

DOCKETED

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*Comment Received From: Michael Masquelier
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**WAVE Comments on 2021-2022 Investment Plan Update for the
Clean Transportation Program**

Additional submitted attachment is included below.



September 30, 2021

Hannon Rasool
California Energy Commission (CEC)
715 P Street
Sacramento, CA 95814

Re: Comments on the 2021-2022 Investment Plan Update for the Clean Transportation Program

Dear Mr. Rasool:

Wireless Advanced Vehicle Electrification (WAVE) appreciates the opportunity to comment on the September 16th 2nd Advisory Group Meeting for the 2021-2023 Investment Plan Update.

WAVE is the premier developer of inductive (wireless) charging solutions for medium and heavy-duty on-road and off-road electric vehicles. Markets for these vehicles are proliferating, especially in California, and due to the State's clear vision and leadership, regulatory and incentive programs to transition fleets to zero-emission vehicles (ZEVs).

As the CEC and State move quickly to transition heavy-duty vehicles to ZEVs, it requires a new approach to charging than has dominated for light-duty vehicles. Medium and heavy-duty vehicles use up to ten times more power than electric cars, which leads to new technical challenges.

One of them is the weight of the charger. At higher power levels, plug-in chargers require liquid cooling, which significantly increases their weight to the point they can become unmanageable and lead to safety concerns. For some heavy-duty vehicles today, and increasingly as power levels increase, the hack for plug-in charging is to use multiple chargers operating simultaneously for a single-vehicle. We can do better and must do better if we are to imagine a complete transition to ZEVs.

One solution to these challenges is wireless inductive charging. Chargers embedded in the roadway deliver high-power to buses and trucks quickly and safely during scheduled stops. The automated and hands-free operation makes the system ideal for autonomous vehicles. And wireless charging avoids any overheard charging gear, ground clutter, or heavy cables. Wireless charging is more convenient, durable, and efficient than plug-in charging. And we are currently working with DOE and other partners to pilot wireless charging at MW-level speeds.

We appreciate that the Revised Staff Report on the 2021-2023 Investment Plan Update for the Clean Transportation Program makes very brief mention of wireless charging in the context of case-by-case complexities. However, we encourage you to take a much deeper look at wireless charging technology, especially for medium and heavy-duty electric vehicles, and to dig in deeply to the challenges associated with plug-in charging at high power levels and in heavy-duty applications.

With nearly \$700 million to invest in heavy-duty ZEV infrastructure, the Commission needs to understand where the market is going, take a deep dive into the unique challenges associated with electrifying heavy-duty fleets, and make sure that its investments are future-proofed for higher power levels and emerging technology like autonomous vehicles, while also enabling the rapid and widescale electrification of vehicles in all applications today. We are confident that such an assessment would highlight wireless charging as an essential technology worthy of much more significant attention in your incentive programs and planning efforts.

We look forward to discussing heavy-duty electrification further with you and how wireless charging will play. Should you have questions about these comments, please contact me at 773.962.1135 or michael@waveipt.com.

Thank you,

A handwritten signature in cursive script that reads "Michael P. Masquelier".

Michael Masquelier
WAVE