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Siemens Comments following Advisory Committee Meeting for the Clean Transportation Program 2019-2020 Investment Plan Update

Additional submitted attachment is included below.

VIA ELECTRONIC FILING

August 9, 2019

California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Re: Docket No 18-ALT-01: Siemens Comments following Advisory Committee Meeting for the Clean Transportation Program 2019-2020 Investment Plan Update

On August 5, 2019, the California Energy Commission (CEC) held a public meeting of the Advisory Committee Meeting for the Clean Transportation Program (also known as the Alternative and Renewable Fuel and Vehicle Technology Program). Staff presented an overview of proposed allocations included in the Revised Lead Commissioner Report of the 2019-2020 Investment Plan Update for the Clean Transportation Program.

Siemens is the first corporation of its size to commit to being net-zero carbon by 2030 including a full transition to clean transportation. We are motivated by the goal of driving socio-economic benefits that stem from reducing GHG emissions and adoption of clean energy. Siemens employs over 4000 personnel in California, generating over $2 billion in in-state sales. With the intent of generating business efficiencies for our customers at workplaces, transit, government, utilities, fleet and other segments, Siemens manufactures/assembles its EV chargers and EVSE electrical components on both coasts of the US with two facilities in Southern California. Siemens' Plug to Grid™ eMobility product portfolio encompasses hardware, software and services which are currently deployed in 35 countries globally – our solutions are geared to maximize the abilities of EVs to act as a Distributed Energy Resource as well as enable the effective harnessing of renewable sources.

Siemens offers the following comments on the proposed plan.

Summary
Siemens is supportive of the CEC's proposed allocation related to electric vehicle (EV) charging infrastructure for Light Duty (LD) and Medium/Heavy Duty (MD/HD) categories **with caveats.** While it is a fact that significant investments are needed to meet California's 2025 and 2030 targets, the investment should be directed with the sole criteria that *the public benefits from the public funds being utilized.* By *public*, we refer to both the EV driver (existing or potential) as well as the customer (site owner).

To *maximize the benefits* of the Clean Transportation Program funding of $95.2 million in 2019-2020 , we respectfully urge the CEC to address five strategic issues: **1) Open technical standards, 2) Universal access to public charging, 3) Charging behavior patterns, 4) First Come, First Served vs. Competitive Awards, and 5) Smart Charging.**

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1. Open technical standards

Siemens has urged the CEC in past dockets to fund EV charging equipment for LD vehicles only if chargers use open technical standards for communicating with the "cloud."

- While we appreciate the inclusion of the hardware technical standards language in the CALeVIP program, the actual statement is **imprecise and open to interpretation**. The current standards-related requirement states: *"Use an open standard protocol as a basic framework for purposes of network interoperability."*

  This allows the continued use of proprietary technologies to **create vendor lock-in** for the combination of chargers and network services and **prevents customer-switching.** As written currently, "open standard protocol" can be, and for some vendors is, from cloud to cloud, which does not solve the vendor lock-in problem. This lack of precision in the standards requirement **renders this "requirement" useless.**

  The need, as we believe the CEC appreciates, is for chargers from one vendor to be able to communicate with networks from other vendors. Using an open standard communication protocol (e.g., OCPP 1.6) between the charger and the network (cloud) is a critical part of this, but the vendor(s) need to commit to cooperating to enable the integration as well.

  Siemens would revise the recommended requirement in the CALeVIP program to read as: *"Use an open standard protocol for communicating between the charger and the network, including a commitment by the vendor of the charger to cooperate with other vendors providing network services to use such protocol to integrate the vendor's chargers. For example, Charger Vendor A must cooperate with Services Vendor B to integrate the chargers with the services, and vice versa."*

  This requirement should hold for both Level 2 and DC Fast Charging in the LD category as well as MD/HD. While standards are still being finalized for the MD/HD category, CEC should note the following standards being adopted by the industry: SAE J1772, SAE J3105, and OCPP V1.6J.

- Siemens also recommends that the CEC extend open technical standards definition to include **Connectors** so that any type of LDEV can plug into any Level 2 or DC public charger funded by the CEC. To receive public funds, a service provider must ensure that plug connectors support CCS and CHAdeMO plug types.

2) Universal access to public charging

Given CARB's proposed SB454 open payment regulation is in its final approval stages, the CEC should start enforcing the regulation to require all charging stations at public locations meet payment standards that allow for universal access. This translates to the equipping going forward, all EVSE at public locations– where fees are charged – with the specified credit card readers. The

CEC should start enforcing the regulations in the Clean Transportation Program to prevent further use of public funds to promote "proprietary payment methods" favored by some service providers.

3) Charging behavior patterns.

In Siemens' (and others') opinion, the residential segment is *where 70% of charging is expected to occur*[1]. We hold this opinion for Gen 1 of EVs (around 100 miles range) as well as Gen 2 (200 miles+ range). *The second-most prevalent* "long-dwell" segment where charging occurs is at the workplace especially for drivers who may not have the ability to charge at home. This segment covers other long-dwell facilities such as hotels.

Given that the average car drives 40 miles per day and that 200-mile BEVs are becoming prevalent, the need for public charging will become essentially a "road trip/highway" requirement (or possibly for TNCs without self-owned charging depots in the urban/semi-urban areas), as well as for EV drivers who cannot charge at home due to the lack of a parking space or living in a MUD.

In this fast-emerging scenario, Siemens strongly urges the CEC to review its Clean Transportation allocation based on:
a) **customer segments** (residential vs workplace vs MUD)
b) **public charger type** (level 2 vs DCFC)
c) **location of public chargers** (level 2 vs DCFC)

We believe more resources should be provided for charging facilities at *long-dwell* sites such as the residential and workplaces segments. The CEC should also review the power level of the charger vis a vis the location; for example, are shopping centers the right locations for level 2 public chargers? A case can be made for 200-mile BEVs – for which frequent top-ups are not needed – that the hassle is not worth it for the limited kWh that can be received in a 30-minute charging session. Or better still, how can the utilization rates of public chargers at a shopping mall be increased – maybe open it up for use by nearby MUDs after closing hours?

4. First Come, First Served vs. Competitive Awards

Siemens believes that competitive awards are a better way of achieving the state's goals than are "first come, first served" programs. In the latter case, awardees are self-selected and receive awards based on barely meeting the minimum criteria for the awards. *In fact, there is no benefit for the awardee in doing anything more than the bare minimum.* With competitive awards, the awardees are, by definition, selected as the best among the applicant pool. Accordingly, the projects chosen in competitive solicitations will, almost by definition, better achieve the state's goals and drive taxpayer benefits via cost efficiencies. This could be accomplished by having quarterly deadlines and committing one-fourth of the funding each quarter.
CEC should ensure that the Clean Transportation Program allocations are disbursed via a competitive bidding process. We also encourage the CEC to review the current practice of CALeVIP to make for more efficient use of public funds.

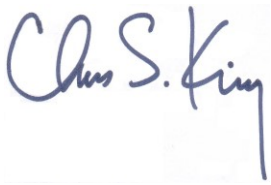
[1] - see Maryland PC44 Scenario Analysis in the Joint Parties Proposal, page 18

5. Smart Charging

Siemens strongly recommends that the CEC limit funding in the Clean Transportation Program *to smart chargers only.* Smart chargers have bi-directional communications capability, as well as a sub-meter to record charging consumption and, thus, give EV owners the ability to understand and manage their charging (as well as aggregators or utilities the ability to send pricing and demand response signals). Smart chargers enable EVs to be grid assets. Through dynamic pricing, smart chargers both reduce peak demand on the grid and enable EV owners to take advantage of lower off-peak rates (thus lowering fueling costs). Smart charging enables demand response, providing financial benefits to EV drivers participating in the program and benefits to all ratepayers through reduced grid loading and flexibility sold back into the wholesale market.

Siemens respectfully urges the CEC to avoid funding any chargers that are not smart and, thus, not capable of delivering those benefits to EV owners and California ratepayers/taxpayers.

Siemens appreciates the opportunity to comment.



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