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Electreon Comments Wireless Charging as a Solution for Fleet TCO and Grid Strain

Additional submitted attachment is included below.

electreon

November 7, 2025

The Honorable Members of the California Energy Commission
Docket Unit, MS-4
Docket No. 25-ALT-01
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: Comments of Electreon Wireless Inc. on the 2025-2026 Investment Plan Update for the Clean Transportation Program

Dear Chair and Commissioners,

Electreon Wireless Inc. (Electreon) respectfully submits these comments on the Staff Draft 2025-2026 Investment Plan Update for the Clean Transportation Program (Investment Plan). We share the Commission's goal of rapidly and equitably deploying the charging infrastructure needed to meet California's ambitious ZEV targets, including the Advanced Clean Fleets (ACF) regulation.

We commend the Commission's work, and we write to highlight a proven, commercially mature technology that directly addresses the "roadblocks" to ZEV infrastructure deployment. In the August 2023 joint hearing[1], "Charging Forward," the Assembly Select Committee on Electric Vehicles and Charging Infrastructure (chaired by Assemblywoman Pilar Schiavo) and the Utilities and Energy Committee heard testimony on the immense challenges California faces in grid capacity, land use, and reliability.

These roadblocks are not just implementation details; they are symptoms of a flawed paradigm. The conventional "plug-in" model forces fleets into a 20th-century "gas station" refueling process. This model requires massive vehicle batteries, creates immense grid pressure from megawatt-scale charging, reduces vehicle uptime, and consumes vast amounts of land for charging stations.

Our ambition with these comments is to demonstrate that a new, mature paradigm exists. Wireless (inductive) charging "brings the charger to the vehicle," transforming roads from static expenses into active, shared charging assets. This model is ready for CTP funding and is essential for California to cost-effectively meet its ZEV goals.

1. The Recommendation: Evolve CTP Solicitations to Solve Core Fleet Challenges

The primary "roadblock" to deploying innovative solutions is often solicitation language that inadvertently excludes them. As noted in GFO-24-610, requirements are frequently designed

[1]chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://autl.assembly.ca.gov/sites/autl.assembly.ca.gov/files/EV_Charging_Informational_Hearing_Agenda.pdf

for conventional plug-in charging.

We strongly recommend that all future CTP funding solicitations to specifically fund wireless charging solutions for California's most challenging use cases: drayage, transit, and shared urban fleets. This is not a request for technology neutrality, but a specific recommendation to fund a **performance-based solution** designed to solve the core operational and financial challenges (TCO, grid strain, uptime) that the conventional model cannot address alone.

To be more specific, instead of funding based on simple power-delivery levels (which perpetuates the "big battery, fast charge" model), we urge CTP to prioritize solutions that demonstrably:

- **Improve a fleet's Total Cost of Ownership (TCO).**
- **Maximize vehicle uptime** and operational continuity.
- **Reduce grid infrastructure strain** by distributing energy load over time and geography.
- **Increase payload capacity** by enabling smaller, lighter vehicle batteries.

The wireless charging paradigm is specifically designed to achieve these outcomes:

- **Smaller Vehicle Batteries:** By charging opportunistically (while driving, queuing, or loading), fleets can reduce onboard battery sizes. This lowers upfront vehicle cost and increases valuable payload capacity.
- **Grid Peak Shaving:** Instead of concentrating demand in massive, megawatt-scale depots, wireless charging distributes the energy load. This flattens the demand curve, eases pressure on the grid, and enables smarter, direct use of daytime renewable energy.
- **Improved TCO for Fleets:** Wireless charging is automatic and occurs during a vehicle's normal duty cycle (driving, queuing, loading). This eliminates dedicated charging downtime, significantly increasing fleet uptime, asset utilization, and profitability.
- **Shared Infrastructure as an Asset:** This model creates a shared charging platform that can serve all vehicle types (transit, freight, last-mile, passenger), turning public roads into charging assets and paving the way for sustainable, long-term business models.

2. A Data-Driven Solution for M/HD Freight & Disadvantaged Communities

The plan correctly identifies M/HD ZEV infrastructure as a top priority for addressing localized health impacts, particularly in DACs (p. 7, 9, 15). The I-710 corridor is the epicenter of this challenge, and the conventional plug-in model will struggle to solve it.

Our proposed wireless charging model is supported by a forthcoming study from the Los Angeles Cleantech Incubator (LACI), "First to Last Mile: Creating an Integrated Goods Movement Charging Network around the I-710 Corridor."

The LACI study confirms the transformative grid and operational benefits of this approach:

1. **Grid-Level Impact:** By deploying static wireless charging at port queuing lines, the region can spread charging demand throughout the day, reducing the total regional peak power load for drayage electrification by an estimated **86.5 MW**.

2. **Operational Impact:** The study found that pairing a 1.5-mile dynamic ERS with static charging in port queues could add **105 miles of range** to a drayage truck's shift *without* stopping to charge. This allows fleets to either service longer routes or **decrease battery capacity by ~263 kWh**, lowering vehicle cost and increasing payload.

We recommend the CTP fund a phased project, validated by the LACI study, that includes static, semi-dynamic (queuing), and dynamic (in-road) wireless charging for freight. Electreon has submitted an RFI to LA Metro and Mobile Source Air Pollution Reduction Review Committee (MSRC) regarding the "Goods Movement Zero-Emission Infrastructure in the Long Beach – East Los Angeles Corridor" and we would welcome CEC as a funding stakeholder in those project development.

3. A High-Profile Pathway for Urban Transit: UCLA and the LA28 Olympics

The Plan's focus on high-mileage vehicles (p. 14) and public access is perfectly embodied in our project at UCLA. In partnership with UCLA and Calstart, Electreon was recently awarded a **$4.25 million contract to deploy our wireless charging infrastructure for UCLA's BruinBus fleet,** initially focusing on 14 buses.

This project is more than a campus utility; it is a critical pathway to establishing a **sustainable, permanent, and scalable charging solution ahead of the LA28 Olympic and Paralympic Games.**

We encourage the CEC to leverage this foundational project. A CEC-funded "Phase 2" could expand this into a full urban ZEV ecosystem, creating a high-profile showcase for LA28 by adding shared wireless charging for other transit agencies like LA Metro and LA DOT, as well as ride-hail, car-sharing, and last-mile delivery fleets.

4. Proven Global Leadership & Technical Maturity

Electreon is bringing mature inductive charging technology with years of research and commercial deployments already completed. We are asking the CEC to fund technology that is already proven and working on U.S. and international roads. Our maturity is demonstrated by **25 global projects**, our deep OEM integration, and our leadership in standardization.

- **Global M/HD Leadership:** In France, we successfully deployed our system on the A10 motorway, demonstrating dynamic charging to a heavy-duty freight truck at **200 kW of power while traveling at 60 mph (100 km/h)**. This real-world freight project validates the high-power, high-speed capability required for corridors like the I-710.
- **U.S. Leadership & Deployments:**
  - **Michigan:** We successfully deployed the **nation's first public wireless charging road** in Detroit, in partnership with the **Michigan Department of Transportation (MDOT)**. This project is part of a 5-year agreement to develop a scalable wireless charging network.
  - **Utah:** We have deployed our system at the **Utah Inland Port Authority** in

partnership with the National Science Foundation (NSF) funded **ASPIRE center** and **Kenworth**. This project is critical for developing and validating heavy-duty charging standards.
    - **California:** We are actively deploying our technology in California, beginning with the **nearly $20 million project to electrify the UCLA BruinBus fleet.**
- **Maturity & Standardization:** Our innovative technology is mature and ready for real-world deployment. We are actively involved in and designing for compliance with all key global and U.S. standardization efforts, including **SAE J2954** (for light- and heavy-duty), **ISO 19363**, and **UL 2750**. This work ensures our technology is not a proprietary one-off, but a reliable, interoperable, and scalable solution ready for widespread fleet adoption.
- **Deep OEM Collaboration:** We are working closely with major Tier 1 suppliers like **DENSO**, the **Hyundai American Technical Center (Hyundai, Kia, Genesis)**, and vehicle OEMs to integrate wireless charging receivers. Our public partners include **RIDE (BYD), Ford, Stellantis, Toyota, Kenworth, IVECO, XOS Trucks**, and logistics leaders like **UPS**.

We thank the Commission for its consideration of these comments and for its ambitious 2025-2026 Investment Plan. We welcome the opportunity to discuss these recommendations further and demonstrate how wireless charging can help California achieve its clean air and climate goals.

Sincerely,

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