

Energy - Docket Optical System

From: Tom Greene <tompgreene@gmail.com>
Sent: Thursday, January 15, 2015 1:31 PM
To: Energy - Renewable; Energy - AB118
Subject: Requesting information on CEC alternative vehicle infrastructure strategy

Dear California Energy Commission,

Thank you for recently publishing your report "2015-2016 INVESTMENT PLAN UPDATE FOR THE ALTERNATIVE AND RENEWABLE FUEL AND VEHICLE TECHNOLOGY PROGRAM." I am happy to see that our state is investing in making alternative technology vehicles more practical to use here, and I appreciate that you are communicating your work so clearly.

That said, I am concerned and somewhat alarmed by the choice of your investments of taxpayer funds; they do not seem to be consistent with your stated goals to "reduce greenhouse gas emissions, petroleum dependence, and criteria emissions" in an efficient manner. I am particularly concerned by the fact that you have spent twice as much (\$40M vs \$22M) on hydrogen refueling infrastructure than electric charging infrastructure in the 2013 - 2015 period, with little better planned for 2015 - 2016 (Table 13, p. 4).

I simply cannot understand this severe funding disparity given the current and near-future distribution of alternative energy vehicles in our state. There are about 100,000 battery electric vehicles (BEVs) in California, and I assume that there are currently 1000 or less hydrogen fuel vehicles.

The many BEV users in California need and deserve better service. I was particularly disheartened and perplexed by the fact that you have deployed only 9 DC fast charging (DCFC) stations to date (late 2014), and you have adopted a strategy of deploying these in metropolitan areas instead of along long-distance travel corridors. A rudimentary network of commercial L2 and DCFC stations exist in our state's greater metropolitan areas, but we have nothing along long-distance corridors.

The prompt installation of DCFC stations along long distance corridors is essential for enabling wider adoption of BEVs in our state. Current BEV owners are frustrated that we cannot travel long distances along high traffic (I5, 101) conveniently, and potential owners are put off from purchasing BEVs because this limitation restricts their utility.

Frankly, it is disappointing to see so much money (\$60M including planned 2015 - 2016 expenditures) put into deploying a hydrogen infrastructure that will serve only a few thousand vehicles, largely in government or corporate fleets, while less than about \$150K has been spent on DCFC stations that are needed today (9 stations x \$15,000 mean cost per Table

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14, p. 36). I certainly hope that you have not adopted your strategy in order to ensure that BEVs fail to be adopted in our state.

I do not understand how your investment decisions could have been made on concerns over either energy efficiency or the reduction of greenhouse gasses (GHGs) or other pollutants. As you are likely well aware, a large fraction (~30+%) of BEV owners in CA have added photo-voltaic solar panels to their homes, helping our state achieve its renewable energy goals. Current hydrogen vehicles are considerably less efficient than BEVs (considering the full fuel cycle), and the use of hydrogen does little to reduce GHG emissions given that it is derived from natural gas that is extracted with considerable leakage and then energy must be used to transport it, convert it to hydrogen and compress it before using in in vehicle fuel cells that are only about 65-70% efficient (vs ~90% for batteries).

I do look forward to learning about the strategy that has driven your actions, and I would appreciate receiving any information or links to documents in this area. I do wish to gain a better understanding on what our elected officials have mandated and why the CEC is on its current path.

Best wishes,

Thomas Greene
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