



# Air Quality Improvement Program and Low Carbon Transportation Greenhouse Gas Reduction Fund Investments Multi-Source Facility **PORT OF LOS ANGELES - GREEN OMNI TERMINAL**

The City of Los Angeles Harbor Department (Port of Los Angeles) and Pasha Stevedoring and Terminal are implementing the Green Omni Terminal project that incorporates zero emissions vehicles and cargo handling equipment to move goods from ships through the terminal to clean truck transportation to their final destinations, while making terminal operations more resilient and sustainable through the incorporation of onsite solar power and battery storage into a microgrid. The electrified cargo handling equipment includes four yard tractors, three 21-ton forklifts, and two on-road trucks.

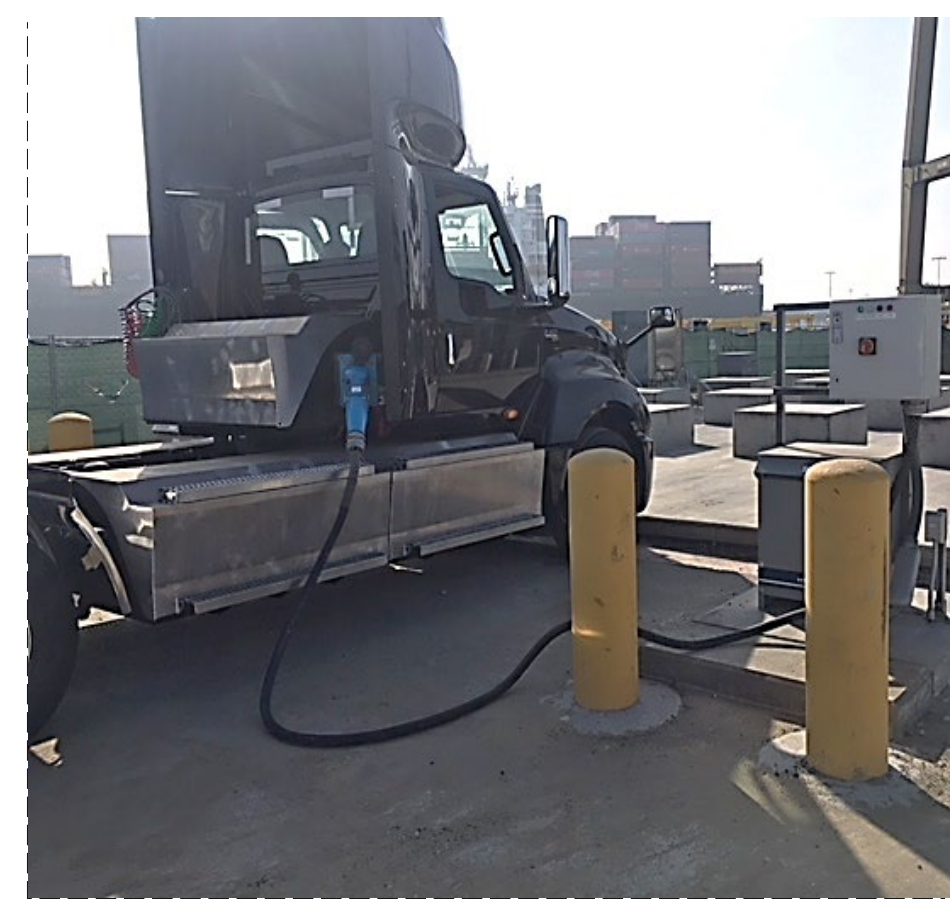


An at-berth vessel emissions control system (ShoreKat) is integrated into the project to address the largest source of greenhouse gas and priority pollutant emissions at the terminal. A one-megawatt rooftop solar photovoltaic array added to the terminal will supplement current power usage and help meet 100% of the electricity demands for terminal operations.

**Dates:** 06/01/2016 – Summer 2020  
**Grantee:** Los Angeles Harbor Department  
**Partners:** Pasha Stevedoring & Terminals, Burns and McDonnell, BYD Motors, Transportation Power, Inc (TransPower), PermaCity Construction Corp, Clean Air Engineering  
**Grant Amount:**  
 CARB Contribution: \$14,510,400  
 Matching Funds: \$12,092,000  
 Project Total: \$26,602,400



Assembled ShoreKat System on Trailer



TransPower Truck and Charger

## Vehicles/Equipment Funded

- Four Battery Electric Yard Tractors (2 TransPower & 2 BYD)
- Three Battery Electric 21-ton Forklift Repowers (TransPower)
- Two Battery Electric On-road Drayage Trucks (TransPower)
- One At-berth Vessel Emission Control System –ShoreKat (Clean Air Engineering Maritime)

## Lessons Learned

- All equipment operating in the County and City of Los Angeles requires certification to UL Standards. Significant time should be built into project schedule to accommodate.
- Anticipate extra time for permitting for the first-of-its-kind project. This is the first solar-powered microgrid in Los Angeles.
- Consider ample time for commissioning and training before demonstrating new equipment.

## Status Updates

- All yard tractors, both on-road trucks, and one forklift have been delivered to the terminal.
- All chargers have been installed. Some have been certified, some are still pending approval.
- The ShoreKat treatment system has been placed at the terminal.
- Battery storage system has been delivered to the terminal and is being modified for certification.
- Solar array will be installed Summer 2019.
- Demonstration of equipment will begin pending final permitting and certification of equipment.



PASHA  
STEVEDORING AND TERMINAL

BURNS & MCDONNELL



PermaCity  
the solar evolution



TransPower

