

# Port of Los Angeles CMANC 2018 Clean Technology Projects



Jacob Goldberg  
Environmental Specialist



# Technology Development

An aerial night photograph of a port city, likely Los Angeles, showing illuminated buildings, streets, and a large body of water with several ships. The scene is lit up with warm yellow and orange lights, contrasting with the dark blue night sky.

- Demonstrations of Zero Emission On-Road Trucks
- Technology Advancement Program Projects
- Zero-Emission Switcher Locomotive
- Pasha Green Omni-Terminal
- Everport Cargo Handling Equipment Demonstrations
- Future Projects (still in contracting)

# Technology Development



## POLA's Green Omni Terminal Demonstration Project

Demonstrate 4 battery-electric yard tractors, 2 battery-electric on-road trucks, 2 electric forklifts, 1 electric top handler, solar rooftop array with battery storage and microgrid controls, and land-based vessel emission capture system

# Environmental Stewardship

## Pasha Green Omni Terminal



- Electric Yard Tractors**
- High Tonnage Electric Forklifts**
- Electric Top Handler**
- 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**

**PASHA**  
STEVEDORING AND TERMINALS

CALIFORNIA CLIMATE INVESTMENTS

**LA**  
THE PORT OF LOS ANGELES

For more information visit [www.portoflosangeles.org](http://www.portoflosangeles.org)

**PASHA**  
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# Technology Development



POLA's Everport  
Advanced Cargo  
Handling Equipment  
Demonstration  
Projects

Demonstrate 20 low-NOx RNG  
yard tractors, 8 battery-electric  
yard tractors, 2 battery-electric top  
picks, and charging infrastructure

# CEC – *Everport Advanced Yard Tractor Demonstration*

- Port of Los Angeles received a \$5.8 Million Grant
- 20 Capacity Yard Tractors equipped with the California Air Resources Board certified Cummins Westport 8.9L near-zero emission engines (0.02 grams of nitrogen oxides/brake horsepower-hour)
- 5 BYD Yard Tractors will be equipped with zero emission battery electric drive
- Install charging stations and LNG fueling system
- January 2018 – Demonstration will begin
  - Evaluate performance against conventional diesel yard tractors
  - 12-Month Demonstration

# CEC– *Everport Advanced Cargo Handling Demonstration Project*



This project is part of the zero-emission pathway concept from ships to terminal gates where cargo can be moved entirely with zero-emission equipment throughout the terminal.

- \$4.5 Million Grant
- 3 battery-electric yard tractors.
- 2 battery-electric top picks.
- Auto-chargers will be used for yard tractors.
- Continues the Zero-Emission Pathway Concept

# Technology Development



Demonstrate 10 battery electric yard tractors, and install 12 wave inductive charging units

POLA Advanced Infrastructure Deployment (AID) Project



# Contact Information

Jacob Goldberg  
Environmental Specialist  
Port of Los Angeles  
(310) 732-2675  
[jgoldberg@portla.org](mailto:jgoldberg@portla.org)