

DOCKETED

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Comment Received From: Kitty Adams

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Funding Strategies of Electric Vehicle Infrastructure Feedback

Additional submitted attachment is included below.



July 12, 2016

California Energy Commission
Docket Office, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

RE: 16-ALT-01: Funding Strategies for Electric Vehicle Infrastructure Workshop

Adopt a Charger (AAC) is grateful to provide feedback regarding 16-ALT-01 Funding Strategies for Electric Vehicle Infrastructure Workshop. As an advocate for plug in electric vehicles, I support Governor Brown's ZEV Action Plan and the goal of having 1.5 million PEV on the road in California by 2025. I agree with the CEC perspective that ensuring adequate charging infrastructure is a critical step to encourage the mass adoption of PEVs, and increase electric vehicle miles traveled (EVMT). I also recognize the importance of charging infrastructure for education and outreach. EV charging locations are the opportune time to create dialog between the EV curious, and actual owners, who have proven to be the best sales people for PEV.

As the CEC continues to assess the need for public chargers and funding strategies, I encourage low cost, simple solutions to address the need for more infrastructure. I agree with the CEC suggestion for a simple, streamlined funding process and suggest that the California State Parks receive an inner agency transfer of funds to expand EV charging at the Parks. Installations at these locations have proven to be expensive, and each case presents unique challenges. Installation of EVSE aligns with the "Cool Parks Initiative" to educate visitors about climate change and ways to reduce their carbon footprint. We have successfully installed EVSE at 5 parks in the Angeles District, which has enabled replacement of fleet vehicles, and encouraged a number of employees to purchase PEV.

In the workshop, the CEC mentioned capitalizing on projects that have completed preliminary work and are ready to go. Since receiving CEC funding for 12 parks, I have had over 20 requests for additional locations and believe that at least 100 of the 280 parks would be suitable for EV charging. Installing in the Parks has proven to be expensive because they rarely comply with the ADA regulation requiring <2% slope, and lack adequate electrical capacity. The parks are important destinations between metropolitan areas and present the perfect opportunity to promote EV tourism in the state of California.

The State Parks do not qualify for either the SDG&E or SCE programs, which require 10 parking spaces and are geared toward workplace and MUD charging. They have consistently faced budget cuts and are unable to fund public EV charging without the assistance of the CEC.

I think it is important that the CEC allow both networked and non-networked chargers to qualify for funding programs. Providing flexible, low cost options will greatly increase the deployment of chargers for behind the gate solutions like MUD, workplace and fleet charging, which have been identified by the CEC as challenging to address. Up front costs can often inhibit the deployment of charging infrastructure at these locations. I also believe that restrictive requirements on the type of EVSE will stifle innovation, and preclude wireless charging, mobile charging units, and off grid chargers which may be the solution for problem areas like fleets, arenas, temporary events, and remote locations. The average upfront cost of networked EVSE is 10 times more expensive than non-networked solutions, the ongoing service fees often cost more than the cost of electricity, and connectivity issues make these chargers less reliable.

I encourage the CEC to think outside the box regarding data requirements, to pinpoint areas of funding. Ecotality was awarded \$8 million by the CEC as part of the EV Project, the data was incomplete and did not provide the anticipated answers necessary to determining best-case practices. ChargePoint was awarded \$3.417 million by the CEC to install 1,500 chargers in California with the goal of providing data until December 31, 2013. What were the conclusions and how did it influence CEC investment? I think the best way to gauge EV driver behavior and needs is by surveying the users to get more detailed information. The PlugInsights survey of 10,000 EV drivers presented at the PEVC meeting in March 2014, gave a robust analysis of the charging landscape and was very informative. The OEMs are also a useful resource for information about PEV, because they track the cars through integrated software.

Reliability is the most important consideration when installing EV charging infrastructure. As was pointed out at the June 6th, 2016 workshop, a large percentage of the EVSE installed by the Ecotality and ChargePoint programs are broken, and funding was requested to replace these chargers. I agree that the broken EVSE need to be replaced, but I think this should be done thoughtfully. It doesn't seem appropriate to award additional funding to companies whose equipment is failing. The focus should be on durability and the CEC should require a 5-year warranty on all EVSE.

The CEC awarded Clipper Creek \$2.3 million in 2011 to update legacy equipment. Adopt a Charger facilitated installations of EVSE through this grant at 3 California State Parks, and 4 CSU campuses. The Clipper Creek chargers have been virtually problem free for the last 5 years, and have earned a reputation among EV drivers as being highly dependable. Utilizing rugged, non-networked EVSE decreases maintenance needs. Using low cost \$500 chargers

enables quick cheap solutions by just swapping out any defective or vandalized chargers.

With network EVSE, an attempt at cost recovery often requires users to negotiate two different payment platforms, one to pay for the parking space and another for the EV charger. A simple solution is to include the cost of electricity in the price of the parking spot. Instead of \$1.00 per hour, the EV spot can cost \$1.50 per hour. Simple, low cost solutions allow for more EV chargers to be installed accommodating a larger number of cars. A simple approach to analyzing usage would be to check the parking kiosk information to see how many cars purchased parking at the EV spots on any particular day, and compare that with the sub meter data.

For EVSPs, there has not been a clear pathway to profitability and we have seen a number of spectacular failures. Ecotality, Better Place, and 350 green all declared bankruptcy, nrg recently sold off the eVgo division, and Car Charging Group is struggling to stay afloat. Confidence in public charging infrastructure is absolutely essential to increase the sale of PEV. The public interest is for adequate and reliable charging infrastructure, not in added complexity which results in more opportunities for equipment failure and increased cost.

Sales of PEV in California just topped 200,000, which is impressive but far short of sales necessary to meet the 2025 goal of 1.5 million cars. Interaction with actual drivers is the most effective way to engage the public in a conversation about electric vehicles, and there is no question that free or at utility rate cost of electricity drives EV adoption. Workplaces that offer free or low cost charging see a measurable uptick in EV adoption. In the 2012 study "Are Taxpayer and Private Dollars Creating Effective Electric Vehicle Infrastructure?" by Tom Saxton, of Plug in America, the number of cars plugged in dropped by almost 60% when there was any fee involved. Pat Romano, the CEO of ChargePoint, has advised to not try to sell electrons, but rather to attract EV drivers as customers instead by giving them energy for free. Profits will come from higher sales of other goods or services. He also recommended a rate no greater than \$0.30 per kWh. According to the Luskin Institute Report from November 2013, they recommend charging no more than \$0.36 per kWh, which equates to \$5.05 per gallon of gas. The average price per kWh for public Level 2 charging is closer to \$0.50 per kWh, which makes driving an electric car more expensive than a traditional gas vehicle and discourages the transition to plug in vehicles.

Thank you for considering my comments when planning future funding opportunities. Please let me know if you have any questions.

Always grateful,

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