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Tesla Comments - FY 18-19 ARFVTP Investment Plan Update

Additional submitted attachment is included below.

November 17, 2017

Commissioner Janea A. Scott and Energy Commission Staff
California Energy Commission
Dockets Office
Re: Docket No. 17-ALT-01
1516 Ninth Street
Sacramento, CA 95814-55 12

RE: 2018-2019 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP)

Dear Commissioner Scott and Energy Commission Staff:

I am writing on behalf of Tesla to share our comments in response to the draft 2018-2019 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) that was released on November 2, 2017 and presented at the November 7, 2017 workshop. Our comments below primarily focus on sections of the ARFVTP related to Electric Vehicle (EV) charging infrastructure deployment, Heavy-Duty (HD) EVs, and the Regional Alternative Fuels Readiness Plans.

As the proposed investment plan points out, "the transportation sector is the largest source of Greenhouse Gas (GHG) emissions, accounting for 39 percent of in-state emission… and California has made progress in reducing transportation carbon intensity, with sales of low-carbon biofuels and zero-emission vehicles steadily increasing and new transportation technologies becoming commercially available."[1] Yet, "despite these advances, petroleum-based gasoline and diesel fuel still account for 91 percent of California ground transportation fuel use and result in significant GHG emissions."[2] Additionally, the investment plan highlights the significant amount of criteria pollutants emitted from the transportation sector and the fact that a 2017 American Lung Association (ALA) Report "lists 10 California metropolitan areas in the top-10 most polluted cities for ozone or particulate matter."[3] Given these stark statistics, Tesla supports continued funding allocations under the 2018-2019 ARFVTP for deploying alternative fueled vehicles that focus on how to best help California meet its GHG emissions reduction and air quality targets. These specifically include:

- Maintain funding allocation for EV charging infrastructure
- Maintain funding allocation for HD sector
- Suspend funding allocation for conventional natural gas fueling infrastructure and vehicles
- Provide additional funds for Regional Alternative Fuel Readiness Plans

I. EV Charging Infrastructure

As the proposed investment plan points out, "a convenient, reliable network of public Electric Vehicle Charging Stations (EVCS) will be critical to support the expansion of [Plug in Electric Vehicle] PEV

[1] 2018-2019 ARFVTP, p.7.
[2] 2018-2019 ARFVTP, p.7.
[3] 2018-2019 ARFVTP, p.8.

ownership in California and achieve the goals of the [Zero Emission Vehicles] ZEV Action Plan."[4] Tesla agrees that EV charging infrastructure deployment still represents a critical need in California in order to meet the goal of 1.5 million ZEVs by 2025. Numerous reports have attempted to estimate the state's EV charging infrastructure need with some analysts estimating that 125,000 to 200,000 publicly accessible charging ports will be necessary by 2020.[5] This is well beyond the approximately 12,000 available in California today.[6] Even when considering the ongoing and additional investments in Light-Duty (LD) charging infrastructure being made by the Investor Owned Utilities (IOUs) and various state agencies, it appears that California is still far from meeting the need. We, therefore, agree with the recommendation to continue to fund charging infrastructure deployment at $20 million within the ARFVTP with a focus on projects not covered by the geographic area or scope of other programs.[7]

Additionally, we support the theme throughout Chapter 4 on the need to coordinate different funding efforts between the various state agencies to ensure investment in infrastructure is incremental and not repetitive.[8] To that extent, we look forward to learning more about the results of the block grant program that the Center for Sustainable Energy (CSE) will administer and its targeted incentive funding beginning in December 2017.[9]

II. Natural Gas Infrastructure and Vehicles

In Chapter 4, the proposed investment plan discusses the modest GHG reductions conventional natural gas offers and the commercial maturity of natural gas fueling infrastructure.[10] Further, CEC staff highlights in the plan that the most recent natural gas solicitations have been undersubscribed and about $4.4 million in funding remains from previous investment plans. The plan concludes that "given the low demand for funding in the prior natural gas infrastructure solicitation and the high level of unencumbered funds, Energy Commission staff is not proposing additional funding for natural gas fueling infrastructure for Fiscal Year (FY) 2018-2019."[11] We support this recommendation.

Chapter 5 provides additional discussion of the maturity of natural gas vehicle technology and the deployment scale across California.[12] In this section the investment plan explains that approximately $19.7 million in unencumbered funds for natural gas vehicles remain from previous plans. CEC staff proposes to suspend any additional funding in this area until the existing funding is used "because of the lower-than expected uptake of incentives from the NGVIP and the high level of unallocated funds."[13] We support this recommendation. Additionally, if a substantial amount of unencumbered funds for natural gas vehicles remain available after the FY 2018-2019 funding cycle, we would encourage CEC staff to consider reallocating the remaining funds. For instance, funds could be distributed evenly between the other funding categories currently listed in the investment plan.

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[4] 2018-2019 ARFVTP, p. 44.
[5] https://www.law.berkeley.edu/wp-content/uploads/2017/06/Plugging-Away-June-2017.pdf (p.4)
[6] *Ibid*
[7] 2018-2019 ARFVTP, p. 50.
[8] 2018-2019 ARFVTP, p. 47-48.
[9] 2018-2019 ARFVTP, p. 48.
[10] 2018-2019 ARFVTP, p. 56.
[11] 2018-2019 ARFVTP, p. 56.
[12] 2018-2019 ARFVTP, p. 58.
[13] 2018-2019 ARFVTP, p. 63.

III. Heavy Duty Vehicles

In the section on Advanced Freight and Fleet Technologies in Chapter 5, the ARFVTP plan points out that medium and heavy-duty vehicles in this category "represent a small share of California registered vehicle stock, accounting for about 981,000 out of 29.8 million vehicles, or 3 percent; however, this small number of vehicles is responsible for about 22 percent of on-road GHG emissions because of comparatively low fuel efficiency and high number of miles traveled per year."[14] We agree that scaling deployment of alternative fueled HD vehicles including electrifying HD Class 8 trucks will be critical to meeting the state's climate and local criteria pollutant reduction goals and appreciate the detailed discussion of the HD sector emissions reduction potential within the proposed investment plan.

Further, the discussion in this section on the unique charging needs for the HD sector is important. These vehicles have different charging needs in terms of charging power required and necessary timing for charging compared to other sectors.[15] We, therefore, support the CEC's strategy to "take into account the need to develop infrastructure alongside vehicles" based on the expected increased demand for charging and refueling infrastructure for freight and fleet vehicles and the CEC's role as the lead agency for fueling infrastructure deployment.[16]

Finally, the ARFVTP plan notes that CARB's Clean Transportation Incentive Funding is dependent on Cap and Trade (C&T) auction process, "which have historically fluctuated from year to year."[17] ARFVTP funding on the other hand has been stable. Given this relative stability and the need for greater market certainty, we agree with CEC staff that the proposed investment plan should continue to provide funding for advanced freight and fleet vehicle demonstration and infrastructure for FY 2018-2019. At minimum, this funding level should be set at the $17.5 million allocation suggested in the plan.[18] While the ARFVTP adopts a portfolio-based approach that avoids adopting any one preferred fuel or technology, it will be increasingly important to accelerate the adoption of zero emission technologies if the California is to meet its GHG reduction goals.[19] Therefore, we also recommend that future investment plans continue to evaluate the opportunity to further categorize the proportion of funds available to zero and near zero emission vehicles under the advanced freight and fleet technologies funding allocation.

IV. Regional Alternative Fuel Readiness and Planning

Recognizing the important role local government agencies, air districts, and cities play in driving the adoption of EVs, the ARFVTP has funded regional readiness and planning since 2011. The policies and best practices identified and implemented as part of these funding efforts have significantly helped regions begin to reduce the barriers to alternative fueled vehicles. Among the barriers that have been considered are streamlining permitting and updating building codes, zoning and parking. While we agree that significant progress has been made on local EV readiness efforts due to the significant investments under the ARFVTP, we do not support the investment plan's suggestion to not add additional funds in

[14] 2018-2019 ARFVTP, p 63.
[15] 2018-2019 ARFVTP, p.64.
[16] 2018-2019 ARFVTP, p.68.
[17] 2018-2019 ARFVTP, p.66.
[18] 2018-2019 ARFVTP, p.66.
[19] 2018-2019 ARFVTP, p.4.

this investment category. Local governments should continue to be empowered to develop and update EV readiness plans as EV deployment increases within their communities and the $2 million remaining from previous investment plans is not sufficient to do so.

Lack of access to Level 2 charging infrastructure remains a significant barrier faced by many potential EV drivers. This is impacted by the fact that it is still relatively expensive to install charging infrastructure in existing Multi-unit Dwellings (MUD) and many cities have yet to adopt local reach ordinances that expand the level of EV readiness required for new construction. Both of these barriers directly relate to local and regional EV readiness and planning. For example, utilizing CEC funding, several cities including Fremont, Oakland, and San Francisco have adopted more stringent EV make-ready ordinances that expand beyond the current 3 percent standard for MUDs proposed by the CalGreen code and are closer to 20 percent.[20] This represents a significant opportunity for these cities to realize cost savings that are associated with deploying EV make ready charging infrastructure during initial construction. Other cities that do not have the economic means to fund their own EV readiness plans should be provided the opportunity to pursue local EV ordinances similar to what these Bay Area cities were able to do. [21]

Finally, another important component of these regional readiness plans is the opportunity to further streamline permitting for charging infrastructure. When the permitting process is complicated or time-consuming for installing an EV charging station, it directly and adversely impacts the cost, timing, and customer experience.[22] In 2015, California passed Assembly Bill (AB) 1236 (Chiu) to help address this issue. AB 1236 requires local jurisdictions to create an expedited permitting and inspection process for EV charging stations. Yet permitting and inspections remain an ongoing challenge, especially for commercial charging stations and Direct Current Fast Charging (DCFC) stations, and can sometimes be the longest part of a project's overall process. Given permitting can directly impact the deployment rate and scale of charging infrastructure and EVs, we believe that not allocating any additional funding in the FY 2018-2019 investment plan to help communities address this barrier is a missed opportunity and should be re-evaluated.

* * *

Tesla supports several components of the FY 2018-2019 investment plan for ARFVTP including the continued funding allocation for charging infrastructure deployment and heavy-duty electric vehicles. Our primary recommendation to modify the proposed investment plan is to continue to emphasize regional alternative fuel readiness and planning and to re-evaluate the need to allocate additional funds to this ongoing effort.

We appreciate the opportunity to comment on the 2018-2019 proposed ARFVTP plan and look forward to continuing to work in partnership with the CEC to provide additional input.

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[20] CALGreen Code, Residential Chapter 4, p.20. Available at: https://codes.iccsafe.org/public/chapter/content/2057/

[21] For multi-unit and non-residential projects, there are significant cost savings for deploying EV make-ready charging infrastructure during initial construction ($300-$800 per space) versus during retrofit ($2,000 - $6,000 per space). Energy Solutions, Plug-In Electric Vehicle Infrastructure Cost-Effectiveness Report (2016). Available at: http://fremontcityca.iqm2.com/Citizens/Detail_LegiFile.aspx?Frame=&MeetingID=1472&MediaPosition=&ID=2835&CssClass= .

[22] PEV Collaborative, *Streamlining the Permitting and Inspection Process for Plug-In Electric Vehicle Home Charger Installations Version 2* (2012), p.15. Available at: http://pevcollaborative.org/sites/all/themes/pev/files/PEV_Permitting_120827.pdf.

Sincerely,

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