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## Staff Pre-Solicitation Workshop for Municipal Fleets

*Additional submitted attachment is included below.*

California Energy Commission
Docket Unit, MS-4
Docket No. 20-TRAN-04
715 P Street
Sacramento, California 95814

**RE: 20-TRAN-04 – Staff Pre-Solicitation Workshop for Municipal Fleets**

Beam Global is pleased to provide comments to the California Energy Commission's (CEC) Staff Pre-Solicitation Workshop for Municipal Fleets. Beam Global thanks and applauds the CEC for its work to provide EV-charging to the State's municipal fleets.

**Background on Beam Global:**

Founded in 2006, Beam Global is a clean technology leader providing innovative, sustainable products and technologies for the electrification of transportation and energy resiliency. Beam produces sustainable Made-in-America patented products for electric vehicle (EV) charging, energy storage, and energy security.

Beam's patented EV ARC™ charging system is deployed for various fleet operators in California, including but not limited to Caltrans, the City of Los Angeles, the City of San Diego, the City of Oakland, San Diego County, Ventura County, and Marin County, among other fleets.

Off-grid and powered by renewable energy, the EV ARC™ is a rapidly deployed turnkey sustainable EV charging system requiring no construction, no electrical work, and no utility connection. On-board battery storage enables fleet EVs to charge during the day and night, inclement weather and grid outages, and the Emergency Power Panel can provide vital electricity during disasters and grid outages.

**<u>Uptime of an Off-Grid EV Charging Solution</u>**

For the purposes of the Municipal Fleet Solicitation, the CEC should recognize the difference in EV charging station functionality and system functionality when defining "uptime" for solar off-grid EV charging solutions.

Solar off-grid EV charging systems utilize solar with on-board battery storage to power EV charging stations without traditional electrical grid infrastructure, allowing for a non-grid tied connection. Energy storage systems (batteries) are often one of solar EV charging systems' most important components. Accordingly, battery management systems are included in these technology solutions to prolong the lifespan of the batteries, improve performance, and ensure a long and reliable charging experience. Battery lifespans are shortened by frequent cycles of running capacity down to 0% and refilling up to 100%.

Solar off-grid EV charging systems are designed to always maintain a minimum of 20% capacity in the batteries, helping to ensure a good bill of health for prolonged usage. Once the batteries are drained down to a ~20% threshold, it is normal for EV charging on the system to temporarily turn-off. This is done to protect the battery health while simultaneously allowing the system's essential core operating features, such as the system's sun-tracking technology, remote wireless cellular connection, and safety night light, among other functions, to remain active and functioning. Once the batteries have been replenished to a ~40% threshold on the system, EV

charging resumes. If a charging session was commenced prior to reaching the 20% battery cutoff, the session can automatically resume with no action needed from the system operator and/or user (i.e., driver).

Even in scenarios when the EV charging is temporarily turned off as described above, all other core components on the system are actively working. **This normal operation should not be constituted as down time**. Off-grid systems that are highly utilized will occasionally experience batteries reaching the 20% threshold. Applicants should not be penalized for high utilization rates on solar off-grid EV charging systems. Solar off-grid EV charging solutions utilize a finite amount of clean, renewable power.

In defining "uptime" for off-grid solutions, the CEC should define this as **system functionality**, rather than EV charging station functionality, to allow applicants to utilize off-grid solutions in response to the solicitation. Fleets utilizing off-grid technologies will have a lower carbon footprint, will have greater speed to deployment, will be able to charge during grid outages, and enjoy EV charging at a lower total cost of ownership without drawing power from the grid.

## CEC Charger Cost Caps

**If the CEC places a charger cost cap in the solicitation, the charger cap should not apply entirely to an off-grid solar powered EV charging system.** This is because off-grid solar powered EV charging systems include both the charger and the necessary infrastructure to provide power (solar panels and battery storage). **Off-grid solar powered systems should be funded equally to grid improvements and traditional infrastructure costs.** If a charger cost cap is included in the CEC's solicitation, off-grid solar powered EV charging providers can make a line item to encompass the cost of the charger, separate from the entire cost of the system. This will allow for the charger cost to be capped, without inadvertently capping the cost of an entire system.

## Additional Comments

- The CEC should limit the proposed municipal fleet solicitation for fleet usage only and continue to make further investments in public EV charging in future solicitations.

- The CEC should keep in place the proposed 25% cap for DC-fast charging as part of the municipal fleet solicitation.

Thank you,

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