

DOCKETED

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Staff Workshop on Concepts for Medium- and Heavy-Duty Zero-Emission Vehicles and Infrastructure

Clean Transportation Program



Esther Odufuwa, Marc Perry, Eric VanWinkle, Alex Wan, Elizabeth John
October 25, 2019
California Energy Commission



Meeting Agenda

- | | |
|------------|--|
| 10:00 a.m. | Welcome |
| 10:10 a.m. | Presentation: Program Overview |
| 10:20 a.m. | Presentation: CEC Coordination |
| 10:50 a.m. | Concept #1: Staff Presentation and Discussion Questions |
| 11:30 a.m. | Concept #2: CTE Presentation, Staff Presentation, and Discussion Questions |
| 12:00 p.m. | Lunch Break |



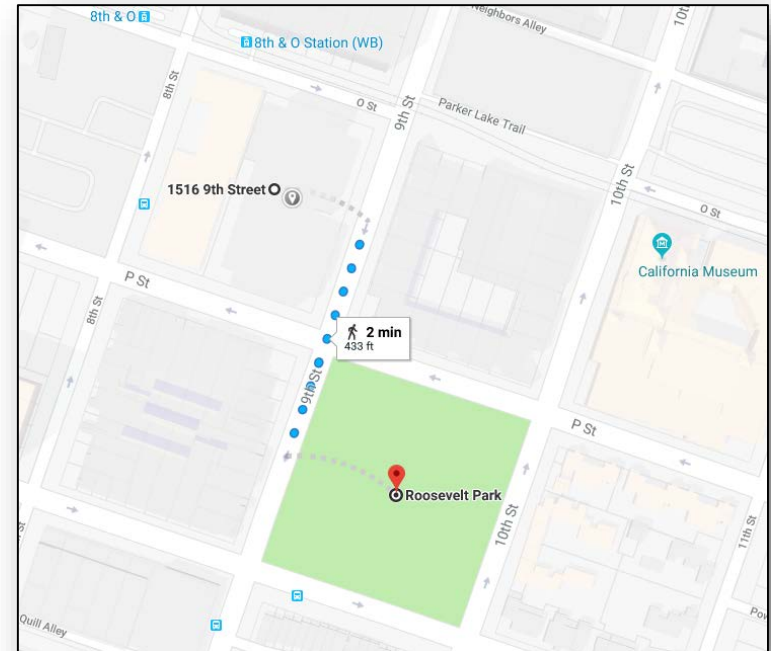
Meeting Agenda

- | | |
|-----------|---|
| 1:00 p.m. | Concept #3: Staff Presentation, POLB Presentation, and Discussion Questions |
| 1:30 p.m. | Concept #4: Staff Presentation and Discussion Questions |
| 1:50 p.m. | Concept #5: Staff Presentation and Discussion Questions |
| 2:30 p.m. | Break |
| 3:00 p.m. | Next Steps |
| 3:30 p.m. | Public Comment |
| 4:00 p.m. | Adjourn Workshop |



Housekeeping

- WebEx Recording
- 2nd Floor Snack Room
- Emergency Exit
- Sign-in sheet



Source: Google Maps

<https://www.energy.ca.gov/event/workshop/2019-10/staff-workshop-medium-and-heavy-duty-zero-emission-vehicles-and>



Commitment to Diversity

- The Energy Commission adopted a resolution on April 8, 2015, to firmly commit to:
 - Increase participation of women, minority, disabled veteran and LGBT business enterprises in program funding opportunities.
 - Increase outreach and participation by disadvantaged communities.
 - Increase diversity in participation at Energy Commission proceedings.
 - Increase diversity in employment and promotional opportunities.



Commitment to Diversity

Fairness – Increase funding accessibility to all Californians.

Inclusion – Small businesses make up a significant portion of the U.S. economy.

Job Creation – Projects can create jobs for residents of the under-served communities.

Diversity of Ideas – Great ideas occur in a variety of areas.

Diversity in Communities' Needs – Needs vary widely from one area to the next (air quality, socioeconomic, etc.).



Diversity Survey

- Diversity Survey

<https://www.surveymonkey.com/r/R8SD79D>

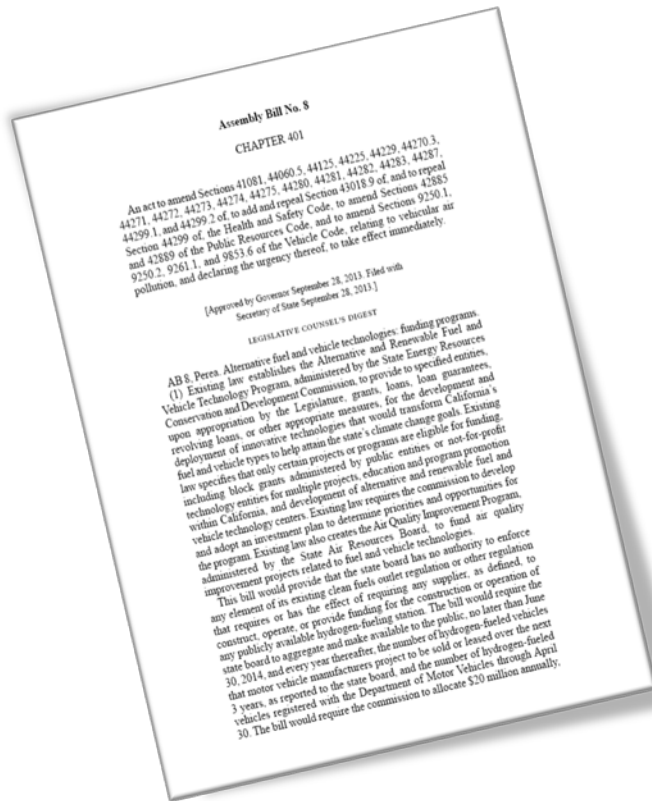


Workshop Purpose

- To provide an overview of Clean Transportation goals and available funding for advanced MD/HD freight vehicles and infrastructure.
- To provide solicitation concept ideas and gather information that will inform upcoming solicitation(s).
- To provide a forum to discuss and seek public comments.



Clean Transportation Program Origins in Statute



- Formerly known as the Alternative and Renewable Fuel and Vehicle Technology Program
- Established by Assembly Bill 118 (Nunez, 2007)
- Provides up to \$100 million per year in funds
- Extended to January 1, 2024 by Assembly Bill 8 (Perea, 2013)



Purpose of the Clean Transportation Program

“...to develop and deploy innovative technologies that transform California’s fuel and vehicle types to help attain the state’s climate change policies.”

- California Health and Safety Code 44272(a)

Complementary goals:

- Improve air quality
- Investments in low-income and disadvantaged communities
- Promote economic development
- Increase alternative fuel use
- Reduce petroleum dependence


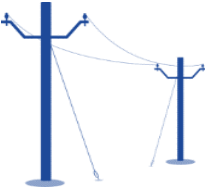
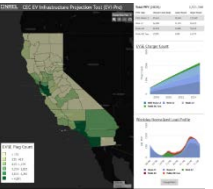



Recent Freight Investments

Funded Activity	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
	<i>Vehicles & ITS</i>			<i>Infrastructure</i>
On-Road	<ul style="list-style-type: none"> • Battery Electric Refuse Trucks • Plug-In Hybrid Electric Drayage Trucks • Battery Electric Drayage Trucks • Fuel Cell Drayage Trucks • ECO FRATIS • Freight Signal Prioritization 			<ul style="list-style-type: none"> • Conductive AC and DC Charging • Inductive Charging • Renewable Hydrogen Station
Off-Road	<ul style="list-style-type: none"> • Electric Rubber Tire Gantries • Battery Electric Container Handlers • Battery Electric Lift Trucks 			



CEC Coordination to Accelerate Zero-Emission MD/HD Transportation

Segment	Funding & Analytical Initiative
 Charging & H2 Fueling Equipment	Freight and Transit Infrastructure
 Site Electric & Utility Infrastructure	Distributed Energy Resources for EV Charging (EPIC)
 System Modeling & Planning	Medium- and Heavy-Duty Electric Vehicle Infrastructure Projections (HEVI-Pro) EV-Ready Community Blueprints - Phase 2
 Workforce Development	Training and Development of California's Alternative Fuel Workforce



Workforce Development

- Freight Workforce Development Pilot Project (CSULB)
- Electric School Bus Training Plan (Cerritos CCD)
- Clean Transportation Training Project (San Diego CCD)
- San Joaquin RTD (ETP)
- Clean Fuels Transportation Pilot Career Opportunity: High Schools (Cerritos CCD)
- Clean Transportation Funding (Pending)



Contact Information



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Multi-Agency Coordination

Segment	Funding & Analytical Initiative
 MD/HD Vehicles	CARB's Innovative Clean Transit, Advanced Clean Trucks & Hybrid and Zero-Emission Voucher Incentive Program (HVIP)
 MD/HD Infrastructure	Freight and Transit Infrastructure Demonstrations



Available CEC Funds

Source of Funds	Amount
FY 2018-19	\$17.5 Million
FY 2019-20	\$30.0 Million
Total	\$47.5 Million

Concept #1: Freight, Zero-Emission Vehicle Infrastructure Deployment for Vehicle Demonstrations

Esther Odufuwa





Purpose

- To fund the ZEV infrastructure for MD/HD on-road and off-road vehicle demonstrations.
- May complement CARB solicitations for advanced vehicle demonstrations within the port and freight system.



Eligible Applicants

- Owners and operators of freight facilities that support freight transport vehicles, such as:
 - Railyards
 - Warehouses
 - Distribution Centers
 - Airports
 - Seaports
 - Depots



Eligible Projects

- Hydrogen fueling infrastructure for MD/HD vehicles.
- Electric infrastructure, including panels, conduit, and wiring at the facility level as well as upgrades to distribution infrastructure including meters and transformers to support current and future deployment of vehicles.



Disadvantaged Communities

- Must identify and describe how the project benefits DACs.
- CalEnviroScreen 3.0 Tool to be used to determine and verify DACs.
- Project must be located in DACs for CARB demonstration projects.



Preliminary Capacity Check

- Electrical load capacity check will be required.
- Capacity checks should include:
 - Letter from utility indicating enough electrical power at site for infrastructure.
 - Preliminary scope of work for the provision of power to the project.



Match Funds

- Applicants must include at least 25 percent of total project costs as match share.
- Public Agency applicants do not have a minimum match share requirement.



Discussion Questions

- Is there a need for funding in this concept?
- This concept emphasizes infrastructure, rather than vehicles. Is this the correct approach?
- What is missing from this concept that should be included?
- How much State funding is needed for each project?
- Is the list of Eligible Applicants adequate?
- What is the best way to ensure that CARB and CEC coordinate funding?

Concept #2: Transit and Truck Fleets, Capital Expense Assistance for Zero- Emission Infrastructure Deployment

Esther Odufuwa





Purpose

- To provide capital assistance funding for “make-ready” infrastructure and ZEV refueling equipment for transit buses and truck fleets.
- May complement CARB solicitations for the Hybrid and Zero-Emission Voucher Incentive Program (HVIP).



Eligible Applicants

- Public and Private Transit Agencies and Truck Fleets.
- Eligible Applicants must:
 - Be the site owner or have site owner authorization to install infrastructure.
 - Be a licensed business, non-profit organization, or government entity based in California or have a California-based affiliate.
 - Have recently purchased or have a commitment to purchase ZEV transit or truck vehicles.



Eligible Projects

- New installations of, or upgrades to, fueling infrastructure for battery electric and hydrogen fuel cell transit and truck fleets.
- Engineering assessments that analyze existing site capacity and costs.
- Grid integration, integrated storage solutions, and charging management projects.



Disadvantaged Communities

- Must identify and describe how the project benefits DACs.
- CalEnviroScreen 3.0 Tool to be used to determine and verify DACs.
- Project must be located in DACs for CARB demonstration projects.

<https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>



Preliminary Capacity Check

- Electrical load capacity check will be required.
- Capacity checks should include:
 - Letter from utility indicating enough electrical power at site for infrastructure.
 - Preliminary scope of work for the provision of power to the project.



Match Funds

- Applicants must include at least 25 percent of total project costs as match share.
- Public Agency applicants do not have a minimum match share requirement.



Discussion Questions

- Is there a need for funding in this concept?
- What is missing from this concept that should be included?
- How much State funding is needed for each project?
- Is the list of Eligible Applicants adequate?
- What is the best way to ensure that CARB and CEC coordinate funding?

Lunch Break



Concept #3: ZEV Blueprints for MD/HD Infrastructure (Including Small Seaports, Transit and DACs)

Marc Perry





Purpose

- To develop planning blueprints, which identify the actions and milestones needed for implementation of ZEVs and ZEV infrastructure.
- Following successful completion, applicants may be eligible for infrastructure funding in future years.
- May complement utility funding programs, such as PG&E's EV Fleet Program or SoCal Edison's Charge Ready Program.



Eligible Applicants

- Public and Private Entities.
- Seaports
- Local jurisdictions including DACs.
- Railyards, inland warehouses, and multimodal freight distribution centers that directly support freight transport vehicles.
- Transit and truck fleets.



Project Requirements

- Be focused on implementing zero-emission vehicles and fueling infrastructure.
- Be implementable.
- Build upon, but not be duplicative of previous planning efforts funded through the CEC.
- Identify charging requirements.
- Identify potential sites, maps, and accessibility to travel routes.
- Include a plan for developing an outreach strategy.
- Include a community-based organization partner.
- Provide details about the workforce development strategies necessary.



Disadvantaged Communities

- Must identify and describe how the project benefits DACs.
- CalEnviroScreen 3.0 Tool to be used to determine and verify DACs.

<https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>



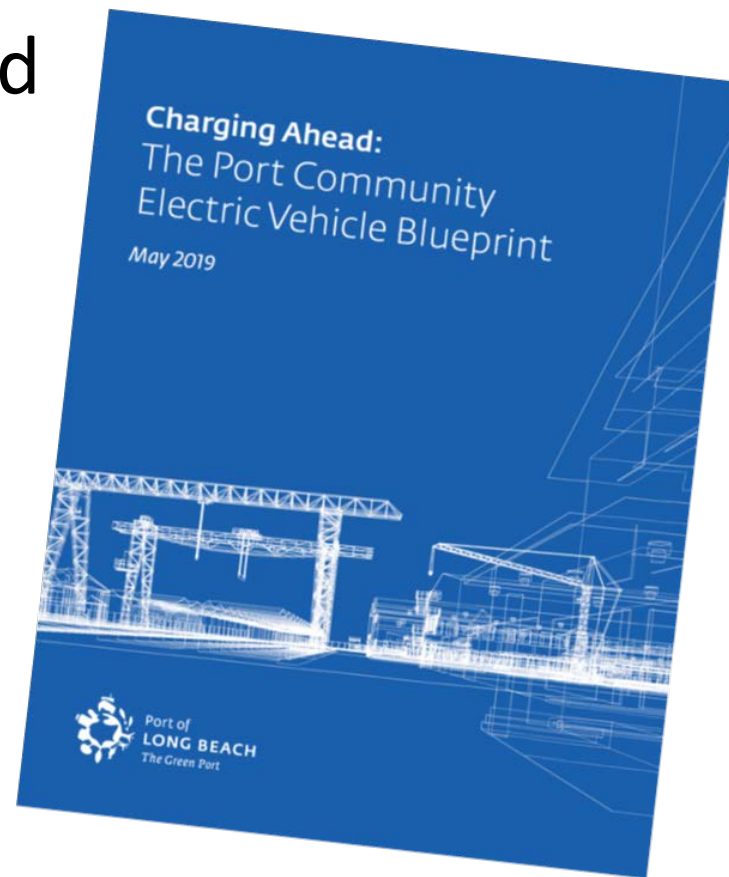
Match Funds

- No match funds required.



Example: POLB Blueprint

CEC funded the Port of Long Beach's EV blueprint published May 2019.





Discussion Questions

- Is there a need for funding in this concept?
- Should this concept occur before concepts 1&2 or be incorporated into them?
- What is missing from this concept that should be included?
- How much State funding is needed for each project?
- What is the best way to ensure that CEC and the utilities coordinate planning efforts?

Concept #4: Hydrogen Rail & Marine Applications

Marc Perry





Purpose

- To support the deployment of hydrogen refueling infrastructure for rail and marine applications
- To address challenges faced when integrating fuel cell systems in rail and commercial harbor craft applications at California ports.
- In partnership with the CEC's Energy Research & Development Division (ERDD).



Discussion Questions

- Is there a need for funding in this concept?
- How much State funding is needed for each project?
- What are the most pertinent challenges in deployment of hydrogen refueling infrastructure for rail and marine applications?

Concept #5: Miscellaneous – Long Haul and Innovative Applications

Eric VanWinkle





Concepts for Future Funding

- Technology demonstrations of innovative charging and refueling solutions.
- Electric infrastructure for rail or marine.
- Field demonstrations of Class-8 long haul trucks.
- Infrastructure for major corridors (like I-710).
- Restructure of funds similar to CALeVIP.



Discussion Questions

- Is there a need for funding any of these concepts?
- What concepts are missing?
- How much State funding is needed for each project?

Break





Next Steps

- Deadline for comments on these concepts is November 8, 2019 at 5 P.M. PDT
- Solicitation(s) expected Q1 2020



Docket Information

Please send questions and comments by
November 8, 2019 at 5 P.M. PDT to:

California Energy Commission

Docket Office, MS-4

Re: Docket No. 19-TRAN-02

1516 Ninth Street

Sacramento, CA 95814

E-mail: DOCKET@energy.ca.gov



Available CEC Funds

Source of Funds	Amount
FY 2018-19	\$17.5 Million
FY 2019-20	\$30.0 Million
Total	\$47.5 Million

Public Comment





Listserv Notifications

Subscribe to the Listserv to receive updates on Clean Transportation Program solicitations:

<https://www.energy.ca.gov/programs-and-topics/programs/clean-transportation-program>

For solicitation information, visit:

<https://www.energy.ca.gov/funding-opportunities/solicitations>

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Workshop Adjourn

