

Rate Design, Not Renewables, Drives Electricity Costs

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Relevant For:

State utilities, federal policymakers, congressional staff, and think tanks working on affordability, rate design, and the clean energy transition

Policy Question

Are Renewable Portfolio Standards (RPS's) – policies that require electricity suppliers to obtain a certain share of power from renewable sources – and the growth of renewable energy generation responsible for rising U.S. residential electricity prices?

Key Evidence

RPS policies are not driving residential electricity price increases nationwide, based on 25+ years of data. Instead, RPS policies and large-scale wind and solar deployment are associated with lower prices. Rooftop solar itself does not raise prices. However, evidence suggests that when rate structures shift grid costs associated with rooftop solar adoption onto non-solar customers, retail electricity bills can increase.

Policy Implications:

Recent electricity price increases are often attributed to renewable energy policies. The evidence suggests a different driver: rate design, not renewable deployment, is more likely to increase retail electricity bills when rooftop solar expands.

Policy Actions:

1. **Focus affordability reforms on rate design**, like adopting income-based fixed charges or time-varying rates.
2. **Reform rooftop solar compensation** to better reflect grid costs and reduce cross-subsidies.
3. **Support continued deployment of utility-scale renewables**, which are associated with lower electricity prices.

What to Watch

Data center load growth and grid integration, stronger causal tests (IV/event-study approaches), California's NEM 3.0 transition as a natural experiment in cost-reflective net billing.