

November 11, 2022
Clerk of the Board
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Proposed Fiscal Year 2022-23 Funding for Clean Transportation Incentives

Chair Randolph and Members of the Board:

Tesla appreciates the opportunity to provide feedback on the proposed Fiscal Year 2022-23 Funding Plan for Clean Transportation Incentives (Funding Plan). The transition to zero-emission vehicles (ZEVs), a critical element in the state's efforts to reduce greenhouse gas emissions, will not be easy. Although the various performance standards and programs that CARB has codified, or is in the process of codifying, establish a medium and long-term trajectory that, if realized, will enable the state to achieve its overarching objectives to combat climate change, in the immediate and near-term, incentive support to help the transportation sector gain experience and comfort with a fundamentally new technology is essential.

Nowhere is this more true than in the case of medium duty (MD) and heavy duty (HD) vehicles. While we are confident that emerging offerings, like the Tesla Semi, will prove economically and operationally attractive to industry, we think it would be a mistake to assume that these vehicles will be adopted at the pace and scale necessary to realize the state's ambitious emission reduction goals. Without near-term support to overcome fleet operators' real and perceived economic, technology and operational risks, many fleets are likely to lag in deploying ZEVs and slow the pace of the ZEV transition.

Our sense of the market is that larger fleets are best positioned and willing, with some support, to prove out MD and HD ZEV technologies. Recognizing that these fleets are more likely to have a diversified set of vehicles and duty cycles that need to be met, they have more flexibility than smaller fleets to incorporate ZEVs where deployment makes the most economic and logistical sense. A similar rationale applies to the issue of charging infrastructure. Unlike smaller fleets, which are more likely to have to rely extensively on public charging, larger fleets are better situated to be masters of their own fate in this regard, able to deploy depot charging, and thus able to address their charging needs with greater certainty.

With this backdrop, Tesla wishes to express our profound concerns with the proposed Funding Plan, specifically as it relates to California's Hybrid and Zero Emission Truck and Bus Voucher Program (HVIP). If adopted, the proposed Funding Plan would greatly limit the ability of large fleets to access HVIP funding and hinder the ZEV transition.

To address these concerns, Tesla respectfully asks that at a minimum, CARB modify the Funding Plan as it relates to HVIP by removing the minimum bulk purchase order and

disadvantaged community (DAC) domiciling requirements applicable to fleets with more than 500 vehicles.

The proposed conditions placed on fleets with more than 500 vehicles in HVIP will function to largely, if not wholly, exclude these fleets from participating in the program. These conditions are not grounded in the real-world experience with the program to date and fail to recognize the pivotal role that larger fleets will play in the ZEV transition. Among other things, large fleets are a critical early source of demand for ZEVs, and are fundamental in demonstrating that ZEVs can be effectively integrated into freight operations and provide meaningful economic and operational advantages relative to conventional trucks. The current provisions related to larger fleets appear to exist in a world where it is a foregone conclusion that large fleet operators will embrace these vehicles at scale regardless of whether there is funding support to do so. And yet there is no evidence to suggest that this is the case. Notably, according to the California Energy Commission, there are currently only 306 MD and HD ZEV trucks on the roads in CA today¹, a tiny fraction of the overall truck fleet in the state and indicative of just how nascent the transition toward ZEVs is currently. The near-term market dynamics are such that it is the larger fleets that are best positioned to purchase and deploy these trucks. It seems an odd choice by CARB to dramatically curtail and/or de facto eliminate their ability to participate in an incentive program that is ostensibly intended to encourage entities to take early action at this time.

While it may be intuitively appealing to point to the Advanced Clean Fleets (ACF) regulation, which is anticipated to come into force in 2024, as ensuring that larger fleets will purchase these vehicles, this assumption fails to hold up under scrutiny. First, the ACF remains a proposed regulation and has yet to be adopted by the Board. Second, and perhaps more importantly, under the portions of the ACF that would apply to High Priority and Federal Fleets, which covers a substantial share of the overall MD and HD vehicles in the state, we anticipate that a significant number of entities will opt into the ZEV Milestone compliance pathway. Under this pathway certain vehicle types (most notably the heaviest duty and most problematic from an emissions and public health standpoint) will have no obligation until 2027 and 2030 and even then, those obligations will be relatively low as a share of total fleet size.² Furthermore, owing to the high degree of compliance fungibility that CARB has proposed providing entities that opt into the ZEV Milestone pathway, it seems plausible, and indeed likely, that even these small obligations will be met in many cases through the deployment of lighter duty ZEVs.³ For these reasons, we do not think that it is reasonable to assume that the ACF will yield significant investments in HD vehicles generally, and Class 8 sleeper and day cabs specifically, for some time. As a result, the role of HVIP in catalyzing early action and helping set the stage for ZEV adoption at meaningful scale, particularly for the heaviest duty segments, remains critical.

¹ Medium- and Heavy-Duty Zero-Emission Vehicles in California Dashboard; California Energy Commission; <https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics/medium-and-heavy>

² Appendix A-2 Proposed Regulation and Order – Advanced Clean Fleets Regulation – High Priority and Federal Fleets, Section 2015.2, Table A: ZEV Fleet Milestones by Milestone Group and Year; <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/acf22/appa2.pdf>

³ *Id.* Section 2015.2(c).

In the sections below, we discuss Tesla's suggested modification to the Funding Plan in more detail.

Remove the minimum bulk purchase order and the DAC domiciling requirements applicable to fleets with more than 500 vehicles.

Under the current proposed regulation, for a fleet with more than 500 vehicles to be eligible for HVIP incentives, the following conditions need to be met:

- First, to the degree a fleet with more than 500 vehicles seeks to use HVIP funds to purchase battery electric vehicles (BEVs), they need to meet a minimum bulk purchase threshold of 30 BEVs. Notably, assuming they can meet this requirement, incentive eligibility only applies to additional BEVs beyond the initial 30 vehicles.⁴ This requirement does not apply to Fuel Cell Vehicles (FCVs).
- Second, any vehicles that receive incentives must be domiciled in DACs.⁵

These conditions are not reasonable insofar as they will ultimately serve to largely, if not entirely, exclude the majority of these larger fleets from participating in the program. For reasons already discussed above, large fleets, and especially very large fleets, have an essential role to play in driving near term demand for ZEVs and in proving out the technology. We note that these large fleets comprise a significant share of the overall MD and HD vehicles in California. According to information compiled by CARB derived from the large fleet reporting obligation, fleets with more than 500 vehicles account for 265,846, or 69%, of the vehicles represented by the fleets that submitted data.⁶ Because of the source of this data, we don't know what percentage of the total vehicles in the state these larger fleets account for, but it is nonetheless clear that these larger fleets represent a very significant part of the overall market and are particularly significant among those fleets that are best positioned to deploy ZEVs in the near term.

Concerns regarding the minimum bulk purchase eligibility threshold

Tesla believes that rather than motivating larger fleets to make greater investments in BEVs, the minimum bulk purchase threshold will instead discourage entities from making any investments at all. Requiring entities, even larger fleets, to make such a large commitment to BEVs is simply not realistic or practical. For example, for a large fleet operator of Class 8 sleeper cabs to meet the purchase order requirement they would have to commit to an investment of approximately \$9.1 million for the vehicles before they would receive any

⁴ Fiscal Year 2022-23 Funding Plan for Clean Transportation Incentives, p. 140

⁵ Id.

⁶ "Large Entity Fleet Reporting – Statewide Aggregated Data", California Air Resources Board, Number of Vehicles by Fleet Size, p. 5, https://ww2.arb.ca.gov/sites/default/files/2022-02/Large_Entity_Reporting_Aggregated_Data_ADA.pdf

incentive support.⁷ This does not include any additional investments that would be necessary in charging infrastructure or any other costs.

Notably, the effective per vehicle incentive, when the initial 30 non-incentivized vehicles pursuant to the bulk purchase eligibility threshold are factored in, is much lower than the proposed funding plan would seem to suggest, compounding the adverse impacts of this policy. For example, consider a fleet with more than 500 vehicles that purchases 40 Class 8 ZEVs. Under the proposed Funding Plan, ten of these vehicles would receive an incentive of \$60,000 per vehicle. But in reality, when one factors in the 30 non-incentivized vehicles they were required to purchase as a condition of eligibility, the actual per vehicle incentive this fleet receives is only \$15,000 per truck ($\$60,000 \times 10 \text{ trucks} \div 40 \text{ trucks}$), a reduction in the base level incentive of almost 90%. It is difficult to see this relatively small incentive as being sufficient to motivate large fleets to pursue investments in ZEVs given CARB's vehicle cost estimates. Indeed, even a fleet that maxes out their HVIP incentives by ordering 60 ZEVs (30 of which would be eligible for incentives and thus hitting the fleet voucher cap for non-drillage trucks), would receive an incentive of \$30,000 per truck, a reduction in the base level incentive of 75%.

Even large fleet operators will likely want to start with a relatively small purchase of BEVs, well below the 30-vehicle threshold, in order to gain real world experience with what is not unreasonably perceived as a new and relatively untested technology. The hope, of course, is that experience with an initial set of HVIP-funded BEVs will demonstrate to these large fleets that BEVs offer meaningful advantages, including operational savings, thereby driving faster adoption beyond any regulatory requirements or floors. Far from advancing the goals of AB 179 to enhance market development and benefit disadvantaged communities, as the Funding Plan asserts, the bulk purchase eligibility threshold will undermine that goal by increasing the costs that the largest fleets face to begin integrating BEVs into their operations. It is counterproductive for CARB to reduce support for those entities, regardless of fleet size, that are interested in dipping their toes in the BEV waters, by erecting additional barriers to accessing HVIP to catalyze those investments. CARB has presented no data, qualitative or otherwise, to suggest that a meaningful number of large fleets will choose to invest in ZEVs at any scale, much less at the scale the minimum bulk purchase eligibility threshold would require them to, in the absence of funding support.

Notably, FCVs are exempt from this eligibility criterion, which the Funding Plan justifies on the basis of FCVs having limited market penetration.⁸ This seems to imply that BEVs enjoy substantial market adoption, something that is simply not supported by the facts in the context of MD and HD vehicles, with only 306 MD/HD ZEV trucks currently deployed.⁹ While it is true that there are currently no FCV trucks deployed based on this data set, it

⁷ CARB's Draft Advanced Clean Fleets Total Cost of Ownership Discussion Documents assumes that a 2025 Model Year Class 8 Battery Electric Sleeper Cab will cost \$304,629 (see Table 5: New Vehicle Price Forecast, p. 16). Multiplying this by 30 equals \$9.1 million.

⁸ Fiscal Year 2022-23 Funding Plan for Clean Transportation Incentives, p. 140

⁹ Medium- and Heavy-Duty Zero-Emission Vehicles in California Dashboard; California Energy Commission; <https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics/medium-and-heavy>

would be a wild overstatement to suggest that the deployment of MD/HD BEV trucks is anything but in the earliest stages of market acceptance.

Concerns regarding the DAC domiciling requirement

The DAC domiciling requirement is also problematic insofar as it will unnecessarily prevent some fleet operators from being able to access HVIP funds, and thus forgo investments in ZEVs that would otherwise occur. While we do not have data on where very large fleets currently domicile their vehicles and how those align with DACs, it seems reasonable to assume that such decisions are essentially exogenous to whether or not an entity elects to participate in a program like HVIP. In other words, where they domicile vehicles is largely preset and not impacted by HVIP participation. Furthermore, the current proposal appears to assume that vehicles domiciled outside of DACs, when deployed by larger fleets, provide no benefits to DACs or to the public more broadly, and thus are unworthy of any HVIP support. This makes no logical sense and this view, if it is animating the proposal, is belied by the fact that this domiciling requirement is only applicable to ZEVs deployed by fleets of more than 500 vehicles. There is nothing magical about larger fleets that would somehow render their investments in ZEVs domiciled outside of DACs as worth less from an emissions and public health standpoint relative to ZEV deployments by smaller fleets.

To the degree domiciling in DACs is a reasonable proxy for determining if these vehicles are displacing conventional vehicles that would otherwise operate in these localities, Tesla suggests that rather than conditioning eligibility to receive any incentives on domiciling vehicles in DACs, that instead CARB establish a DAC bonus whereby the per-vehicle incentive that a fleet operator of any size is eligible to receive is increased by some factor if the vehicles receiving incentives are deployed in a qualifying community.¹⁰

In light of the forgoing discussion, Tesla respectfully requests that the bulk purchase eligibility threshold and the DAC domiciling requirement applicable to fleets with more than 500 vehicles be eliminated from the Funding Plan.

Tesla has committed itself to developing compelling zero-emission vehicles to support the transition toward sustainable energy, including through substantial investments in the Tesla Semi. Funding support, like that provided via programs like HVIP, continues to play a vital part in overcoming immediate and near-term challenges to widespread adoption. This is especially true in the case of medium and heavy-duty vehicles where fleets of all sizes will want to be certain that ZEVs can be effectively integrated into their operations before wholly committing to this emerging technology. Over time, we fully expect these vehicles will prove their superiority over conventional vehicles, but based on current levels of adoption, the market has quite a way to go before ZEVs will be fully embraced. While larger

¹⁰ Currently a 15% "plus up" is provided to fleets with 10 or fewer trucks and that have less than \$50 million in annual revenues if the HVIP-funded vehicles are domiciled in a DAC; See Implementation Manual for Hybrid and Zero Emission Truck and Bus Voucher Incentive Project, Zero-Emission Vehicle Voucher Table; p. 25. <https://californiahvip.org/wp-content/uploads/2022/03/HVIP-FY21-22-Implementation-Manual-03.15.22.pdf>

fleets, including those with more than 500 vehicles, are better positioned to deploy ZEVs in the near term and thus have a central role in proving out the business case, it is by no means guaranteed that they will adopt them at the scale and speed necessary to achieve California's ambitious climate objectives. HVIP is a key catalyst to near-term adoption to the degree it, in effect, compensates for the higher upfront costs associated with these vehicles and the technology risk that entities are assuming by deploying them.

We implore CARB to remove the various conditions and limitations that are currently included in the Funding Plan, and which, if adopted, will dramatically limit the ability of larger fleets to access HVIP funding, particularly fleets with more than 500 vehicles. Rather than advancing the state's efforts to accelerate the transition to ZEVs, these restrictions will impair those efforts, to the significant detriment of those communities that are disproportionately impacted by conventional medium and heavy-duty vehicles today.

Thank you for your consideration,

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