-usa.com/2021/11/18/landfills-could-host-more-than-60-gw-of-solar-rmi-says/>)

# Proposed TAC reform and supporters



1. Only charge transmission fees for energy delivered through the transmission system.
2. Have procurement reflect both the energy purchase price and the delivery charges.

**Nearly 90 organizations supporting**, including CALSSA, Sunrun, Vote Solar, Sierra Club California, The Climate Center, 350 Bay Area, 350 San Diego, Enphase, Microgrid Resources Coalition, California Alliance for Community Energy, California Consumers Alliance, Californians for Energy Choice, Center for Biological Diversity, Center for Sustainable Energy, Climate Action Campaign, East Bay Power Alliance, Environment California Local, Fossil Free California, San Diego Energy District — and many more.



# TAC Campaign status — and how you can join



- The CA Independent System Operator (CAISO) has agreed that TAC reform is needed but said the CA Public Utilities Commission (CPUC) would need to take action.
- CPUC staff have agreed the issue should be taken up.
- We need legislation to compel CAISO and the CPUC to take action.
- We have received some interest among California state legislators to include TAC Reform language in legislation in 2022.
- For more, see: <https://clean-coalition.org/policy/transmission-access-charges>
- Sign on your org to support the TAC Campaign: <https://forms.gle/x6vdjz8Qg5YUqckKA>



# Another way to take action

- You can also sign this petition to Governor Newsom, urging him to save California solar — by stopping the utilities from gutting net metering: <https://www.savecaliforniasolar.org/sign-petition>. **Sign today!**

## We're In The Homestretch! Help Us Get 100,000 Public Comments By November 20!

SEND A MESSAGE TO GOVERNOR NEWSOM

**STOP THE UTILITY PROFIT GRAB**

**Dear Governor Newsom,**

(cc: CA Public Utilities Commission),

California is a solar state where power from the sun belongs to everyone. Our commitment to growing local rooftop solar is critical to meeting our ambitious clean energy goals.

Popular policies like net metering helped California reach one million solar rooftops and are growing solar in working and middle-class neighborhoods, which make up nearly half of all new solar installations.

| Goal   | Supporters | Days Left |
|--------|------------|-----------|
| 100000 | 99360      | 1         |

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1 Details
2 Messages
3 Confirmation

|  |                                 |
|--|---------------------------------|
| First Name                                   | Last Name                       |
| <input type="text"/>                         | <input type="text"/>            |
| Street Address                               |                                 |
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- **The real cost shift is excessive transmission spending.** Our current outdated system is shifting costs; our proposed TAC reform will help fix that existing cost shift and lower costs for all ratepayers.
- **TAC reform is one necessary piece of the puzzle** to accelerate and facilitate local renewables — which will provide resilience, boost local economies, and create jobs.
- **We have huge siting opportunity for local renewables.** We haven't come anywhere close to maximizing our use of rooftops, parking lots, and parking structures to site solar.
- **We need to fix the real cost shift.** We must implement the policies and market fixes needed to deploy more local renewables — so we meet our clean energy goals and get the energy resilience we need, as well as the many other benefits of local renewables.