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**Toyota Motor North America - Comments on 2020â€–2023 CTP
Investment Plan and March 3 Advisory Committee Meeting**

Additional submitted attachment is included below.



Toyota Motor North America, Inc.
1630 W. 186th Street
Gardena, CA 90248

Patrick Brecht
California Energy Commission Docket Unit, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

Re: Docket No. 19-ALT-01, Comments on 2020-2023 CTP Investment Plan and March 3
Advisory Committee Meeting

Dear Mr. Brecht,

Toyota believes that plug-in electric vehicles (PEVs) and fuel cell electric vehicles (FCEVs) are both critical to electrifying the light duty sector. And since light duty vehicles represent the vast majority of vehicles on the roads in California, they should continue to be a priority in the state's efforts. FCEVs' long range (over 300 miles) and fast refueling (3-5 min) are an important advantage and allows for long distance and/or continuous driving with little down time to refuel. And since the overall FCEV refueling experience mimics gasoline powered vehicles, it is an excellent zero emission choice for drivers in multi-unit dwellings and older housing stock for which it may be cost prohibitive or legally complicated to make necessary electrical upgrades to install electric vehicle supply equipment (EVSE). Another key benefit of FCEVs is that hydrogen production and vehicle refueling are temporally uncoupled so that the hydrogen can be produced when it is most efficient to do so and without negatively impacting the electric grid.

However, unlike PHEVs and BEVs for which the main refueling location is at home, FCEVs require hydrogen refueling infrastructure before being introduced into the market. This is why the AB8 funding has been so critical to the development of the FCEV market in California. Toyota's share of this market is over 6,000 Mirai, and as we look towards the next generation Mirai with an order of magnitude production volume increase, the importance of continuing and accelerating the build-out of light duty hydrogen stations becomes more critical. Note that as part of the 5 million ZEV target by 2030 in Executive Order B-48-18, Governor Brown also ordered that "all state entities work with the private sector and all appropriate levels of government to spur the construction of 200 hydrogen fueling stations...by 2025." AB 8 funding must continue beyond the first 100 stations in order to align with and support this directive.

Regarding the co-locating of light duty and heavy/medium duty stations, while we acknowledge the potential in some rare cases such as interstate routes, the majority of light duty customer fueling occurs near home and office locations. For conventional vehicles, these stations are almost exclusively light duty only – this is the same expectation of our Mirai customers. Therefore, it is essential that the AB8 funding and the 200 station focus on stations for light duty vehicle use. For safety and other reason such as land use and zoning restrictions, gasoline stations do not cater to both heavy duty and passenger

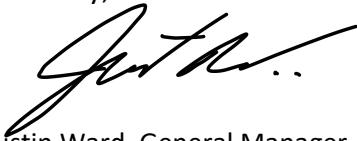
car and truck fueling – there is no reason to believe fuel cell customers will demand anything different.

Toyota would also like to raise a point about vehicle volumes. It is essential to recognize that the link between the certainty of future station numbers and capacity with projected sales volumes. We certainly appreciate the work of the CEC and CARB in coordinating and funding the first hydrogen retail stations in California, which allowed for the initial launch of the FCEV market. However, the slower than expected initial build out and the uncertainty for future stations beyond the initial 100 has significantly hampered OEM's confidence in projecting future volumes.

Since FCEVs are a key ZEV technology and will be key in helping California meet its ZEV goals, it is essential that the CEC continue to focus AB 8 funds for light duty hydrogen stations and continue funding beyond the first 100 stations.

Thank you for the opportunity to comment. Feel free to contact me at justin.ward@toyota.com for further information.

Sincerely,

A handwritten signature in black ink, appearing to read "Justin Ward", with a stylized flourish at the end.

Justin Ward, General Manager
Fuel Cell Development
TOYOTA MOTOR NORTH AMERICA