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24-EVI-01 - US Department of Transportationâ€™s Charging and Fueling Infrastructure Grant Program

Additional submitted attachment is included below.

DOCKETED	
Docket Number:	24-EVI-01
Project Title:	U.S. Department of Transportation’s Charging and Fueling Infrastructure Grant Program
TN #:	256874
Document Title:	RFI - Considerations for the CEC Zero-Emission MDHD Drayage Infrastructure Application for the USDOT's CFI Grant Program
Description:	N/A
Filer:	Spencer Kelley
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	6/14/2024 2:25:23 PM
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STATE OF CALIFORNIA — NATURAL RESOURCES AGENCY Gavin Newsom, *Governor*

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Request for Information Considerations for the California Energy Commission

Zero-Emission Medium- and Heavy-Duty Drayage Infrastructure Application for the U.S. Department of Transportation's Charging and Fueling Infrastructure Discretionary Grant Program

June 14, 2024

Docket #24-EVI-01

Written Comments Due by June 28, 2024, at 5:00 p.m. PDT

Purpose of Request:

The California Energy Commission (CEC) seeks information to support potential medium- and heavy-duty drayage truck infrastructure projects under the U.S. Department of Transportation's Charging and Fueling Infrastructure (CFI) Discretionary Grant Program. The proposed project would install electric truck charging and/or hydrogen truck refueling stations to support zero-emission medium- and heavy-duty (MDHD) drayage trucks at California ports including the State's seaports and land ports of entry along the California-Mexico border. The infrastructure may be located on port property or along routes serving the ports and their drayage activity.

In this Request for Information (RFI), the CEC is seeking input regarding where zero- emission vehicle truck sites would be most used and useful in the near term (2024- 2027), site characteristics, power level and types of charging, and other factors that will better inform the CEC's application to deploy publicly accessible charging and fueling infrastructure for zero-emission MDHD drayage vehicles.

The Joint Office of Energy and Transportation (JOET) recently released its National Zero-Emission Freight Corridor Strategy.[1] The strategy describes a phased approach for zero-emission vehicle (ZEV) charging and fueling infrastructure, establishing hubs from 2024 to 2027 and connecting those hubs from 2027 to 2030. The JOET encourages parties to align with this strategy in funding applications, and this RFI seeks to gather insights to align the California ports CFI application with this strategy. As such, respondents to this RFI should indicate how proposed site locations will align with and support the national corridor strategy.

The vision of the CEC's FY 2024 CFI application is to identify a limited number of public MDHD battery electric and/or hydrogen fueling sites that will support the National Zero- Emission Freight Corridor Strategy. California has also enacted the Advanced Clean Fleets regulation which requires all drayage trucks entering seaports and intermodal railyards in California to be zero-emission by 2035,[2] necessitating proactive build-out of zero-emission MDHD infrastructure.

The CEC intends to submit this ports-focused application for FY 2024 in addition to a tri- state application[3] focusing on the Interstate 5 (I-5) corridor through Washington, Oregon, and California. For this reason, the ports-focused application will not include I-5. The goal of both applications will be to achieve a publicly accessible network of MDHD hubs that reflect the National Zero-Emission Freight Corridor Strategy.[4] Funding awarded to this project would be competitively bid by the CEC in a formal solicitation process. The FY 2024 Notice of Funding Opportunity for CFI was released on May 30, 2024. In preparation for submittal, the CEC is seeking responses and comments to this RFI, via docket[5] by **June 28, 2024.**

Background:

The Infrastructure Investment and Jobs Act of 2021 provides $2.5 billion over five years for the Charging and Fueling Infrastructure (CFI) Discretionary Grant Program.[6] The CFI Program is a federal competitive grant program created to deploy publicly accessible electric vehicle charging and alternative fueling infrastructure in the places people live and work along designated Alternative Fuel Corridors[7] (AFCs). The CFI Program provides funding in two categories of grants: (1) Community Charging and Fueling Grants (Community Program); and (2) Alternative Fuel Corridor Grants (Corridor Program). The Federal Highway Administration released a Notice of Funding Opportunity for FY 2024 on May 30, 2024, which offers up to $800 million in total funding under Round 2. Funding will be used to strategically deploy ZEV charging and alternative fueling infrastructure projects in urban and rural communities in publicly accessible locations, particularly in underserved and disadvantaged communities. CFI Program grants for FYs 2022 and 2023 totaling $623 million were awarded in January 2024.[8]

1
2 https://driveelectric.gov/files/zef-corridor-strategy.pdf
3 Advanced Clean Fleets Regulation Summary | California Air Resources Board
4 https://efiling.energy.ca.gov/GetDocument.aspx?tn=256291&DocumentContentId=92079
5 https://driveelectric.gov/files/zef-corridor-strategy.pdf
https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=24-EVI-01

6 Bipartisan Infrastructure Law - Charging and Fueling Infrastructure Fact Sheet | Federal Highway Administration (dot.gov)

7 Alternative Fuel Corridors - Environment - FHWA (dot.gov)

Request for Information:

The CEC is accepting public comments under this RFI to inform project ideas and considerations for the Zero-Emission Medium- and Heavy-Duty Drayage Infrastructure Program application with the intent of reflecting stakeholder needs and priorities. The guidelines for the Corridor Program are available online.[9] Responses to this RFI **will be publicly available**.

This RFI seeks feedback on the following questions. (You need only to answer questions applicable to you or your organization.)

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

   FuelCell Energy is a global leader in clean energy technologies that use fuel cells to help organizations decarbonize power and produce hydrogen. Their platforms can help businesses, utilities, governments, and municipalities with power generation, carbon capture, hydrogen production, and energy storage.

   In May 2024, State, City, and Port of Long Beach officials joined FuelCell Energy and Toyota North America on Thursday to celebrate the grand opening of the first-of-its-kind "Tri-gen" system, which generates renewable hydrogen, electricity, and water to support operations at Toyota's largest port facility in North America.

2. The purpose of this RFI is to help inform the CEC's application to the Federal Highway Administration (FHWA) for federal funding. If awarded, the CEC will release a competitive grant funding solicitation to provide funding to end recipients who would develop and construct the zero-emission MDHD infrastructure. Would you consider applying for CFI grant funding for site development if the CEC is awarded funding?

   Yes, FuelCell Energy would consider applying, subject to grant funding solicitation requirements and teaming needs if needed qualify.

3. Do you already operate or plan to use zero-emission 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 MDHD vehicles as desired.

   FuelCell Energy targets clean hydrogen and electricity production for vehicles rather than operation or use of zero-emission MDHD vehicles, thus an appropriate answer is 1.

[8] Biden-Harris Administration Announces $623 Million in Grants to Continue Building Out Electric Vehicle Charging Network | FHWA (dot.gov)

[9] Bipartisan Infrastructure Law - Charging and Fueling Infrastructure Fact Sheet | Federal Highway Administration (dot.gov)

4. For drayage fleet operators and drivers: Not applicable

    a. For 2024-2027, what would you like to see as the priority for zero- emission infrastructure? Hydrogen or electric? Or a mix of both?

    b. To meet Advanced Clean Fleet (ACF) requirements, are you considering battery electric or hydrogen trucks?

    c. When/where would you prefer to recharge/refuel? E.g.: Depot charging vs. on-route, during loading/unloading, overnight or as needed.

    d. Do you have a preference for the power level or speed of charging infrastructure? E.g. 150kW, 250kW, 350kW or 1MW. What would meet your needs and why?

    e. Are you willing to provide a non-binding letter of commitment for the CEC's application stating that your organization would utilize EV charging and/or hydrogen fueling infrastructure located within five miles of the AFCs found in the "Corridor Segment" below? If so, please see the attached letter of commitment template. Letters of commitment may be sent to Sarah Sweet, Federal Liaison at sarah.sweet@energy.ca.gov.

5. For EV charging and hydrogen fueling providers, describe:
    a. Your organization's business model for public charging and/or hydrogen fueling offerings.

The "Tri-gen," also known as tri-generation, is an innovative technology at the Port of Long Beach revolutionizing sustainable port operations. This groundbreaking system was designed to support both the distribution and vehicle processing centers for Toyota Logistics Services (TLS) in Long Beach. As the largest North American vehicle processing facility for Toyota, TLS Long Beach handles an estimated 200,000 new Toyota and Lexus vehicles annually. The Tri-gen platform has played a vital role in enabling TLS Long Beach to become Toyota's first port vehicle processing facility powered entirely by 100 percent on-site generated renewable electricity.

Tri-gen utilizes biogas redirected from organic waste to generate 2.3 megawatts of renewable electricity for TLS Long Beach, supporting its operations at the Port. Any excess electricity is supplied to the local utility, Southern California Edison (SCE), under the California Bioenergy Market Adjustment Tariff (BioMAT) program, which adds a renewable, resilient, and baseload electric generation resource to the electric grid.

Tri-gen produces up to 1,200 kg/day of renewable hydrogen for Toyota's light-duty fuel cell electric vehicles (FCEV) Mirai. Additionally, Tri-gen supplies hydrogen to the adjacent heavy-duty hydrogen fueling station to support the heavy-duty (FCEV)drayage trucks and operations at the Port of Long Beach.

Since January 1, 2024, California's Advanced Clean Fleet Regulation (ACF) mandates that only zero-emission trucks can be newly registered as drayage trucks. Additionally, by 2035, all drayage trucks will be required to be zero-emission. The Tri-gen platform is currently supporting FCEV heavy-duty Class 8 trucks and will continue to aid the transition to zero-emission trucks now and 2035. Tri-gen can adjust hydrogen production based on demand, and it can ramp up and down. After the completion of construction last year, in January 2024, Toyota used the renewable hydrogen produced at Tri-gen to fuel the first Toyota Mirai (FCEV) vehicles at TLS. In April, the first heavy-duty (FCEV) Kenworth T-680 Class 8 truck was filled at the adjacent Shell HD filling station using Tri-gen-produced renewable hydrogen.

The byproduct of water generated from hydrogen production can amount to up to 1,400 gallons of usable water per day. This water is being repurposed for TLS car wash operations for vehicles that come into the Port of Long Beach before delivery. Tri-gen signifies a groundbreaking achievement in energy efficiency and environmental sustainability, delivering a green solution to fulfill the energy demands of the port while significantly reducing its environmental impact.

By supporting TLS operations at the Port of Long Beach, Tri-gen is expected to help reduce more than 9,000 tons of CO2 emissions from the power grid each year. This supports both Toyota Logistics Services' carbon reduction goals as well as the Port of Long Beach's goals as a leader in innovative solutions to reducing carbon emissions.

Tri-gen will also help avoid more than six tons of grid NOx emissions, which are harmful to both people and the environment today. Using hydrogen-powered fuel cell Class 8 trucks in port operations has the potential to reduce diesel consumption by more than 420,000 gallons per year.

b. Mechanisms your organization might leverage to provide affordable charging and fueling services to drayage fleet operators.

FuelCell Energy, a company with experience in the field, has developed advanced Tri-gen technology designed to support various strategic initiatives aimed at providing affordable charging and fueling services to drayage fleet operators. These initiatives involve multiple facets, including but not limited to forging strategic capital partnerships, pursuing grants at state, federal, and regional levels, and collaborating closely with local leadership and Air Quality Management Districts. Through these multifaceted approaches, FuelCell Energy aims to ensure the accessibility and affordability of sustainable energy solutions within the drayage industry.

c. The scope of services, facilities and amenities provided at your recharging/refueling locations.

This would be dependent on identified location needs and partners in the recharging/refueling locations.

d. The anticipated site size, parking configuration (e.g., pull-through), total number of charging stalls capable of simultaneous charging, and total number of truck parking spaces that are not dedicated to charging or refueling.

This would be dependent on identified location needs and partners in the recharging/refueling locations.

e. How your organization approaches right-sizing infrastructure for near- term market demand and future-proofs infrastructure to be responsive to evolving needs.

FuelCell Energy products are designed as building blocks to deploy to meet energy capacity requirements for projects. Thus clean hydrogen and electric supply needs can be met with a base project and then with proper overall project planning, grown to meet actual future needs, whether at one site or a network of sites.

6. What distance should separate stations to support zero-emission drayage truck activities around California ports? Provide a description of a 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.

The distance needed to support zero-emission drayage trucking activities around the California ports is influenced by several crucial factors that need to be considered. These factors include the availability and distribution of the fueling infrastructure (whether it's

battery electric vehicles or fuel cell electric vehicles) and the range capabilities of these zero-emission trucks, the nature of the goods being transported, the weight of the payload, the range of the routes, and the specific operational requirements of the trucking activities. These factors collectively play a significant role in determining the distance required to support zero-emission drayage trucking activities in this area. Examples include:

Medium-duty trucks and vocational vehicles with a gross vehicle weight ratio (GVWR) of 19,501-33,000 pounds have a lighter payload, require less torque, and typically have a shorter range. Given these factors, as well as their return-to-base operational model with 150 miles or less, battery electric vehicles (BEV) are often used for port applications and for warehouses near the ports.

Heavy-duty trucks with a gross vehicle weight rating (GVWR) of 33,001-60,000 pounds are designed to carry heavier loads, require more torque to operate efficiently, offer a longer range, and are often equipped with specialized vocational bodies for specific industry applications. These trucks are frequently utilized for transporting cargo to and from ports, especially for long-distance routes exceeding 150 miles. Due to their capabilities and requirements, fuel cell electric vehicles (FCEVs) are a common choice for port operations and drayage tasks.

Describe the vehicle class and vocation if it differs from the information provided in question

FuelCell Energy suggests that the CEC utilize organizations such as the Hydrogen Fuel Cell Partnership and studies funded by the CA Ports to baseline a use case.

If possible, provide any general cost estimates for MDHD charging and/or hydrogen fueling stations you have designed, built, or have experience with, including charger power levels and number of stations installed. Please provide a range of public cost-share as a percentage of the total project cost necessary to support more public charging stations to serve zero-emission trucks along drayage corridors. For example, should the publicly funded cost share be 50% CEC/federal and 50% private/other?

Historically, publicly funded cost share in the 50% range helps drive private investment. Stacking CEC and federal funding/programs to achieve a higher overall public funding range of 50% to 80% should be allowed.

1. Use the maps in the "**Corridor Segments**" section to identify areas where you expect to need zero-emission truck infrastructure in the next three years (2024-2027). These Corridors have been selected to align with the National Zero-Emission Freight Corridor Strategy, the California Transportation Commission's SB 671 Clean Freight Assessment and to complement California, Washington and Oregon's Tri-state application.

    a. You can pinpoint sites where you plan to build stations, or where you would like to see a station as a driver.

Port of Humboldt Corridor Segment Group: FCEV and BEV infrastructure for HD and MD applications and LD adjacent fueling.

- I-5 Interchange.

Port of Oakland Corridor Segment Group: FCEV and BEV infrastructure for HD and MD applications and LD adjacent fueling.

- I-880: From the I-80 interchange in Oakland to the US 101 interchange in San Jose
- US 101: From the I-880 interchange in San Jose to the SR 152 interchange in Gilroy
- I-580: From the I-238 interchange in Ashland to the I-5 Interchange in Tracy

Ports of Los Angeles and Long Beach Corridor Segment Group: FCEV and BEV infrastructure for HD and MD applications and LD adjacent fueling.

- I-10: The I-405 interchange in Los Angeles to Exit 88 in Calimesa
- I-110: From the I-10 interchange in Los Angeles to the SR-47 interchange in San Pedro
- SR 60: From the I-10/I-5/US 101 interchange in Los Angeles to the I-10 interchange in Beaumont
- I-710: From Valley Blvd in Alhambra to W Ocean Blvd in Long Beach

Port of San Diego Corridor Segment Group: FCEV and BEV infrastructure for HD and MD applications and LD adjacent fueling.

- I-8: From Mission Bay Dr/Sports Arena Blvd in San Diego to the Arizona border
- SR 94: From the I-5 interchange in San Diego to SR 125 interchange in Lemon Grove
- SR 905: From the I-5 interchange at Exit 1A/1B in San Diego to the Otay Mesa Fwy at Exit 9 in Otay Mesa
- SR 125: From I-8 interchange in La Mesa to SR 11 interchange in San Diego
- SR 111: From the SR 78 interchange in Brawley to the SR 98 interchange in Calexico

b. If possible, please provide specific details for each location, including the preferred location, the number of stations, the type of fuel (hydrogen or electric), power levels (if applicable), and vehicle class. Included above.

c. Identify any corridor segments you think should be considered that have not been included and how they align with the National Zero- Emission Freight Corridor Strategy.

Texas Triangle Corridor to CA Interstates

2. If you represent a utility: Not Applicable
   a. Please use the maps in the "**Corridor Segments**" section to identify locations that have or will have a capacity for 5 MW or more in the next five years. These will not be considered utility recommendations or guarantees of available capacity. This information may be considered for future funding opportunities.

   b. Please share your policy regarding capacity build-out for future- proofing. E.g., if conduit is installed for the future installation of megawatt charging, would you offer transformer capacity to support the anticipated future load to include megawatt charging.

How to Provide Information:

Respondents to this RFI should not include any proprietary or confidential information. Comments must be submitted by 5:00 p.m. on Friday, **June 28, 2024**, using the e-commenting feature at California Energy Commission : e-comment : Submit Comment https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=24-EVI-01.

A full name, email address, comment title, and either a comment or an attached document (.doc, .docx, or .pdf format) is required. After a challenge-response test is used by the system to ensure that responses are generated by a human user and not a computer, click on the "Agree & Submit Your Comment" button to submit the information to the CEC's Docket Unit.

Written comments, attachments, and associated contact information included within the documents and attachments (that is, your address, phone number, and email address) become part of the viewable public record, with access available via any internet search engine.

Interested parties are encouraged to use the electronic filing system described above to submit information. If you are unable to submit electronically, a paper copy of your information may be sent to:

California Energy Commission
Docket Unit, MS 4
Re: Docket No. 24-EVI-01 715
P Street
Sacramento, CA 95814-5512

Email responses to: docket@energy.ca.gov with the subject line stating "24-EVI-01: RFI Ideas and Considerations for CA Ports USDOT CFI."

For information, please contact Sarah Sweet, Federal Liaison at Sarah.Sweet@energy.ca.gov

The RFI is embedded in its entirety in this notice and available on the CEC website at California Energy Commission: Docket Log (https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-EVI-01)

News media inquiries can be directed to the Media and Public Communications Office at (916) 654-4989 or at mediaoffice@energy.ca.gov.

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June 28, 2024

The Honorable Pete Buttigieg
Secretary of the United States Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

Subject: Letter of Commitment for the California Energy Commission's Medium- and Heavy-Duty Drayage Infrastructure Project under the Charging and Fueling Infrastructure Discretionary Grant Program Opportunity 693JJ324NF00017

Dear Secretary Buttigieg,

On behalf of FuelCell Energy, I am writing to express our commitment and support for the California Energy Commission's (CEC) proposed project to install charging and/or hydrogen fueling stations to support zero-emission medium- and heavy-duty (MDHD) drayage trucks at California ports.

FuelCell Energy is committed to contributing to the success of this initiative by providing first-of-its-kind "Tri-gen" system that uses biogas to produce renewable electricity, renewable hydrogen, and usable water, and was built to support the vehicle processing and distribution center for Toyota Logistics Services at the Port of Long Beach, Toyota's largest North American vehicle processing facility. By supporting TLS operations at the Port of Long Beach, Tri-gen is expected to help reduce more than 9,000 tons of CO2 emissions from the power grid each year. This supports both Toyota Logistics Services' carbon reduction goals as well as the Port of Long Beach's goals as a leader in innovative solutions to reducing carbon emissions.

Tri-gen will also help avoid more than six tons of grid NOx emissions, which are harmful to both people and the environment today. Using hydrogen-powered fuel cell Class 8 trucks in port operations has the potential to reduce diesel consumption by more than 420,000 gallons per year.

We believe our contribution will significantly enhance the project's impact and help to ensure the successful deployment and use of zero-emission MDHD vehicle charging and fueling infrastructure.

Our organization has identified potential sites that would be highly suitable for this infrastructure. We are confident that these locations will see significant usage and will be instrumental in supporting the drayage activity at the ports of locations: Los Angeles, Long Beach, San Diego, Hueneme, Oakland, Stockton, and Humboldt, as well as the Otay Mesa, Otay Mesa East, Tecate, Calexico (East & West), and Andrade land ports of entry.

We support the CEC's vision for the FY 2024 Charging and Fueling Infrastructure (CFI) application and our organization is prepared to collaborate closely with the CEC and other stakeholders to achieve a publicly accessible network of MDHD hubs that reflects the National Zero-Emission Freight Corridor Strategy.

We appreciate the opportunity to provide our input and are eager to support the CEC's application for the FY 2024 CFI program. Please do not hesitate to contact us at mvaldez@fce.com for further discussion on how we can contribute to the success of this critical initiative.

Sincerely,

Monique Valdez
Director of Community Engagement
mvaldez@fce.com
FuelCell Energy