1333 H Street, NW, Floor 11 West
Washington, DC 20005

Submitted Electronically

January 7, 2022

Cheryl Laskowski
Chief, Transportation Fuels Branch Strategies Division
California Air Resources Board

RE: Potential Future Changes to the LCFS Program Public Workshop Comments

Dear Ms. Laskowski:

Tesla respectfully submits these brief, non-exhaustive, comments responsive to the California Air Resources Board's (CARB) staff presentation at the December 7, 2021, Potential Future Changes to the LCFS Program Public Workshop.

I. Introduction

Tesla's mission is to accelerate the world's transition to sustainable energy. Moreover, Tesla believes the world will not be able to solve the climate change crisis without urgently reducing air pollutant emissions—including carbon dioxide (CO2) and other GHGs—from the top two emission sectors, transportation and power.

In the U.S., Tesla conducts vehicle manufacturing and assembly operations at its factory in Fremont, CA, and produces electric drive trains and manufactures advanced battery packs, as well as Tesla's energy storage products, at its Gigafactory Nevada in Sparks, NV. Tesla also builds and services highly automated, high-volume manufacturing machinery at its facility in Brooklyn Park, MN, and operates a tool and die facility in Grand Rapids, MI. Tesla produces solar energy and vehicle charging products at its Gigafactory New York in Buffalo, NY. Tesla is the last major carmaker remaining in California, and the largest manufacturing employer in the state with more than 30,000 employees at our Fremont facility, adding over 10,000 new jobs since 2020.

Tesla also continues to make significant investments in advancing EV, solar, and battery storage technology with almost $1.5B dedicated to research and development in 2020 alone.[1] A recent analysis found that Tesla's R&D investment triples that per vehicle compared to other manufacturers.[2] The company is also investing to establish, and continues to grow, a large network of retail stores, vehicle service centers, and electric vehicle charging stations to accelerate and support the widespread adoption of its ZEV products.[3] Since 2012, Tesla has invested heavily in siting, building, and operating EV charging infrastructure. In 2013, Tesla had just eight Supercharger Stations in North America. At end of 2021, this global network has grown to include over 3,300 Supercharger Stations with more than 30,000 individual connectors.[4]

Tesla appreciates CARB's leadership in addressing the climate crisis and generally supports the Broad Principles for Policy Concepts noting that in particular, programmatic stringency (e.g., declining CI compliance targets) leading to an acceleration to zero emission vehicle adoption is critical.

II. Expedite LCFS Implementation Schedule

The climate crisis is happening now, impacting California in unprecedented ways, and affecting the safety and health of too many Californians.[5] Therefore, we must accelerate our actions to mitigate and adapt to climate change, and more quickly move toward our low-carbon, sustainable, and resilient future.[6] As one of the preeminent organizations focused on addressing

[1] See Tesla, SEC Form 10-K (Jan. 27, 2021) at 43.
[2] See Visual Capitalist, Comparing Tesla's Spending on R&D and Marketing Per Car to Other Automakers (Oct. 11, 2021) (Tesla is spending an average of $2,984 per car sold on research and development (R&D)—often triple the amount of other traditional automakers.)
[3] See 86 Fed. Reg at 43799 ("Electrification of the vehicle fleet is likely to affect both the number and the nature of employment in the auto and parts sectors and related sectors, such as providers of charging infrastructure.").
[4] See Tesla, Supercharger; See also, Tesla, Q3 2021 Update (Oct. 20, 2021) at 6.
[5] See Executive Order N-79-20
[6] Ibid

climate change in the U.S., it is an imperative that CARB staff and the Board take action, thoughtfully but swiftly.

According to the NOAA, as of today, "The U.S. has sustained 308 weather and climate disasters since 1980 where overall damages/costs reached or exceeded $1 billion (including CPI adjustment to 2021). The total cost of these 308 events exceeds $2.085 trillion." In 2021 alone, the western U.S. continued to experience severe drought, flooding, and tropical storm events resulting in the deaths of 538 people and significant economic impacts.[7] The Washington Post reports that, "[m]ore than 4 in 10 Americans live in a county that was struck by climate related extreme weather last year."[8] In addition, in December 2020, in an article summarizing a United Nations Environment Programme (UNEP) report, Reuters reported that "[g]reenhouse gas emissions reached a new high last year, putting the world on track for an average temperature rise of 3 degrees Celsius." It concluded that "[t]he levels of ambition in the Paris Agreement still must be roughly tripled for the 2C pathway and increased at least fivefold for the 1.5C pathway."[9]

Per AB 32, CARB has set out to update its climate change scoping plan, with the goal to present the final plan to the Board for consideration at the end of this year. While Tesla recognizes CARB's general need to synergize the scoping plan with the LCFS regulation, Tesla urges CARB to consider any creative means to accelerate the conclusion of the scoping plan and simultaneously conduct the LCFS rulemaking process in order to implement regulatory changes by 2023. While Californians and residents of other nations and states collectively

[7] https://www.ncdc.noaa.gov/billions/
[8] https://www.washingtonpost.com/climate-environment/2022/01/05/climate-disasters-2021-fires/?utm_medium=email&utm_source=newsletter&utm_campaign=wp_energy_and_environment&wpisrc=nl_green
[9] https://www.reuters.com/article/climate-change-emissions/emissions-hit-new-record-put-world-on-track-for-3c-warming-un-idUSKBN28J16B

endure the unprecedented impacts of the climate crisis, CARB has an opportunity now to accelerate and lead the global response.

In order to advance the LCFS rulemaking, Tesla suggests CARB staff consider:

1) Begin LCFS stakeholder workshops in January 2022, simultaneously with the AB32 Scoping Plan.
2) Request submission of proposed amendments to the LCFS before the AB32 Scoping Plan goes to the Board in late 2022
3) Have the 15-day modifications begin immediately after the board considers the Scoping Plan in late 2022.

III. Strengthen Pre-2030 CI Targets & Introduce Declining Post-2030 CI Targets

Tesla encourages CARB to account for the aggressive zero emission vehicle adoption that is expected in the near future when adjusting pre-2030 carbon intensity (CI) targets and when setting post-2030 CI targets. Under Executive Order N79-20, California aims to have 100 percent of in-state new passenger car and truck sales to be zero-emission by 2035. In addition, a proliferation of recent announcements from traditional automakers signals a rapidly growing shift in investment away from internal combustion technologies and toward high levels of electrification. For example, in January 2021, General Motors announced plans to become carbon neutral by 2040, including an effort to shift its light-duty vehicles entirely to zero-emissions by 2035.[10] In March 2021, Volvo announced plans to make only electric cars by 2030,[11] and Volkswagen announced that it expects half of its U.S. sales will be all-electric by

[10] See General Motors Press Release dated January 28, 2021
[11] See Volvo Car Group Press Release dated March 2, 2021

2030.[12] In April 2021, Honda announced a full electrification plan to take effect by 2040, with 40 percent of North American sales expected to be fully electric or fuel cell vehicles by 2030, 80 percent by 2035 and 100 percent by 2040.[13] In May 2021, Ford announced that they expect 40 percent of their global sales will be all-electric by 2030.[14] In June 2021, Fiat announced a move to all electric vehicles by 2030, and in July 2021 its parent corporation Stellantis announced an intensified focus on electrification across all of its brands.[15] Finally in July 2021, Mercedes Benz announced that all of its new architectures would be electric-only from 2025, with plans to become ready to go all-electric by 2030 where possible.[16] To ensure that investment certainty for ZEV infrastructure keeps pace with the widespread and accelerating adoption of ZEVs, it is critical for staff to strengthen pre-2030 targets and implement aggressively declining post-2030 targets as part of the upcoming rulemaking process.

IV. Include DC Fast Charging Infrastructure (FCI) As Part Of The Heavy Duty ZEV Infrastructure Pathways

During the Workshop, CARB staff requested feedback on support for hydrogen refueling infrastructure (HRI) for medium and heavy-duty vehicles noting that, "[t]he existing hydrogen refueling infrastructure…supports development of public hydrogen stations in the early years of ZEV development. Currently, these [HRI] provisions only apply to stations serving light-duty vehicles, yet we know transitioning the medium and heavy-duty fleets to zero-emission is critical for California to achieve its climate and air quality goals."[17] The same can be said for existing DC fast charging infrastructure regulations for battery electric vehicles and Tesla is confused as

[12] See Volkswagen Newsroom dated March 5, 2021
[13] See Honda Newsroom dated April 23, 2021.
[14] See U.S. News, Ford: Electric Vehicles to be 40% of Global Sales by 2030
[15] See Stellantis Press Release dated July 8, 2021.
[16] See NY Times, Mercedes-Benz will shift its focus to electric vehicles by 2025, July 22, 2021.
[17] Page 14, https://ww2.arb.ca.gov/sites/default/files/2021-12/LCFS%2012_7%20Workshop%20Presentation_notes.pdf

to why one pathway for HD ZEV infrastructure would be added without noted inclusion of an electrification pathway simultaneously. Medium and heavy-duty battery electric vehicles (MHD BEVs) are just now in the infancy of production. While pathways in the current LCFS regulation do exist to support fleet operators utilizing individual refueling at their private depots, in order to provide for longer distance freight hauling operations and to ensure that MHD BEVs can be fully utilized, the development of publicly accessibly charging infrastructure is essential. Notably, just as CARB supported LCFS capacity credits critical to building out California's world-leading light-duty EV charging infrastructure, matching infrastructure needs with supporting policy is equally if not more critical to CARB's goals in supporting MHD BEVs. Beyond reducing carbon emissions, electrifying MHD vehicles is a key to improving air quality. Lowering particulate emissions in adjacent communities disproportionately affected by high MHD ICE vehicle traffic, a necessity, will be supported through public MHD infrastructure investment. Lastly, public MHD EVSE infrastructure will be particularly impactful for smaller operators who may not have access to depot charging as well as to support drayage operations given special constraints at Ports. If any HRI pathway is included, a similar investment supporting pathway should be included for electric MHD truck charging.

V. Conclusion

During the Workshop, CARB staff further signaled an "openness to adjusting and improving the LCFS program going forward in ways that reflect the Scoping Plan direction …" with "future workshops [that] will include additional concepts informed by the scoping plan." Tesla appreciates CARB staff's consideration of these initial comments noting that these suggestions are not exhaustive. We look forward to further engagement in order to support California's effort to address carbon emissions through future LCFS workshops and beyond.

Respectfully,

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