EXECUTIVE SUMMARY

Using California's Cap-and-Trade Revenue to Lower Electricity Prices

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California has some of the highest electricity prices in the country. These prices — which are too high even accounting for climate and pollution damages (i.e., social marginal cost) — make it harder for people to afford their energy bills and discourage the switch to cleaner electric options like electric cars, heat pumps, and other appliances.

California's greenhouse gas (GHG) cap-and-trade (C&T) program has been integral to the state achieving its climate goals by inducing cost-effective (and thus affordable) emissions reductions. It has also generated over \$50 billion in permit auction revenues since 2013, which can be used to tackle energy affordability through funding direct reductions in retail electricity prices.

An analysis by the Environmental Markets Lab (emLab) at UC Santa Barbara explored how reallocating the \$1.2 billion in C&T funding from the residential California Climate Credit program to directly subsidizing retail electricity rates could lower prices for PG&E, SCE, and SDG&E customers. emLab evaluated three potential subsidy designs and found that:

Subsidy Design 1: funding allocated across all households every month **lowers electricity prices by 4-7%**.

Subsidy Design 2: funding allocated across all households during summer months when electricity demand is greatest **lowers electricity prices by 13-19%**.

Subsidy Design 3: funding allocated across low-income households, as defined by the California Alternate Rates for Energy (CARE) program, every month **lowers electricity prices** by 27-44%.

These price reductions would be larger with more funding, either from additional C&T permit revenue or other state funds (Figure 1). They can also target different populations and times of year.

Affordability Outcomes Under Different Budget Levels

🚃 All Customers 🛛 All Customers (summer months) 📁 CARE Customers 🔹 Social Marginal Cost

Figure 1: Retail electricity price decreases under different budget allocations.

In summary, California's GHG C&T program tackles energy affordability both by offering the most costeffective way to meet climate goals and by generating revenue to help reduce high electricity prices.



Based at the University of California Santa Barbara, the Environmental Markets Lab (emLab) conducts cutting-edge, data-driven research to align environmental objectives with economic incentives. Through collaborative innovation, we design, test, and implement scalable solutions that support both sustainable livelihoods and a resilient planet. Learn more here: <u>www.emlab.ucsb.edu</u>

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