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Submitted electronically via arb.ca.gov

California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Tesla comments on the July 7, 2022 Public Workshop to Discuss Potential Changes to the Low Carbon Fuel Standard (LCFS)

Dear Ms. Laskowski and California Air Resources Board's (CARB) Transportation Fuels Branch Staff:

Pursuant to the CARB staff's request for feedback on the July, 7 2022 LCFS Workshop (lcfs-wkshp-jul22-ws), Tesla respectfully submits the following comments. Further, Tesla incorporates by reference its January 7, 2022 comments[1] in response to CARB Staff's December 7, 2021, Potential Future Changes to the LCFS Program Public Workshop and the June 23rd, 2022 comments on the Draft 2022 Climate Change Scoping Plan submitted in coordination with Audi of America, Bridge to Renewables (BTR), and Rivian Automotive.[2]

California's LCFS Program has been an essential contributor to realizing California's Greenhouse Gas and NOx emissions reductions. Tesla continues to support CARB and the state of California in defending the state's authority under §209 of the Clean Air Act and the state's vehicle greenhouse gas (GHG) emissions standards.[3] Tesla shares and appreciates the leadership CARB, CARB Staff and Governor Newsom have exhibited in pursuit of California's ambitious climate goals. With the comments below, Tesla seeks to provide CARB staff with general positions to consider as more detailed stakeholder conversations unfold and in pursuit of final LCFS rules and regulations that achieve the maximum technologically feasible and cost-effective greenhouse gas and criteria air pollutant emissions reductions that protect the health and welfare of all the state's residents and its environment.

A. Tesla Supports Adjusting CI Targets, Increasing Stringency and Interim Reviews

As CARB Staff notes in slide 6, "LCFS is over-performing." The effects of over-performance on the businesses advancing clean transportation options is a reduction in revenue available to reinvest and accelerate further adoption of EVs and use of electricity as a transportation fuel. Put another way, over-performance slows opportunities to reduce emissions further. This is because when over-performing, credit pricing declines,

[1] https://www.arb.ca.gov/lists/com-attach/74-lcfs-wkshp-dec21-ws-VWcFMlJjWTsANlNk.pdf
[2] https://www.arb.ca.gov/lists/com-attach/4195-scopingplan2022-BmVcO1IMAyMGYwBv.pdf
[3] See e.g., *Union of Concerned Scientists v. NHTSA*, Docket No. 19-1230 (Consolidated with 19-1239, 19-1241, 19-1242, 19-1243, 19-1245, 19-1246, 19-1249) (D.C. Circuit filed Nov. 15, 2019) (challenging EPA's CAA waiver withdrawal and protectively challenging NHTSA's EPCA preemption rule); *California, et al.v. EPA,* Docket No. 18-1114 (consolidated) (D.C. Circuit, Oct. 25, 2019); Tesla, Comments to EPA on Reinstating California Waiver (July 6, 2021); Tesla, Comments on NHTSA Preemption Regulations (June 11, 2021).

sending a signal to the clean transportation market that there are going to be fewer dollars to reinvest. Thus, currently, the LCFS credit market is oversupplied, suffering from the success of the LCFS program.

While wholeheartedly congratulating CARB for the programmatic success, Tesla suggests that CARB consider signaling preference towards an early CI step-change in 2024, as shown in Figure 1 below. Without such a step-change, the program will likely continue to over-perform in the near-term, keeping price signals depressed, slowing investments and innovation towards California decarbonization. A step-change would rebalance the market and restore a sense of urgency. Such bold action would also acknowledge the importance of reducing carbon sooner rather than later, as reducing a ton of CO2 emitted today is more impactful than reducing a ton of CO2 in 2045, due to the cumulative warming effect resulting from the long atmospheric lifetime of CO2.

See Figure 1 below.

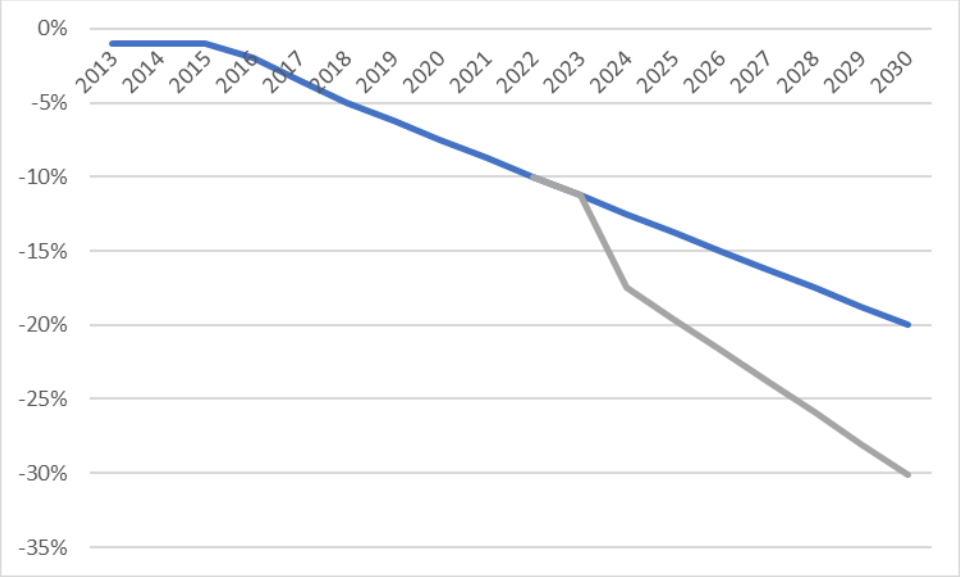

Figure 1: Compares the current CI path (blue line) to Tesla's suggested step –change (grey line) to correct for historic success and continues at a linear pace towards 30% by 2030.

Pending modelling outcomes inclusive of stakeholder input, Tesla also encourages CARB staff to consider targeting reductions beyond the 30% by 2030 option in an effort to reach net-zero by 2045. As it will be essential to track progress, particularly whether some technologies realize hopeful reductions, periodic review should be required. As such, Tesla supports CARB implementing a periodic reevaluation on the way to a 2045 target.

B. Tesla Encourages CARB to realign Light-Duty Vehicle LCFS Credit Awards to Incentivize EV Use and Adoption

As an early leader in charging infrastructure build-out, Tesla understands and supports LCFS crediting as a tool to accelerate and incentivize investment in EV charging infrastructure. Range anxiety, alleviated by charger availability continues to be a top concern for potential EV adopters.[4] LCFS infrastructure crediting, capacity credits and otherwise, have historically provided light-duty (LDV) EV charging installers reasonably reliable revenue that can be leveraged to finance further infrastructure related expansion, thereby increasing consumer awareness, confidence and propensity to purchase an EV while growing clean energy jobs. LCFS should continue to play a role in LDV infrastructure build out.

[4] https://www.utilitydive.com/news/deloitte-electric-vehicles-consumer-interest-rising-range-anxiety/569938/

However, for LDVs, LCFS also provides opportunity to address other consumer concerns such as up-front costs. CARB's Clean Rewards Program (CRP), which began providing on-the-hood incentives for the purchase on an EV in 2019 is an example of LCFS credits used to address another critical barrier to adoption. Recently, Tesla was made aware that CRP rebates are being reduced to $0. The CRP was initially designed to provide qualifying consumers with a $1500 purchase incentive. The reduction to $750 and now $0 is troubling in that the program now appears unreliable at best. Keeping in mind that the CRP program was only implemented after years of struggling utility offered incentive programs. As part of the LCFS rulemaking, Tesla therefore encourages CARB staff to consider redistribution of credit awards and the opportunities each stakeholder group in the electrification value chain can offer to enhance and prolong compelling consumer incentives to purchase and utilize EVs. It may go without saying that understanding changes in consumer sentiment including consideration of accessibility requires periodic review and adjustment.

C. LCFS Crediting, Including Capacity Credits, Should Support Medium-Heavy Duty (MHD) Infrastructure

In 2017, Tesla introduced the Tesla Semi to the world, a Class 8 truck designed from the ground up to be the most efficient and safest truck on the market. The Tesla Semi represents an opportunity to have an outsized impact on reducing NOx and GHG emissions from goods movement and transportation. The Semi comes in two models, with ranges of 300 and 500 miles respectively, and will demonstrate that an all-electric truck can meet virtually any duty cycle when paired with the Semi Charging system that Tesla is developing.

In a January 2022 white paper published by the Zero-Emissions Transportation Association (ZETA), "MHDVs produce 24.4% of all emissions across the transportation sector, making them the single largest contributors to U.S. GHG emissions. These emissions include PM2.5, NOX, and CO2, pollutants which are linked to long-term respiratory, cognitive, and autoimmune impairment."[5]

Additionally, MHD Combination trucks –of which the vast majority are semi-trucks –in the U.S. account for just 1.1% of the total fleet of vehicles on the road. That said, because combination trucks have high fuel consumption due to their weight and heavy utilization, they account for approximately 18% of all U.S. vehicle emissions. Electrifying the heavy-duty truck segment is an essential part of transitioning the world to sustainable energy.

Since unveiling the Tesla Semi in late 2017, a significant number of fleets with substantial freight needs have placed reservations for the truck, indicating broad industry demand for heavy-duty electric vehicles.[6] These fleets will be deploying the Tesla Semi in a wide range of applications, including but not limited to, manufacturing, retail, grocery and food distribution, package delivery, dedicated trucking, rental services, intermodal, drayage, and other applications. Companies with operations throughout North America representing every major trucking sector and category of the economy have reserved the Tesla Semi, ranging from food service to logistics to retail.

With announcements to reach Semi scale production in 2023, Tesla offers the following thoughts on MHD Fast Charging Infrastructure (FCI), addressing many of CARB Staff's questions within:

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[5] Zero Emissions Transportation Association, Medium- and Heavy Duty Electrification: Weighing the Opportunities and Barriers to Zero Emission Fleets, January 2022, https://fs.hubspotusercontent00.net/hubfs/8829857/ZETA-WP-MHDV-Electrification_Opportunities-and-Barriers_Final3.pdf?utm_medium=email&_hsmi=201943899&_hsenc=p2ANqtz-8eoZgga7znbaZR7rKv1BaBniH18i3bFI9C8FLIYVA9UYMBZ-H5_7edvGf11_aMiDLUt4tVYShiR--I9VYfDXozCMAQgQ&utm_content=201943899&utm_source=hs_email

[6] See e.g., Yahoo Finance, Tesla Gets Order For 150 Semi Trucks from Canadian Company As It Prepares For 'Volume Production' (Nov. 5, 2020); The Street, Walmart Triples-Down on Tesla Semi Reservations (Sept. 29, 2020); Business Insider, Tesla has a new customer for its electric Semi — here are all the companies that have ordered the big rig (Apr. 25, 2018).

- At this early stage of vehicle deployment and with California's ambitious MHD conversion goals, Tesla encourages Staff to maintain flexibility in LCFS MHD crediting and at least initially and until further maturation, support both fleet and public refueling.
- Further, while Tesla does not have a precise recommendation on the total HRI/FCI credit availability at this time, maintaining equivalency across fuel types inclusive of max station capacity seems wise. For example, LCFS crediting could provide similar services on volume of MHD vehicles as HRI credit opportunity.
- Tesla once again encourages staff to maintain flexibility when it comes to locational, networking or shared LDV-MHD sites. Prematurely narrowing LCFS support for infrastructure deployment may have the unintended effect of slowing deployment during a time when rapid expansion should be forefront.
- Similarly, the industry has not settled upon a standard connector. In order to allow for technological improvements at this early market development stage, Tesla asks for time to allow the market to mature and for CARB staff to allow for the flexibility to do so.

Tesla is encouraged by Staff's initial LCFS stakeholder solicitation and looks forward to working with CARB to ensure further programmatic success.

Respectfully submitted,

Thad Kurowski

Public Policy & Business Development