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2018-2019 Investment Plan Recommendations

Additional submitted attachment is included below.

May 1, 2018

California Energy Commission
Docket #17-ALT-01
2018-2019 Investment Plan Update ARFVTP

Adopt a Charger, Inc. (AAC) is a 501(c)3 non-profit organization, based in California that has facilitated EV charging installations in 8 states. Our mission is to raise awareness of plug-in electric vehicles (PEV) by broadening EV charging infrastructure. Our unique approach matches a funding source with a high-profile destination like National Parks, State Parks, museums and universities. We solicit funding to install "free to the user" EV charging to encourage communication between the EV curious and actual owners, who have proven to be enthusiastic sales people for the new technology. AAC acknowledges that people need to be able to see cars plugged in to make the connection that these vehicles run on electricity.

AAC specializes in inexpensive, noncomplex, reliable solutions, where drivers simply pull up and plug in. There is no need for membership, RFID card or authorization of payment. Included in the project budget is 3 years' operation and maintenance. Typically, the only cost to the site host is the relatively insignificant cost of the additional electricity. Because these chargers are offered "free of charge" to the driver, we get high utilization and maximize GHG reduction.

AAC is grateful to have received funding for projects from the CEC ARFVTP program. Most recently the grant to install up to 61 EVSE at 12 California State Parks. Prior to this grant, AAC worked with South Coast AQMD and LADWP to utilize CEC funding at Leo Carrillo State Beach, Malibu Creek State Park, Baldwin Hills Scenic Overlook, The Natural History Museum of LA County, the Getty Center, Getty Villa, LA Zoo, 3 popular LADOT parking lots, Stinson Beach, Fort Ross, Cal Poly Pomona and with Schneider Electric at the Red Cross of San Jose. Each project provided insight for upcoming solicitations, based on lessons learned through past experiences.

The CEC has stated:

*"A **convenient, reliable** network of public electric vehicle charging stations (EVCS) will be critical to continue supporting the expansion of PEV ownership in California and ensure the goals of the ZEV Action Plan and Executive Order B-48-18 are realized".*

"AB 8 introduced the GHG benefit-cost score as a new element into the list of policy and scoring preferences for ARFVTP. It is defined as "…a project's expected or potential greenhouse gas emissions reduction per dollar awarded by the Commission to the project."15 F16 AB 8 also directs the Energy Commission to "give additional preference to funding those projects with higher benefit-cost scores."

The statute also calls for the Energy Commission to "develop and deploy technology and alternative and renewable fuels in the marketplace, without adopting any one preferred fuel or technology." (1)

With these goals in mind, AAC offers the following recommendations to the Investment Plan Update:

1. **Allow for the funding of non-networked EV charging, to keep costs down, increase the number of electric vehicle miles traveled (EVMT), and maximize the GHG benefit-cost score**.

Many key points were raised by the 2017 Rand Study, "Process and Outcome Evaluation of the Alternative and Renewable Fuel and Vehicle Technology Program" that support this viewpoint. According to the study, "*One of the barriers most frequently identified by survey respondents was insufficient consumer awareness." (Page 89), "Charging station deployment sometimes had elements of outreach and awareness….and one could agree that their efforts contributed to raising public awareness simply by making EV support infrastructure" (page 95).* (2)

A fuel related barrier identified by the Rand study was that ***"requirements for networked charging systems drives the cost up almost tenfold****." (page 90)* When charging is too expensive, driver's do not plug in, utilization plummets dramatically decreasing EVMT and GHG reductions. We also miss an important opportunity for outreach and education. The County of Sonoma experienced a decrease of usage by 69% when a fee was introduced. (attachment A)

According to industry expert Dave Packard, "*get the cost of charging as close to actual energy cost as possible. Adding on the layers of a network's bureaucracy is going to raise the price, and then no one will use them. Based on the EV Project data, we can see that when it's free, it's used. When we start charging for it, it's used a lot less." Packard thinks that for the most part, drivers will continue to charge at home and, as the vehicles proliferate, utilities are going to need to control them to manage peak usage*(3)

2. **Stay flexible in your funding approach to increase competition and innovation. Give site hosts "consumers choice" in their preferred method of delivery, to best suit their needs, and customize the approach for their unique circumstance.**

The Rand study points out, *"Methods of access and payment varied. Some systems were free, some used radio-frequency identification access cards that were linked to a payment account, some used smart phone apps that were linked to a payment account, and most also allowed the user to call a number and use a credit card directly. A challenge with the latter approach is that several sites had no cellular connections (e.g., underground parking garages). While some awardees had addressed this limitation by installing local repeater antennas connected to an outdoor cellular antenna, some sites had not.*
This made it impossible to call the customer service number to provide a credit card to access the EVSE. A related challenge, encountered at a number of sites, is that even with cellular access, we were unable to reach anyone to conduct the transaction. Calls reached recordings indicating unavailability or were put on hold for extended durations. Multiple sites were initially providing free charging to attract users, with plans

to convert to a pay-per-charge system after some time period. For example, the Getty Center in Los Angeles elected to pay for electricity to its EVSEs for the first three years of operation, after which it would reevaluate payment options. Prior to installing EVSEs within its parking structures, Getty counted only seven employees who drove EVs. Seven months after installation of EVSEs, 26 employees drove EVs.
A general challenge with EVSEs in many settings is managing parking" (Page 106-107)

The 2017 Rand Study provided the example of the Getty Museum as being successful. The **total operating cost for 3 years offering fee-free charging to employees and public was around $34,000.** After 1 year, there was 26 PEV drivers, and there currently are over 70 employees charging at work, plus they have added 2 PEV for fleet purposes. The Getty increased the number of EV parking spaces from 20 to 42 after the first year, and is planning to add even more in 2018 that include a dynamic load management system to balance load and respond to pricing signals. The Executive Staff at the Getty has decided to continue to offering the electricity free of charge because it is cheaper than trying to recoup costs.

3. **Eliminate the Energy Star certification requirement.**

Currently Charge Point is only EVCS manufacturer whose equipment is Energy Star Certified, essentially making any Level 2 procurement a sole source solicitation. The Trump administration asked lawmakers to eliminate the $42 million in federal funding for the program and instead proposes a certification, funded through fees paid by companies, that want to use the Energy Star symbol. Entities participating in the program would pay a fee that would offset the costs for managing & administering the program. Any change to the fee structure would require congressional action.
The obvious concern is that if the Energy Star is dependent on industry funding, that could create some difficult situations where the independence of the program could be challenged. It could also make it difficult for startups to get certified, hindering innovation. Without certainty in the process, I recommend suspending this requirement.

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Footnotes:

1. 2018-2019 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program
2. Rand: Process and Outcome Evaluation of the Alternative and Renewable Fuel and Vehicle Technology Program. By Lloyd Dixon, Tom LaTourrette, David A. Galvan, Charles A. Goldman, Nidhi Kalra, Christopher Nelson, Flavia Tsang, Paul S. Steinberg, James Lyons, Jerry Bowers, Bob Katin

Rand Document Details https://www.rand.org/pubs/research_reports/RR1948.html

- **Copyright:** California Energy Commission
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- **Pages:** 367
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3. Lean and Mean, by Michael Kent, Charged EVs, Jan 28, 2014 https://chargedevs.com/.../lean-and-mean-the-ev-charging-pioneers-at-clippercreek/

Exhibit A. Sonoma County utilization data. In September 2017, they initiated a fee for EV charging.