



August 21st, 2024

To the California Air Resources Board (CARB):

We write in strong support of CARB's Low Carbon Fuel Standard (LCFS) and appreciate the opportunity to participate in the rulemaking process for this groundbreaking program.

By way of background, Carbon Solutions Group (CSG) is a developer of EV charging infrastructure and an aggregator of environmental attributes. In California, CSG has developed ~230 DCFC and L2 charging ports, which represent roughly 3,000 kW. CSG is developing another 220 charging ports over the next two years in California, which will, in total, represent 10,000 kW.

CSG previously commented upon CARB's proposed LCFS amendments in February and May 2024. In this letter, CSG offers comment on an aspect of the "15-Day Changes"—the topic of widening the scope of base credit participation. Specifically, CSG stresses the critical need for EV charging infrastructure owner-operators (EVSPs) to participate in LCFS base credit generation for multi-unit developments (MUDs).

MUDs are an important sub-section of the residential market due to the relative driver-density per square-foot and the socio-economic plurality of its residents. For example, 38.9% of all residential units in California qualify as "attached units," which amounts to over 4,750,000 attached units in total.¹ More so, over 50% of new builds in California are MUDs, with the overwhelming majority of that figure being composed of structures of five units or more. As such, MUDs represent both a substantial portion of largely unaddressed EV demand, as well as a scalable means of reaching California's climate goals, such as the Advanced Clean Cars II (ACC II) rule. Indeed, ACC II is unachievable without incentivizing the MUD-residing portion of the population.

Furthermore, as noted in CSG's previous public comment letters, single-family homeownership has become cost-prohibitive for many Californians. A communal charging option at MUDs can offer an opportunity for low-to-middle income drivers to adopt EVs with greater ease, thereby addressing important social equity objectives.

However, MUDs—especially retrofit scenarios—present a series of unique challenges that are largely unsupported by any state-level incentive program or subsidy. Furthermore, it should be noted that retrofits make up a substantial part of overall demand. Of the total number of residential structures in California, older structures (44 years or older) comprise 70%.

¹ "California Housing Statistics." June 5, 2020. Accessed via:
<<https://www.infoplease.com/us/census/california/housing-statistics>>

Demand for an on-site MUD charging option is abundant among prospective EV drivers. As various studies have shown, EV drivers prefer to charge at home. For example, December 2023 AutoPacific data reports:

70% of surveyed respondents who currently reside in a condo complex, and 67% of those who live in an apartment building, either intend to purchase, or will consider purchasing an EV in the near future, compared to 63% of those who own a single-family home. At the current time, however, relatively few apartments and condos offer onsite charging for residents, meaning most of these EV considerers will have to be reliant on public charging, which is less convenient and generally much more expensive than charging at home.

42% of all EV rejectors cite lack of a place to charge at home or work is a reason why they don't want an EV, ranking 3rd in their list of rejection reasons. [...] AutoPacific's data also show that the vast majority, 79%, of EV owners who live in an apartment or condo actually do have EV charging available to them where they live. This strongly suggests that most EV considerers who live in an apartment or condo won't make the switch to electric unless their property managers install EV charging on site.²

When it comes to a potential EV charging retrofit, oftentimes, the process starts with residents themselves: would-be EV drivers residing at an MUD express desire for on-site charging. In response, an MUD owner will reach out to CSG, or another EVSP, in order to execute an installation.

Yet, while there is demand from residents and will from the property owner, a series of logistical and financial challenges quickly emerge that often sink any hopes of the installation of EV charging infrastructure at the MUD.

Firstly, most older MUDs have implicit electrical capacity constraints. Increasing capacity alone sometimes requires significant financial investment. Cascading costs usually follow as well. The location of parking spaces is not necessarily close to an electrical room, for example. In turn, structural alterations are often required, driving up costs further. These construction and electric costs obviously precede the actual cost of installation itself. Thus, the financial outlay for an MUD usually ends up being too burdensome to pursue. CSG's experience and analysis indicate that the total cost to install charging infrastructure in an MUD can range from \$5,000 to \$25,000 *per L2 charger*.

While HOAs do have budgets for upgrades, older buildings rarely, if ever, have "EV charging" as a line item in that budget. Therefore, there is no "in-house" capital to allocate for an EV charging retrofit. Likewise, there is often times no utility incentive program or rebate program to facilitate the installation of EV charging in MUDs. And while an MUD could feasibly participate in incremental LCFS credits, these fractional credits are insufficient to reduce costs to a level that will result in the execution of an installation, particularly in a retrofit scenario.

² AutoPacific, "EVs Have Greater Appeal to Apartment and Condo Residents than Homeowners." December 12, 2023. Accessed via: <<https://www.autopacific.com/autopacific-insights/2023/12/12/evs-have-greater-appeal-to-apartment-and-condo-residents-than-homeowners>>

These challenges are manifest before even considering the costs of the EVSP, such as the need to cover the capital costs of installation and the operational costs of running the charging stations. Part of this cost recovery process involves a markup on electricity, which of course has its ceiling, beyond which no resident-driver is willing to pay.

In short, MUD residents are not buying EVs because there is no on-site EV charging option at home. Conversely, MUD owners presently lack the financial incentive to take the risk to install EV charging optionality on-site. As such, a substantial portion of California's transportation pool remains unconverted to EVs, resulting in a massive obstacle towards reaching California's climate goals. This supply-demand disparity is another example of the chicken-or-the-egg dilemma that has beleaguered EV adoption overall. However, with groundbreaking programs like LCFS, that dilemma has been minimized in certain sectors of the overall transportation pool. It is CSG's hope that the MUD sector can likewise be incentivized successfully.

Therefore, CSG respectfully asks CARB to consider allowing EVSPs / property owners to participate in base credits *and* incremental credits for residences qualifying as MUDs. Materially, these credits would be generated from communal L2 chargers that are accessible to any resident or guest of the MUD. This base credit participation would help balance the financial risk that EVSPs and property owners undertake each time an MUD decides to install EV charging infrastructure.

The above comments are offered in light of CARB's ongoing expertise, diligence, and efforts to optimize California's LCFS. We thank you for your vision and ethic, and remain, as ever, proud participants of this historic program.

Best Regards,

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