

BOARD MEETING DATE: December 6, 2024

AGENDA NO. 3

**PROPOSAL:** Execute Contracts to Develop and Demonstrate Class 2B/3 and Class 4/5 Medium-Duty Battery Electric Trucks

**SYNOPSIS:** CARB's Advanced Clean Trucks and Advanced Clean Fleets regulations require the transition of medium- and heavy-duty vehicles to zero-emission (ZE) technologies starting 2024. The development, demonstration, and deployment of faster charging and increased availability of ZE medium-duty trucks are needed. These actions are to execute contracts with: 1) Voltu Motor, Inc. to develop, demonstrate and deploy 10 Ford F350 Class 2B and 3 battery electric trucks in an amount not to exceed \$600,000 which consists of \$300,000 from the Clean Fuels Program Fund (31) and \$300,000 from the Mobile Source Air Pollution Reduction Fund (23); 2) Enevate Corporation to develop and test a fast-charging battery pack for medium-duty Class 4 and 5 battery electric vehicles in an amount not to exceed \$500,000, which consists of \$250,000 from Fund (31) and \$250,000 from Fund (23); and 3) Evolectric, Inc. to integrate the battery pack and demonstrate the fast-charging system developed by Enevate Corporation within a Class 4 and 5 medium-duty battery electric truck in an amount not to exceed \$500,000, which consists of \$250,000 from Fund (31) and \$250,000 from Fund (23).

**COMMITTEE:** Technology, November 15, 2024; Recommend for Approval

**RECOMMENDED ACTIONS:**

Authorize the Executive Officer to execute a contract with:

1. Voltu Motor, Inc. to develop, demonstrate and deploy 10 Ford F350 Class 2B/3 medium-duty work trucks at the City of Riverside in an amount not to exceed \$600,000 which consists of \$300,000 from the Clean Fuels Program Fund (31) and \$300,000 from the Mobile Source Air Pollution Reduction Fund (23);
2. Enevate Corporation to develop and test a fast-charging battery pack for medium-duty battery electric vehicle applications in an amount not to exceed \$500,000 which consists of \$250,000 from the Clean Fuels Program Fund (31) and \$250,000 from the Mobile Source Air Pollution Reduction Fund (23); and

3. Evolectric, Inc. to integrate and demonstrate the battery pack developed by Enevate within a Class 4/5 medium-duty battery electric vehicles in an amount not to exceed \$500,000 which consists of \$250,000 from the Clean Fuels Program Fund (31) and \$250,000 from the Mobile Source Air Pollution Reduction Fund (23).

Wayne Natri  
Executive Officer

AK:MW:VP:SC:CR

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### **Background**

CARB's Advanced Clean Trucks and Advanced Clean Fleets regulations require fleets to transition their medium- and heavy-duty trucks to zero-emission (ZE) technologies. There is a need to increase the ZE options for Class 2B and 3 service body trucks. The current availability of Class 2B and 3 ZE trucks are all for small delivery vans. There is a need by commercial fleets to utilize ZE class 2B and 3 service body work trucks with flexible truck bed options to serve a wide variety of applications.

Secondly, the continued development and deployment of fast charging vehicles and chargers is needed to accelerate the commercialization of battery electric ZE technologies. In March 2024, the Board approved a project to develop and demonstrate innovative megawatt fast charging systems to extend the operational range and reduce charging times for Class 7 and 8 battery electric trucks. Similar fast charging technologies are needed for medium-duty battery electric vehicles. Many of the current medium-duty electric trucks require overnight Alternating Current charging or slow Direct Current (DC) charging. The development and demonstration of battery packs and fast chargers for medium duty trucks is needed to reduce charging dwell times.

### **Proposal**

#### Class 2B/3 Medium-Duty Battery Electric Work Trucks Development

Voltu Motors, Inc. proposes to partner with the City of Riverside and the University of California, Riverside (UCR) CE-CERT to develop, demonstrate and deploy 10 electric Ford F350 work trucks for the City of Riverside and Riverside Public Utilities fleets. The proposed work truck units will be integrated at their Moreno Valley facility with up to 166 kWh battery packs and dual electric motors capable of up to 250 miles of range and up to 200kW DC charge rate. Voltu Motor will collaborate with UCR CE-CERT to perform data analytics for a period of 6 months following deployment.

### Fast Charging Class 4/5 Medium-Duty Battery Electric Trucks

Enevate Corporation (Enevate) is an Irvine, California based EV battery company that has developed silicon-dominant anode advanced battery technology that allows fast charging and with higher charge densities compared to a conventional battery cell. Enevate has proposed to develop and test a fast-charging battery pack for medium-duty battery electric vehicle applications. The proposed technology will enable the vehicle battery to be fast charged in 15 minutes from zero to eighty percent.

Evolectric, Inc., (Evolectric), a Rancho Dominguez, California-based electric truck battery manufacturer that focuses on retrofitting technology, proposes to integrate and demonstrate Enevate's fast-charging battery technology on Evolectric's medium-duty vehicle platform. SBR Express, Inc. (SBR), a local fleet, has agreed on a 6-month pilot deployment, evaluation, and data collection. Prior to integration, the battery pack will be tested at the University of California, Irvine Horiba Institute for its fast-charging capability.

### **Sole Source Justification**

Section VIII.B.2 of the Procurement Policy and Procedure identifies four major provisions under which sole source award may be justified. The request for sole source awards for the Enevate and Evolectric contracts is made under provision B.2.d.(1) Projects involving cost sharing by multiple sponsors. The proposed project includes match share by MSRC, Evolectric, Enevate and SBR. The request for sole source award for the Voltu Motor contract is made under provision B.2.d.(1) Projects involving cost sharing by multiple sponsors. The proposed project includes match share by MSRC, Voltu Motor, UCR CE-CERT and the City of Riverside.

### **Benefits to South Coast AQMD**

South Coast Air Basin is classified as an "extreme" nonattainment area for ozone under the Federal Clean Air Act. Successful development and pilot demonstration of fast-charging trucks and Class 2B/3 work trucks will increase ZE vehicle adoption to help reduce Ozone and PM2.5 air pollution. The projects support the Technology Advancement Office Clean Fuels Program 2024 Plan Update under the categories of "*Electric/Hybrid Technologies*" and "*Zero Emission Infrastructure*."

### **Resource Impacts**

The contract with Voltu Motor, Inc. to develop, demonstrate and deploy Class 2B/3 medium-duty work trucks will not exceed \$600,000. South Coast AQMD proposes contributing \$300,000 towards this project from the Clean Fuels Program Fund (31). On November 21, 2024, MSRC approved contributing \$300,000 from the Mobile Source Air Pollution Reduction Fund (23) towards this project. The MSRC's contribution is under consideration for Board approval under a separate item.

### Class 2B/3 Battery Electric Work Truck Development

Funding Source	Funding Amount	Percent
Voltu Motor	\$380,000	17
UCR/CE-CERT (in-kind)	\$20,000	1
City of Riverside	\$1,200,000	54
MSRC	\$300,000	14
South Coast AQMD ( <i>requested</i> )	\$300,000	14
<b>Total</b>	<b>\$2,200,000</b>	<b>100%</b>

The contracts with Enevate and Evolectric to develop new battery pack and demonstrate fast-charging medium-duty trucks will not exceed \$1,000,000. South Coast AQMD proposes contributing \$500,000 towards this project from the Clean Fuels Program Fund (31). On November 21, 2024, MSRC approved contributing \$500,000 from the Mobile Source Air Pollution Reduction Fund (23) towards this project. The MSRC’s contribution is under consideration for Board approval under a separate item.

### Fast-Charging Medium-Duty Trucks

Funding Source	Funding Amount	Percent
Enevate	\$266,920	16
Evolectric	\$412,000	24
SBR (in-kind)	\$12,525	1
MSRC	\$500,000	30
South Coast AQMD ( <i>requested</i> )	\$500,000	30
<b>Total</b>	<b>\$1,691,445</b>	<b>100%</b>

Sufficient funds are available in the Clean Fuels Program Fund (31) and the Mobile Source Air Pollution Reduction Fund (23) for the proposed projects.

The Clean Fuels Program Fund (31) is established as a special revenue fund resulting from the state mandated Clean Fuels Program. The Clean Fuels Program, under Health and Safety Code Sections 40448.5 and 40512 and Vehicle Code Section 9250.11, establishes mechanisms to collect revenues from mobile sources to support projects to increase the utilization of clean fuels, including the development of the necessary advanced enabling technologies. Funds collected from motor vehicles are restricted, by statute, to be used for projects and program activities related to mobile sources that support the objectives of the Clean Fuels Program. Successful development and pilot demonstration of battery electric fast-charging Class 2B and 3 work trucks will lead to full commercialization of ZE work trucks that reduces Ozone precursors and PM2.5.