

Project Status



Multi-Source Green Omni Terminal Demonstration



**THE PORT
OF LOS ANGELES** 

Teresa Pisano
February 10, 2022



Green Omni Terminal Project Update

I. Background

II. Project Detail

III. Project Status

IV. Next Steps



Background

- In June 2015, CARB released a grant solicitation for the Air Quality Improvement Program and Low Carbon Transportation Greenhouse Gas Reduction Fund Investments.
 - Pasha assembled a team of project partners (Burns & McDonnell, BYD, TransPower, Clean Air Engineering Maritime, and Perma City) and developed the concept of the Green Omni Terminal Project.
 - Based on the potential of the Green Omni Terminal Project to reduce emissions, it was determined to be a good project and a detailed proposal was prepared by the Harbor Department and Burns & McDonnell consultant support.
- The Harbor Department submitted the application to CARB in September 2015.
- In 2016, the California Air Resources Board awarded the Harbor Department \$14,510,400 for the Green Omni Terminal Project.
 - Pasha Match funding: \$12,092,000
 - Total cost: \$26,602,400

Project Detail

Pasha Green Omni Terminal



Electric Yard Tractors

High Tonnage Electric Forklifts

Solar Powered Microgrid
Solar panels and battery storage

Electric On-Road Drayage Trucks

Vessel Exhaust Treatment System
Reduces smog-forming NOx emissions
by more than 90%

Zero and near-zero emission technologies to improve air quality in our community

3,200

Tons Per Year

Greenhouse Gases
REDUCED

56,000

Pounds Per Year

Diesel Particulate Matter,
Nitrogen Oxides & Other
Harmful Emissions
ELIMINATED

14,100

Cars Off The Road
Per Day

Equivalent South Coast
Air Basin
**CLEAN AIR
GAINS**



www.portoflosangeles.org

OF LOS ANGELES
THE PORT



www.portoflosangeles.org

Green Omni Terminal Project Detail

- Solar rooftop array with microgrid controls and battery storage
- 5 electric yard tractors (1-Kalmar Ottawa, 2-BYD, and 2-TransPower)
- 2 electric Class 8 on-road trucks (TransPower using new International truck)
- 3 electric heavy duty forklifts (TransPower rebuild)
- ShoreKat - land-based capture and control system (Clean Air Engineering Maritime)
- Data collection by CARB contractor - Ricardo





Project Status

Milestone/Equipment	Status	Next Steps
ZE Yard Tractor – Kalmar (1)	Ongoing	Vehicle in use. Continue to operate.
ZE Yard Tractor – BYD (2)	Ongoing	One vehicle in use. Continue to operate. BYD will replace these 2 tractors with second generation equipment to address reliability concerns - expected in February 2022.
ZE Yard Tractor – TransPower (2)	Ongoing	Vehicles will be put in use by end of February 2022.
UC Riverside Dynamometer Tests on Yard Tractor and On-Road truck. Operational Tests on forklift.	Ongoing	Completed dynamometer testing of yard tractor. Will complete on-road truck testing in February 2022. Operational testing of forklift will be done at the terminal. Expected completion February 2022.





Project Status

Milestone/Equipment	Status	Next Steps
ZE Forklifts - TransPower	Ongoing	Pasha and TransPower to resolve third party engineer evaluation to satisfy OSHA requirements. Put into operation - expected February 2022.
On Road Class 8 Trucks - TransPower	Ongoing	TransPower to resolve problems with vehicle. Return to Pasha for their assessment and operation. POLA to coordinate dynamometer testing.
UC Riverside Dynamometer Tests on Yard Tractor and On-Road truck. Operational Tests on forklift.	Ongoing	Completed dynamometer testing of yard tractor. Will complete on-road truck testing in February 2022. Operational testing of forklift will be done at the terminal. Expected completion March 2022.





Project Status Continued

Milestone/Equipment	Status	Next Steps
Solar Installation	Ongoing	Pasha's contractor to get permits and install. Process is underway.
Solar/electrical tie in	On-hold	Will be completed by Burns & McDonnell after solar installation.
Battery Storage System	Ongoing	POLA to finalize fire suppression system replacement and City permitting so electrical tie-in can occur.
Microgrid Commissioning	On-hold	Burns and McDonnell to commission microgrid once solar and battery storage system is complete.





Project Status Continued

Milestone/Equipment	Status	Next Steps
ShoreKat – Capture and Control Technology for vessels	Complete	Grant demonstration period for the capture and control system is complete. Final Report is being prepared by CARB’s contractor Ricardo.
Data Collection	Ongoing	Equipment data logging is being conducted by Ricardo, CARB’s contractor. This data will be included in the Final Report.
Final Report	Underway	POLA and Burns McDonnell to complete and submit to CARB.
Match Funding Reporting	Ongoing	Continue to report match funding to CARB through the end of the project (Dec 2023). Match share will come from solar acquisition and continued equipment operation.





Next Steps

- Pasha to Continue to demonstrate cargo handling equipment
 - TransPower and Pasha to resolve OSHA documentation on forklifts
 - BYD to replace 1st generation yard tractors
 - U.C. Riverside to evaluate operational testing of a fork lift
- Pasha to Demonstrate on-road trucks
 - TransPower to complete updates and testing
 - U.C. Riverside to conduct dynamometer testing
 - Return vehicles to Pasha for operation once they
- Continue data collection with Ricardo (CARB's contractor)
- Pasha and PermaCity to install solar
 - Burns & McDonnell to provide electrical tie-in
- Battery Storage System
 - POLA to finalize fire suppression system and final permitting from City
- Microgrid and Battery Storage System
 - Burns and McDonnell to commission microgrid once solar and BSS is final
- Burns and McDonnell and port staff to prepare final report and submit to CARB
- POLA to report match funding to CARB through the end of the project



Green Omni Terminal Project

Thank you