



May 10th, 2024

To the California Air Resources Board (CARB):

We write in strong support of CARB's Low Carbon Fuel Standard (LCFS) and wish to express our appreciation for the ability to participate in, and comment upon, the development of this historic program.

By way of background, Carbon Solutions Group (CSG) is a developer of EV charging infrastructure and aggregator of environmental attributes. In California, we have developed ~230 DCFC and L2 charging ports, which represent roughly 3000 kW. We are developing another ~220 charging ports over the next two years in California, which will, in total, represent 10,000 kW. As a REC aggregator, CSG has passed on \$160M to 30,000 consumers across the U.S. We are in the process of bringing 1,400 residential solar systems online in California this year.

Previously, we commented upon CARB's proposed LCFS amendments as part of the comment period that ended in February 2024. Today, we respectfully offer three additional comments in light of CARB's recent April 10th workshop. In summary:

I. We would like to respectfully reiterate the importance of allowing owners of residential EV charging infrastructure to participate in residential base credits. This is a crucial issue when it comes to addressing the equity gap in California, incentivizing electrification, and awarding the best available utilization data.

II. We previously supported an increased CI step down for 2025. At minimum, we would strongly encourage a 7% step-down. However, we now believe a 9% step-down would be even more effective.

III. As per the amendment of Subsection 95486.2(b)(4)(H): We respectfully appeal for qualification of this capex multiple to occur upon passage of the amended regulations (ca. 2024), as opposed to its presently stated 2026 start date. Should the 2026 date remain intact, we request further clarification as to whether that date indicates timing for project registration or whether it means the capex multiple applies only to projects that come online after that 2026 date.

These points are examined in greater detail as follows.

I. Residential: Base Credit Qualification

As presently dictated, residential base credits for EV charging—which make up the majority of residential credit value—default to utilities. We believe this procedure inadvertently undermines the state’s transportation electrification goals. This inefficiency manifests across two main categories: i) failure to properly incentivize LDV electrification across all income levels in an equitable fashion; and ii) failure to award the best available utilization data.

In light of the April 10th workshop, we again strongly appeal to CARB to consider awarding base + incremental residential credits to the owners and operators of residential EV charging infrastructure.

Credits Should Incentivize the Primary Risk Takers

For California to reach a majority ZEV transportation pool, it will need to incentivize low- and moderate-income households to convert to LD EVs from gasoline-fueled cars. Many of these households rent within multi-unit developments and struggle paycheck-to-paycheck. For these individuals, cash-on-hand is a top priority. Unless a policy-based program incentivizes an economically vulnerable citizen to take the financial risk to make a fuel switch, that citizen has little reason to adopt a new type of vehicle.

For individual drivers, incentives need to address both the EV purchase as well as readily available charging infrastructure—without the latter, the former becomes an impractical purchase. According to multiple studies, EV drivers prefer to charge their vehicles at home. Therefore, the need for economic incentives is particularly pressing for residential charging infrastructure, which can cost a Californian between \$1,000 and \$4,000 to operationalize in a new, single-family home—on top of the vehicle purchase. For retrofits, such as those in multi-unit developments, the financial outlay is much more burdensome, with costs ranging from \$3,000 to \$15,000 *per charger*. Unlike EVs themselves, which represent a depreciating but re-sellable asset class, there is no viable secondary market for EV charging infrastructure. Thus, residential charging infrastructure, once installed, is a sunk cost.

In spirit, California’s LCFS is exactly the type of policy-based incentives program that can award property owners who take on the risk to adopt residential EV charging infrastructure. However, in practice, the program does not sufficiently award the primary financial risk taker in this process but instead awards the state’s utilities. California’s utilities no doubt contribute in an outsized way to the state’s total energy ecosystem, but these entities bear little-to-no financial risk when a property owner or EVSP owner/operator decides to put up the capital to install residential EV charging infrastructure.

Rather, amending CARB’s current regulations to award base credits + incremental credits to residential property owners that install EV charging infrastructure would represent a more equitable program and likely lead to much greater gains in overall EV adoption in California.

Rebate Programs Are Not Enough to Move the Needle

As it stands, utilities are supposed to funnel base credit profits into rebate programs, which ostensibly support electrification and offer EV incentives for low-income communities. In this way, it can be argued that rebates are an incentive for the property owner. While this structure is well-intentioned, any diluted incentive, such as an indirect rebate still requires the buyer to put up a significant amount of capital before achieving any sort of payback—which, in a rebate scenario, could be an incomplete payback over a long period of time. For low-income and moderate-income Californians, this indirect rebate structure will likely result in many homeowners opting to save their cash or pay down existing debt, rather than take on greater financial risk by investing in EV charging infrastructure.

The California Energy Commission reported that, as of the end of last year, only 3.8% of light duty vehicles on the road were battery-electric powered—versus 87.5% of vehicles being gasoline fueled. For context, Tesla Model Ys and Model 3s far and away comprised the majority of that battery-electric powered 3.8%. These statistics offer further proof that the current rebate structure may not be sufficient on its own.

Administrative Overburdening Can Be Avoided

The main rationale for awarding base credits to utilities appears to be premised upon a well-justified fear of administrative overburdening. That is, if every single homeowner in California became a LCFS account holder, administrative capacity would likely be overwhelmed in short order. However, we believe that creating credit volume floors and an “approved vendor” process can incentivize aggregation and limit the potential for any account creation overload that might overwhelm a regulatory agency.

Such an approach would be similar to many Renewable Portfolio Standard (RPS) programs, which delegate account creation to approved installers/aggregators that bundle home system-generated credits, while still passing on the actual credit earnings to homeowners. Aggregators can also help reduce the overall upfront cost to the homeowner by way of upfront payments and reduced installation costs.

Charge Point Owners Maintain the Best Available Utilization Data

Utility-generated base credits do not rely on the best available data. Unless a utility operates a residential charge point, or the homeowner has charging infrastructure sub-metered, utility-derived utilization data is based on averaging and does not reflect real, specific utilization. Therefore, as financial instruments, utility generated base credits are not representing actual kW/CO₂e value per charger but rather represent a best guess of kW/CO₂e value per charger. From a market perspective, this lack of stringency in base credit generation is unlikely to help mitigate depressed credit prices.

On the other hand, as noted in our previous letter, residential property owners with on-site EV charging infrastructure—as well as EVSE developers, network operators, and some OEMs—have access to real utilization data specific to each charge point/vehicle. This data is exact and not based on averages. Therefore, the instrumentalizing of kW/CO₂e value in credits generated by residential

property owners or network operators leads to exact metrics and, thus, more stringent crediting volumes.

Prioritize Multi-Unit Dwellings If Need Be

In short, we believe that California's LCFS will be most effective if it rewards the primary financial risk taker in EV charging infrastructure installation—that is, the property owner paying for the installation. This risk taker also has the added value of providing access to the best available data. However, should CARB decline to address this equity gap in the near term. We respectfully request that CARB, at minimum, award base + incremental credits to owners of EV charging infrastructure in residential multi-unit dwellings. Considering single-family homeownership has become cost-prohibitive for many Californians, multi-unit dwellings and rentals are the single most important property type to incentivize, as a communal charging option in multi-unit/rental residences can open up the opportunity for low-to-middle income drivers to adopt EVs with greater ease.

II. Carbon Intensity Step-Down

We were encouraged to hear that CARB is considering more stringent CI step-down benchmarks during the April 10th workshop. As noted in our previous letter, we support *at least* a 7% step-down in 2025. However, we would commend and welcome an even more stringent 2025 step-down of 9%.

III. Public: FCI Timing for LDV

As noted previously, regarding the proposed LD-FCI 1.5 capex multiple noted in Subsection 95486.2(b)(4)(H), we respectfully appeal for this multiple to qualify for immediate application upon passage of the regulation (ca. 2024), as opposed to its stated January 1st, 2026 start date.

However, should the 2026 start date remain, we would ask for, at minimum, further clarification as to its applicability. Namely, it remains unclear as to whether the proposed language would apply to projects that *certify* on or after January 1st, 2026 or whether the amendment concerns those projects which *come online* after January 1st, 2026. In either case, we respectfully reiterate that immediate applicability of this multiple, upon passage of the regulations, will best serve electrification of California's transportation pool.

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 world-leading program.

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