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# Multifamily Households Across California are Paying a Lot More to Charge Their Electric Vehicle

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## Issue

For California to achieve its electric vehicle (EV) adoption and climate change goals, all residents need access to low-cost and convenient charging. However, most residents of multifamily housing (MFH) and urban homes with only street parking (i.e., no garage or private driveway) do not have access to home EV charging.<sup>1</sup> Instead, these residents rely primarily on public direct current fast charging (DCFC) stations where the price of electricity is not regulated and in turn more expensive compared to what a single-family household would pay.<sup>2</sup> Approximately 30 percent of California residents live in MFHs, similar to the U.S. in general, and across the country almost 75% of these households own at least one car.<sup>3</sup>

To better understand inequities in EV charging costs, we compared charging costs<sup>4</sup> at public EV DCFC stations to the cost for single-family housing (SFH) residents charging at home for three California electric utility service areas, the Sacramento Municipal Utility District (SMUD), San Diego Gas and Electric Company (SDG&E) and Pacific Gas and Electric Company (PG&E), and for three specific urban areas - Sacramento, San Diego, and San Jose. We used a combination of observed pricing data from PlugShare, a crowd-sourced database of public EV charging, and public DCFC pricing data from electric vehicle service provider (EVSP) websites, as well as electric utility tariff information from their respective websites.

## Key Research Findings

**The cost of charging at a public DCFC station can be up to 6 times more than charging at a single-family home.**

Because SFHs have the option to charge their vehicles during off-peak hours, the public DCFC price difference can be as much as 6.6 times more in the SMUD service area, 5 times more in the SDG&E service area, and more than double in the PG&E service area. The disparity is greatest in the SMUD service area because its off-peak rates are lower than the other utility service providers. Table 1 compares three pricing plans from EVgo, one of the larger EVSPs that provides public DCFC services. Two plans charge a monthly membership fee in exchange for lower kWh costs, and one requires no subscription but charges more per kWh. To encourage EV adoption, EVgo also introduced a pilot program in 2021 that offers lower prices at some Bay Area stations located near low-income or pollution-burdened communities.<sup>5</sup> The Annual DCFC User Cost Increase is the additional amount that MFH residents pay compared to charging at a SFH. The DCFC Multiplier is how much more expensive the EVSP cost is compared to the electric utility's residential off-peak EV tariff. Even though the EVgo kWh price is comparable in different utility service areas, the multiplier shows that there is a greater cost disparity when MFH residents cannot take advantage of a utility's lowest rate.

	SMUD Service Area			SDG&E Service Area			PG&E Service Area		
	SMUD EV Rate Off Peak: 12:00 - 6:00 A.M.			SDG&E EV-TOU-5 Rate Off Peak: 12:00 - 6:00 A.M.			PG&E EV2-A Rate Off Peak: 12:00 A.M. - 3:00 P.M.		
Off-Peak Utility Baseline >>> EV Cost	\$0.105 /kWh	Annual Cost = \$382		\$0.149 /kWh	Annual Cost = \$544		\$0.26/ kWh	Annual Cost = \$949	
EVgo DCFC Plans	EVgo Price Per kWh	Total Annual DCFC User Cost and (Net Increase)	DCFC Multiplier	EVgo Price Per kWh	Total Annual DCFC User Cost and (Net Increase)	DCFC Multiplier	EVgo Pilot Price Per kWh	Total Annual DCFC User Cost and (Net Increase)	DCFC Multiplier
EVgo PlusMax Membership plan, cost/kWh from 4:00 p.m. to 9:00 p.m. with a \$12.99 monthly subscription	\$0.34	\$1,397 (\$1,015)	3.7	\$0.35	\$1,434 (\$890)	2.6	\$0.39 (high)	\$1,579 (\$630)	1.7
							\$0.28 (low)	\$1,178 (\$229)	1.2
EVgo Plus Membership plan, cost/kWh from 4:00 p.m. to 9:00 p.m. with a \$6.99 monthly subscription fee	\$0.44	\$1,690 (\$1,308)	4.4	\$0.44	\$1,691 (\$1,147)	3.1	\$0.46 (high)	\$1,763 (\$814)	1.9
							\$0.33 (low)	\$1,288 (\$339)	1.4
EVgo Pay As You Go cost/kWh from 4:00 p.m. to 9:00 p.m., no membership or subscription fee, but \$0.99 per session fee	\$0.59	\$2,515 (\$2,133)	6.6	\$0.46	\$2,698 (\$2,154)	5.0	\$0.61 (high)	\$2,588 (\$1,639)	2.7
							\$0.44 (low)	\$1,967 (\$1,018)	2.1

Table 1. EVgo DCFC Plans and EV Rates for Three Utility Service Areas

**Some MFH residents may pay upwards of \$2,000 more per year to charge their EV compared to their SFH counterparts.** If MFH residents in the SDG&E service area utilize the EVgo Pay As You Go option, then they are likely paying \$2,154 more to charge their EV compared to someone living in a SFH with access to off-peak utility rates. EVgo costs in the PG&E service area have the lowest annual cost differential in the amount of \$229 for the EVgo “pilot” or lower pricing plan, and \$630 for the “standard” or higher pricing. In this case the lower EVgo “pilot” price is less than the “standard” or higher price by \$401 annually, which is a meaningful reduction in cost for lower income residents in MFH.

## Policy Considerations

**Allow MFH residents to charge at their local public DCFC at the lower-cost, off-peak, residential utility EV rate.** If SFH residents have the opportunity and convenience

to charge at the lowest available EV rate in their garage or driveway, residents of MFHs should receive the same benefit at a public DCFC. One option is employing multiple pricing options at public DCFC stations, such that qualified MFH residents pay no more for charging than the least expensive, off-peak rates offered to SFH residents at home. With this strategy, different rates could apply to different DCFC user groups, such as local low-income MFH residents, higher income but local MFH residents, EV drivers from the freeway who are from outside the community, Transportation Network Company EV drivers, and others.

**Extend discounted CARE and FERA rate programs to EV charging.** In coordination with the local utility, allow qualified low-income CARE and FERA recipients to pay the same rate for charging at public DCFCs as the reduced rate they pay at home. For those not qualifying for CARE or FERA rates, other affordability solutions could be provided by nonprofit organizations, government agencies, or EVSPs.

**Explore and offer creative solutions for adding EV charging at MFH sites.** For example, in situations where retrofitting is involved at apartments or condos, consider technology solutions to reduce EV charging costs, including: i) utility submetering that is assigned to a space and associated with a primary dwelling meter with reduced data management and billing fees; ii) low-cost, flexible and changeable wiring configurations that allow EV circuits to be re-assigned to different parking spaces; and iii) load management technologies to avoid expensive panel or transformer upgrades where the EV Ready circuit is wired

to the MFH dwelling unit's electrical panel or via the utility meter, or where the EV charging load shares the dryer circuit or other large appliance circuit load.

### More Information

For more information about findings presented in this brief, contact Timothy Lipman ([telipman@berkeley.edu](mailto:telipman@berkeley.edu)), Dwight MacCurdy ([dwm22@sbcglobal.net](mailto:dwm22@sbcglobal.net)), or Diya Kandhra ([diyakandhra@berkeley.edu](mailto:diyakandhra@berkeley.edu)).

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<sup>1</sup>In this brief, MFH includes apartments, condominiums, and other urban homes without home access to EV charging.

<sup>2</sup>California AB631, which became law in 2011, provided that resellers of electricity for public EV charging are not regulated entities nor are the prices for electricity that they sell.

<sup>3</sup>N. Lepre, "EV Charging at Multi-Family Dwellings," Atlas Public Policy, January 2021, <https://atlaspolicy.com/wp-content/uploads/2021/01/EV-Charging-at-Multi-Family-Dwellings.pdf>

<sup>4</sup>Costs are from May 2023

<sup>5</sup><https://www.evgo.com/pricing/location/>

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