

**DOCKETED**

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**Comments of AMPLY Power on the California Energy  
Commission's Medium- and Heavy-Duty (MDHD) Zero-Emission  
Vehicle (ZEV) Infrast**

*Additional submitted attachment is included below.*



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March 18, 2022

California Energy Commission  
Fuels and Transportation Division  
1516 Ninth Street  
Sacramento, CA 95814

**Re:    Docket No. 19-TRAN-02 – Comments of AMPLY Power on the California Energy Commission’s Workshop on Funding Allocations for Medium- and Heavy-Duty (MD/HD) Zero-Emission Vehicle (ZEV) Infrastructure Funding Allocations**

## **I.        Introduction**

AMPLY Power, Inc. (“AMPLY”) appreciates the opportunity to provide comment on the California Energy Commission’s (“CEC”) Docket Number 19-TRAN-02, the Medium- and Heavy-Duty (“MD/HD”) Zero-Emission Vehicle (“ZEV”) Infrastructure Funding Allocation.

AMPLY is a comprehensive charging and energy management provider for electric vehicle (“EV”) fleets focused on reducing costs and environmental impact. We offer a proven, scalable ecosystem of cloud-based software, onsite hardware, and customer-centric service to simplify charging operations for fleets operating trucks, buses, vans, and light-duty vehicles.

OMEGA™ CMS, AMPLY's proprietary charge management system, optimizes charging for lowest cost energy, while offering improved resilience and reliability, all in a user-friendly dashboard. AMPLY actively manages and monitors fleet operators’ EVs and chargers, dynamically responding to events in real-time.

Several key features that distinguish OMEGA from other platforms include:

- Guaranteed 99.9 percent vehicle uptime to ensure vehicles are ready to perform their duty cycle at the start of every shift
- Automated Load Management to enable 2x charger capacity without utility service upgrades
- Cost- and battery-optimized fleet charging
- Automated demand response participation and other utility grid services
- Customized compliance and operational reporting
- Integration with bespoke telematics, route, and asset management tools
- Active electric vehicle and EVSE monitoring and alerts
- A single point of contact for monitoring, service level alerts, maintenance, and repairs
- Interoperability with EVs and EVSEs, energy management, and vehicle-to-grid integration



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- Distributed energy resource (DER) management, integration, and interaction, including microgrid solar and storage

AMPLY's Charging-as-a-Service (CaaS) offers EV fleets a comprehensive solution where we assume responsibility for all aspects of charging an EV fleet – from EVSE procurement and installation, to ongoing operations and hassle-free maintenance. With CaaS, we guarantee EV fleet performance in exchange for a price-per-mile-driven fee that bundles CapEx, OpEx, energy, and incentives into a fixed rate, allowing fleet operators to forecast and manage costs long-term.

More and more fleet operators are choosing to go electric as fully functional and reliable electric trucks, buses and off-road equipment become available. Over the last six months, the percentage of fleets planning to deploy EVs within the next year has more than doubled. AMPLY supports this transition with solutions that simplify and de-risk fleet electrification. We have helped diverse fleet operators electrify, including public transit agencies, school bus fleets, delivery services, and ridesharing companies. Through this work, we have seen firsthand the opportunities and benefits of fleet electrification, including lower total cost of ownership for operators, less exposure to local air pollution in frontline communities, and lower greenhouse gas emissions. We have also learned that there are still significant barriers to fleet electrification. Chief among these obstacles are hardware reliability, slow utility interconnection and service upgrade request processes, grant funding restrictions on dedicated charging infrastructure for high-mileage commercial fleets, and insufficient interagency coordination on EV mandates and incentives.

## **II. Questions for all Concepts: For infrastructure projects, should grant funds be limited to equipment only costs?**

While fleet electrification is inevitable and a focus of OEMs, there is no solution in the market today that adequately addresses the charging and energy needs of end users. The leader in fleet charging must have fully managed solutions that enable customers to deploy fleets without hassle, are optimized for low energy costs, are interoperable with existing workflow functions, and guarantee reliability and performance. AMPLY addresses each of these obstacles through our charge management platform. AMPLY has developed and operates its own charge management software, OMEGA, that optimizes power flow and guarantees charging performance.

AMPLY's hardware- and use case-agnostic approach is intended to be a scalable software platform for light-, medium- and heavy-duty fleets to electrify 100 percent on an accelerated basis. In addition to grant funding for equipment costs, grant funding for EVSE installation soft costs, and CMS software and storage would help mission critical electric fleets scale more quickly. AMPLY's solution is shovel-ready and scalable, directly addresses the Administration's goals to electrify transportation and reduce carbon intensity, and ensures reliable, robust fleet operations and grid resilience. Because of the on-site solar generation and storage as well as managed charging to flatten out the power demand curve, this solution requires smaller utility



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service upgrades or no service upgrades at all. This template design can be rapidly scaled across school districts and transit agencies throughout California and other states.

### **III. School District Vehicle Grid Integration: Should this solicitation focus on either vehicle-to-grid or vehicle-to-building projects, or allow for both?**

AMPLY encourages the CEC to collaborate with USDOE on identifying potential school bus projects that could help demonstrate V2X technology as a load balancing tool. Electric school buses have the potential to be a load balancing tool, especially during the warmest days of summer when schools are not in session. Fleets of grid-connected school buses could potentially deliver power back to utilities during peak demand periods through vehicle-to-grid (“V2G”) integration technology. Although electric school bus pilot projects continue to demonstrate the efficacy of V2G, there is still a higher cost for bidirectional charging devices along with more implementation complexity. To address these V2G challenges, USDOE is developing a Memorandum of Understanding (MOU) to Establish the Vehicle-to-Everything Collaboration. The intent of USDOE’s V2X Collaboration is to accelerate and enable bidirectional electric vehicle integration into the electrical grid, initially by collecting and analyzing data from the demonstration bidirectional charging stations, and preparing analyses to evaluate the business case for V2X applications. Eligible use cases include fleet vehicles, passenger vehicles and refuse trucks. The goal of the V2X Collaboration is to evaluate whether V2X infrastructure can generate a bankable revenue stream. USDOE envisions awarding grants to national laboratories to validate different duty cycles and use cases.

### **IV. Medium-Duty / Heavy-Duty Loan Pilot: How should a loan program be structured to deliver maximum effectiveness?**

AMPLY Power appreciates the CEC’s focus on the financing tools needed to support accelerated deployment of medium- and heavy-duty (MHD) charging infrastructure. Infrastructure financing is driving MHD vehicle deployment. However, the infrastructure deployment timeline is not decreasing. This means that financing infrastructure should precede MHD vehicle financing. To deliver maximum effectiveness, a CEC Medium- and Heavy-Duty (MHD) ZEV Charging and Refueling Infrastructure Loan Program should allow multi-year decision making (versus grants which encourage single-year decision making). This loan feature is particularly important for fleet customers who may need secure, multi-year loans to finance long-term infrastructure projects. Multi-year decisions allow for forward-pricing of infrastructure (which should decline in cost as volumes increase) and allow for deployment of infrastructure ahead of volume of MHD vehicles. Loans for ZEV infrastructure should also mirror the longevity of MHD vehicles (ten to 12 years) or other renewable infrastructure (20-25 years). Specifically, longer term loans should be matched with lower interest rates that mirror the longevity of MHD vehicles.

Electrifying high-mileage fleets is a high-impact strategy for reducing emissions — they drive more than three times the average distance of non-commercial vehicles and have the potential to reduce GHG emissions per passenger by up to fifty percent per mile. Yet, fleet operators,



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including local school districts, transit agencies, municipal governments and other entities face multiple barriers to adopting ZEVs due to limited resources and bandwidth. To that end, a CEC MHD ZEV Charging and Refueling Infrastructure Loan Program should allow school districts and transit agencies to pay back CEC loans with CEC grant funding to apply towards the principal of CEC loans to avoid stifling the adoption rate. A CEC MHD ZEV Charging and Refueling Infrastructure Loan Program Loan Program should also allow school districts and transit agencies to pay back CEC loans with federal grant funding or other federal grant resources to help accelerate adoption of zero-emission buses. School districts and transit agencies may prefer low-interest loans over grant funding if they have the option to pay back loans with CEC grant funding.

**V.      Medium-Duty / Heavy-Duty Loan Pilot: Are there any other thoughts or recommendations you would like us to consider?**

We also respectfully urge the CEC to establish a MHD ZEV Charging and Refueling Infrastructure Loan Program that would allow fleets to leverage the future stream of Low Carbon Fuel Standard credits (LCFS) they will earn. According to CALSTART, commercial vehicles are expected to earn between \$12,500 and \$24,000 in Low Carbon Fuel Standard (LCFS) credits every year from charging or fueling a ZEV. However, fleets currently lack a means to monetize the future stream of LCFS value and bring it up-front to help finance infrastructure. As CALSTART has previously recommended to the CEC, the CEC could make direct loans to fleet owners based on a third party estimation on the value of LCFS credits earned over the lifetime of the vehicle. The funds would be returned to the CEC as LCFS credits clear the market, thus creating a revolving loan fund from which future loans could be funded.

AMPLY Power is also pleased to support SB 372 (Leyva), legislation passed by the California Legislature this session, which would provide finance and technical assistance for ZEV trucks. Senate Bill 372 would require the California Pollution Control Financing Authority (CPCFA) to develop tools that will focus direct financing on small truck fleets and leverage public funds for large truck fleets to bring in private capital. We respectfully encourage the CEC to coordinate with the CPCFA on the implementation of SB 372's ZEV truck financing program to ensure zero-emission truck fleets have access to CEC infrastructure financing assistance.

**VI.      Mobility-as-a-Service Models: What current models exist and how could they be innovated/improved?**

High mileage fleets are playing an increasing role in our transportation system, such as transit fleets, ride-hailing, and delivery services, to name a few. Electrifying high-mileage EV fleets is a high-impact strategy for reducing emissions -- they drive more than three times the average distance of non-commercial vehicles and have the potential to reduce greenhouse gases per passenger by up to 50 percent per mile. These fleets' diverse use cases and operations ultimately dictate their infrastructure needs. When evaluating its incentive and grant funding programs, we respectfully encourage the CEC to consider the following design principles:



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1. Expand funding eligibility and create different incentive levels, as needed, designed specifically for fleets.
2. Be inclusive and agnostic to companies' business models.
3. Be inclusive and agnostic to diverse vehicle and charging use cases (e.g. transit fleets, drayage truck fleets, and electric autonomous vehicle fleets).
4. Be inclusive and agnostic to technology – both networked Level 2 and DC fast charging will be critical for fleets.
5. CEC-funded Direct Current Fast Chargers (“DCFCs”) should not have to be publicly accessible 24/7 if they serve a public or private fleet. Many downtown cores lack locations that are open 24/7, eliminating important opportunities for DCFC deployment, which need to increase drastically in these areas. Public or private fleets may want the option to install DCFCs in their gated depots.
6. Privately-owned DCFCs that serve a public benefit, such as through electrifying delivery fleets, should be eligible for CEC funding. This is a business model that is not currently eligible to receive incentives, and yet it is an important solution that can further states' goals of electrification and fleet deployment. Promoting new innovative business models will help further grow the market and increase private investment in this sector.

## **VII. Coordination with Advanced Clean Trucks and Advanced Clean Fleets Rules**

We also strongly recommend close coordination between the CEC, CPUC and CARB on implementation of the Advanced Clean Trucks (ACT) and Advanced Clean Fleets rules. The ACT and ACF will help ensure the prioritization of EV charging infrastructure near frontline and environmentally disadvantaged communities. We respectfully encourage the CEC to coordinate closely with CARB to identify vehicle deployment trends to support strategic EVSE planning and avoid stranded assets. This interagency coordination will help ensure that charging infrastructure can meet fleets' wide range of duty cycles.

Sincerely,

*/s/Heidi Sickler*

Heidi Sickler  
Director of Policy  
AMPLY Power