

Attachment 1: PROJECT EXECUTIVE SUMMARY

**ZERO- AND NEAR-ZERO EMISSION FREIGHT FACILITIES PROJECT
APPLICATION**

Please print clearly or type all information on this application.

1. AQIP Project: *****		
2. Company Name/Air District/Organization Name/Individual Name: San Francisco Department of the Environment		
3. Business Type: Govt		
4. Contact Name and Title: Jessie Denver, Manager, Distributed Energy Resources		
5. Person with Contract Signing Authority (if different from above)/Air Pollution Control Officer (APCO): Deborah Raphael, Director, Department of the Environment		
6. Mailing Address and Contact Information: 1455 Market Street, 12 th Floor		
City: San Francisco	State: CA	Zip Code: 94103.
Phone: (415) 355-3700	Fax: (415) 554-6393	
Email: Jessie.denver@sfgov.org		
XX I have read and understood the terms and conditions of the Sample Grant Agreement.		

I hereby certify under penalty of perjury that all information provided in this application and any attachments are true and correct.

Printed Name of Responsible Party or APCO: Jessie Denver	Title: Manager, Distributed Energy Resources
Signature of Responsible Party or APCO: <i>Jessie Denver</i>	Date: July 18, 2018

Third Party Certification (if applicable)

I have completed the application, in whole or in part, on behalf of the applicant.

Printed Name of Third Party: NA	Title: NA
Signature of Third Party: NA	Date:
Amount Being Paid for Application Completion in Whole or Part: NA	Source of Funding to Third Party: NA

Attachment 1: PROJECT EXECUTIVE SUMMARY

“Zero Emission Farm to Table: Reducing air pollution emissions and health risks from the movement of produce along two adjacent trade corridors in California”

Led by the City and County of San Francisco’s Department of the Environment (SF Environment), in partnership with the cities of Sacramento and Fresno, this project will coordinate demonstration of electric medium- and heavy-duty vehicles engaged in the movement of goods along two adjacent California trade corridors: San Francisco Bay Area and Central Valley. The project’s goal is to ensure electric medium- and heavy-duty trucks are feasible for the transport of produce in multiple geographic market areas. The project will identify the most effective technical solutions for advancing use of electric vehicles (EV), collect and analyze data throughout the performance period to create a business case for fleet managers, and quantify the benefit of EVs to residents along the trade corridors, and in communities where project demonstration fleets operate. It will increase awareness and accelerate market adoption of EVs.

Project objectives include to electrify 23 medium - and 9 heavy-duty trucks that deliver produce from and within the Central Valley, Sacramento Valley, and coastal urban hubs. The project will also deploy Level 2 and Direct Current Fast Chargers to support demonstration fleets in San Francisco and Sacramento. At one of the two participating produce distribution markets in SF’s Demonstration District, a 240-kilowatt solar photovoltaic array will also be installed.

Like many nonprofit organizations, and small and medium size businesses, project partners that operate delivery fleets do not have the experience, capacity or capital to complete a project of this scope. Through CARB support, and leveraging private sector investment, this project will enable technology deployment, technical engineering, consulting services and data analysis that results in the successful demonstration of electric trucks on the streets of San Francisco, Sacramento and beyond.

The project will provide education and technical assistance (e.g., EV concierge) to fleet managers to make vehicle electrification simple and cost effective. It will share demonstration fleet data, summarize project findings and lessons learned, and testimonials from early adopters in a final report that will be shared broadly with other cities to encourage replication and advance market transformation for medium-and heavy-duty EVs.

Potential benefits and outcomes of the project include but are not limited to maximizing the emission reduction benefits of EVs used in the movement of produce and achieving health risk reductions in communities impacted by this sector. Key pollutants targeted by the project include diesel particulate matter and nitrogen oxides that contribute to the formation of both PM2.5 and ozone. The project will also provide co-benefits by reducing greenhouse gases and black carbon emissions that contribute to climate change; reducing fueling costs for fleet operators; reducing maintenance costs; increasing energy efficiency and renewable energy use.

Additional major project participants include CALSTART, Ryder Systems, Thor Trucks, eMotorWerks, the San Francisco Wholesale Produce Market, Earl’s Organics, Veritable Vegetable, Ozark Trucking, Inc., Produce Express, Luminalt, Black & Veatch and DNV-GL.

The total project cost is \$9,114,799 and the project team is requesting CARB funding in the amount of \$4,562,862. The project team is providing a total match of \$4,551,937 which equals \$3,522/metric tons CO₂e reduced and \$5,564,682/tons criteria pollutants reduced.

Applicant: **City and County of San Francisco, Department of the Environment**

**“Zero Emission Farm to Table:
Reducing air pollution emissions and health risks from the movement of produce along two
adjacent trade corridors in California”**

In partnership with: **The Cities of Sacramento and Fresno, and the San Francisco Clean
Cities Coalition**

Project Partners:

**San Francisco Wholesale Produce Market
Earl’s Organics
Veritable Vegetable
Produce Express
Ozark Trucking, Inc.**

Technical Support:

CALSTART (*Data Collection & Analysis*)
**Ryder
Black & Veatch
Luminalt
DNV-GL**

Industry Partners / Technology Demonstrators:

**Lightning Systems
Thor
eMotorWerks
Tritium
Sunpower**

In response to:

CARB GFO, the Zero- and Near Zero-Emission Freight Facilities Project

Funding Amount Requested:

\$4,562,862

Technical Point of Contact: Jessie Denver, City and County of San Francisco
(Jessie.Denver@sfgov.org)

Business Point of Contact: Joe Salem, City and County of San Francisco
(joseph.salem@sfgov.org)

Appendix B Affirmation: All the participating parties in this demonstration project have reviewed the Sample Grant Agreement.

Confidentiality: Customer specific information, unless otherwise publicly available, will be kept confidential, including information about energy use, financing, and any other information customers request be kept confidential.