

Zero Emission Freight Vehicle Advanced Infrastructure Demonstration (AID) Project

In 2006, the Port of Los Angeles in partnership with the Port of Long Beach adopted the Clean Air Action Plan (CAAP), which was updated in 2010 and 2017 (<https://cleanairactionplan.org>). The CAAP identifies strategies to reduce air pollution from every source including ships, trucks, trains, harbor craft, and cargo handling equipment. Successful technology demonstrations of near-zero and zero emission technologies may accelerate the availability of clean technologies that are necessary to implement existing strategies outlined in the CAAP or to develop future control measures, alternatives, or mitigation measures.

Project Summary

The Port of Los Angeles and its project partners (see below) will demonstrate an innovative charging system for zero emissions cargo handling equipment. The project is funded in part by a \$7.8 million grant from California Energy Commission's Alternative and Renewable Fuel Vehicle Technology Program and a \$1.8 million Targeted Air Shed grant from the South Coast Air Quality Management District. The Advanced Infrastructure Demonstration project expands on existing demonstrations of zero emission goods movement technologies by taking the next step toward implementation of a zero emission cargo pathway throughout an entire marine container terminal.



Vehicles & Equipment Funded

- 10 battery-electric yard tractors
- 12 wireless charging stations
- Battery storage system

Project Partners

- California Energy Commission
- U.S. Environmental Protection Agency
- South Coast Air Quality Management District
- West Basin Container Terminal (WBCT)
- BYD Motors, Inc.
- Wireless Advanced Vehicle Electrification, Inc. (WAVE)

Current layout of equipment corral and fuel lanes at WBCT



Improved layout with WAVE technology at WBCT (Artist Rendering)



Project Components

The project will demonstrate ten (10) BYD Motors second generation battery-electric yard tractors and associated charging infrastructure, including an advanced charging system at WBCT. The Port of Los Angeles has partnered with WAVE to design and demonstrate inductive charging technology to support each of the ten (10) battery-electric yard tractors. Twelve (12) charging stations will be installed at WBCT: ten (10) stations at the equipment corral lanes where WBCT currently parks their yard tractors when off duty; and, two (2) opportunity charging stations at a central break facility. The project will also include a battery storage system to receive and store energy from the electrical grid. This multi-faceted project is designed to be scalable to support additional zero emission equipment as the WBCT fleet moves toward its goal to operate a zero-emissions cargo handling equipment fleet. Ultimately, this project will not only demonstrate a series of prototype electrified equipment and charging mechanisms, but will showcase a model of how to fully realize the vision of a zero emission container terminal.



BYD Motors battery-electric yard tractor

Contact

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