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# Greenlane Infrastructure Response to the Tri-State CFI Round 2 RFI

*Additional submitted attachment is included below.*

Greenlane

**CALIFORNIA ENERGY COMMISSION**
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# Response to: Request for Information

## Project Proposal Ideas and Considerations for California, Oregon, and Washington's Medium- and Heavy-Duty Joint Application for the U.S. Department of Transportation's Charging and Fueling Infrastructure Discretionary Grant Program

## Docket #24-EVI-01

**This Tri-state CFI RFI seeks feedback on the following questions:**

**1. Please disclose your business type and vehicle class, if applicable. Are you a driver, fleet operator, truck stop operator, installer, manufacturer, utility, public agency, or other? Are you part of a small, veteran-owned, woman-owned, or minority-owned business?**

Greenlane Infrastructure, LLC (Greenlane), was created in 2022 as an independent joint venture (JV) between Daimler Truck North America, LLC (DTNA), NextEra Energy Resources, LLC (NEER), and BlackRock Climate Infrastructure (BlackRock) to design, develop, install, and operate a nationwide, high-performance public charging and hydrogen refueling network for medium- and heavy-duty zero emission battery-electric and hydrogen fuel cell vehicles (MDHD ZEV). Each JV partner has committed $225 million in capital (totaling $675 million), leadership and staff with expertise in MDHD ZEV manufacturing and operations, utility engagement, electric charging station technology and design, and fleet engagement.

Greenlane's partners provide invaluable access to data and extensive prior project development experience, ensuring that Greenlane projects are designed, built, and operated with world-class expertise encompassing MDHD ZEV technology, freight patterns, customer use cases, and infrastructure deployment and operation. This unique combination of knowledge, resources, and dedication positions Greenlane to effectively deploy MDHD ZEV infrastructure at scale while successfully navigating the numerous complex challenges and risks associated with this complex endeavor.

Greenlane is committed to supporting diversity throughout the transportation industry and believe that fostering partnerships with diverse businesses can create a more equitable and resilient transportation sector. Greenlane actively seeks opportunities to collaborate with and support small, veteran-owned, woman-owned, and minority-owned businesses including supply chain, contractor relationships, workforce development, and community engagement. Greenlane recognizes the value that these businesses provide and the company fosters an inclusive environment that encourages their participation and growth.

**2. Would you consider applying for CFI grant funding for site development if the tri-state agencies are awarded funding?**

Greenlane would strongly consider applying for CFI grant funding for site development in California, Oregon, and Washington if the tri-state agencies are awarded funding. CFI grant funding would support Greenlane's site development efforts and allow private funding to go further. Specifically, CFI funds would enable the company to design, build, operate, and maintain state-of-the-art public MDHD ZEV infrastructure. By leveraging this funding, Greenlane can expedite the critical mission of creating a robust network of reliable, convenient, and accessible MDHD ZEV infrastructure on I-5 through California, Oregon, and Washington freight corridors.

Collaborating with the tri-state agencies that are awarded funding presents a significant opportunity to establish a critical ZEV fueling corridor for freight movement along the west coast, forge strong partnerships with key stakeholders, facilitate the exchange of expertise, resources, and best practices to enhance the effectiveness and impact of the tri-state's MDHD ZEV goals.

**3. Do you already operate or are you planning to use zero-emission battery electric MDHD vehicles in the next five years? Please use a 1-5 rating scale where 1= least likely and 5= most likely. Please add additional information regarding your (planned) use of zero-emission battery electric MDHD vehicles as desired.**

While Greenlane does not own or operate MDHD ZEVs, the company's dedication to a creating a nationwide network of reliable, convenient, and accessible electric charging and hydrogen refueling stations specifically designed for MDHD ZEVs is critical to enabling the transition over the next five years and beyond. Greenlane will begin providing public MDHD ZEV charging and hydrogen refueling stations on critical freight corridors across the U.S. Our first announced corridor is on the I-15 with three locations in Colton, Barstow, and Baker, CA. The Colton site will be operational by December 2024, with the additional two sites coming online in 2025-2026.

**4. What type of MDHD ZEV public charging do you anticipate being most important in the next three years (2024-2027) – enroute or overnight charging? For what purposes do you anticipate needing public charging infrastructure – drayage, last-mile, delivery, long-haul freight, other?**

For MDHD ZEV public charging over the next three years (2024-2027), Greenlane anticipates enroute public charging infrastructure will be more crucial than overnight charging facilities because the primary anticipated use cases for public charging during this period will likely revolve around freight transportation and logistics operations, where most vehicles need to charge during typical operating hours. Greenlane's sites will also provide some overnight charging, but the operating cycles of freight transportation will create significant demand for public opportunity charging during the day at public stations.

**5. From 2024-2027, what is your first priority for power level and number of charging ports for public en route charging at a station? For public overnight charging? Do you have a second or third configuration preference?**

Public charging should have multiple options for charging to serve varied duty cycles. For MDHD fleets, Greenlane believes there should be higher powered pull-through lanes in addition to parking for bobtail and trailered trucks with chargers that can support a longer dwell time. Specifically, at a minimum, there should be 4-10 pull-through lanes with 400 kW Combined Charging System (CCS) chargers and 5-30 parking stalls with slightly lower powered charging at 180 kW – 220 kW with CCS connectors. To future proof, Greenlane recommends replacing some of the 400 kW chargers with Megawatt Charging System (MCS) charging to serve trucks entering the marketplace (estimated 2026-2027).

Selected sites should also include room for additional chargers to increase a site's total charging capacity when MCS chargers are deployed. This will allow for trucks with and without MCS capabilities to utilize infrastructure deployed under a tri-state RFP.

**6. Please identify the percentage of pull-in or pull-through parking preferred and other desired station configurations at a given site. Describe the vehicle class and vocation considered when making this recommendation if it differs from the information provided in question 1.**

Greenlane's sites are designed to specifically serve the needs of class 6-8 commercial vehicles. The recommended percentage of pull-in and pull-through parking stalls, as well as other desired station configurations, will depend on the space available at individual sites. On a daily basis, high powered pull-through lanes will serve a larger volume of vehicles than lower powered charging in parking stalls designed for longer dwell times. Greenlane will maximize each site footprint to offer a range of charging options but will likely have more pull-through lanes than parking stalls with chargers. As every site is different, it is difficult to state a range as some sites will be primarily pull-throughs with little to no charging for trailers or bobtails, while others will have several dozen longer-dwell charging stalls. Additional station configurations include:

- **Charging station placement**: Conveniently located and easily accessible for each vehicle class and vocation, considering factors including cable reach, parking stall dimensions, and overall site layout.
- **Amenities**: To enhance the overall charging experience, Greenlane will offer first class amenities with the commercial driver in mind. This includes restrooms, food and beverage options, comfortable seating areas, Wi-Fi, and some locations will include gyms and showers.
- **Safety features**: Well-lit and safe lots, clear signage, and designated pedestrian walkways provide a secure and efficient charging environment for all drivers.
- **Customer Service**: The ability to reach a local, English and Spanish speaking, customer service representative by phone or text, and the ability of that person to either provide immediate assistance or call for assistance will ensure the highest quality of driver care.

**7. What distance should separate charging stations to support zero-emission trucks along the I-5 corridor? Provide description of typical route or use-case considered when making this recommendation. Describe the vehicle class and vocation if it differs from the information provided in question 1.**

Greenlane knows public MDHD ZEV infrastructure is the key to accelerating the rollout of zero emission freight transportation. MDHD ZEVs can't be deployed at scale until there is a robust and reliable public fueling network across the nation's critical freight corridors. Greenlane's goal is to provide public MDHD ZEV charging stations every 100 miles on freight corridors across the country, starting in priority markets. However, to maximize impact of the second round of CFI funding on key freight segments, Greenlane recommends that the tri-state application not place strict minimum or maximum distance requirements for sites as they could unintentionally disqualify what could be ideal projects from eligibility. There are not an unlimited number of sites that are along I-5 that meet the needs of commercial ZEV drivers, have a reasonable timeline to energization, are within 5 miles of I-5, and also fit into strict minimum and/or maximum distance requirements. Tri-state should prioritize flexibility in evaluating sites. Locations should be prioritized on individual merit alongside proximity to other charging infrastructure locations.

**8. What amenities are you seeking at a charging facility? Is there a desire for additional parking at a facility beyond charging stalls? Is there a desire for reservation options?**

Greenlane's stations will be well-lit and secure, provide food, beverages, restrooms, and comfortable places to use free Wi-Fi. Greenlane is acutely aware of the lack of accessible, safe, public overnight truck parking across the U.S. and plans to provide it when space allows. Greenlane plans to provide additional amenities in the future to accommodate the unique needs of overnight drivers including private showers, and laundry facilities.

**9. If possible, provide any general cost estimates for MDHD charging stations you have designed, built, or have experience with, including charger power levels and number of chargers installed. Please provide a range of public cost share as a percentage of total project cost that would be necessary to support more public charging stations to serve zero-emission trucks along freight corridors.**

Publicly accessible MDHD ZEV charging stations can range greatly in total project costs based on the number and power level of chargers installed in addition to other project components such as battery energy storage systems (BESS) and on-site solar panels. MDHD ZEV stations with a combination of pull-through lanes and parking stalls

can vary widely anywhere from $7 million to $30 million or more. These costs would include charging equipment, site preparation, permitting, design and engineering, utility upgrades, site construction and installation, distributed energy resources, storage, and amenities. These costs can fluctuate depending on if the site has already been paved or is a greenfield location. When considering other technologies like BESS and carport or ground mounted solar, costs per site can increase by millions of dollars. These costs do not include the cost to acquire the land which, depending on the location, can range from under a $1 million to tens of millions.

Public cost share should range from 50-75% to attract the most competitive projects and to stretch private investment dollars further to construct more sites. This range follows other grant and incentive opportunities such as the California Energy Commission's CRITICAL PATHs (50%), California Air Resources Board's Carl Moyer Program (60% for public access projects), and California Transportation Commission's Trader Corridor Enhancement Program (70-100%).

**10. Use the maps under the "Corridor Segments" section below to identify locations within the National Zero-Emission Freight Corridor Strategy hubs along I-5 (identified in the map segments 4 below) you anticipate needing EV charging in the next three years (2024-2027). You may identify sites where you plan to or would be interested in building charging stations or where you would like to see charging as a consumer. Please detail preferred locations across California, Oregon, and Washington.**

**For each location, please provide desired site characteristics including number of chargers, power levels, type of charging desired (overnight or en route), and vehicle class and vocation if the information differs across locations or differs from the information provided in the questions above.**

Greenlane's goal is to provide public MDHD ZEV charging stations every 100 miles on freight corridors across the country, starting in priority markets like I-5 from Canada to Mexico. Greenlane is interested in pursuing all corridor segments highlighted in the tri-state RFI.