OVERVIEW, NEAR-TERM PRIORITIES & NEXT STEPS

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San Pedro Bay Complex

Port of Los Angeles
Port of Long Beach
Figure 4-8
Change in CAMx RTRAC Simulated Air Toxics Risk (per million) from the 1998-99 to 2005 (using back-cast 1998 emissions and 1998-99 MM5 generated meteorological data fields)
Clean Air Action Plan
Source Categories
San Pedro Bay Ports

Diesel Particulate Matter: DOWN 87%

Nitrogen Oxides: DOWN 58%

Sulfur Oxides: DOWN 97%

Greenhouse Gases Equivalent: DOWN 15%

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Overview

OCEAN-GOING VESSELS
HARBOR CRAFT
ON-ROAD TRUCKS
TERMINAL EQUIPMENT
EFFICIENCY IMPROVEMENTS

2017 CAAP Update Strategies
Ocean-Going Vessels

- Increase vessel speed reduction compliance within 40 nautical miles
- Use at-berth emission reduction technologies
- Incentivize energy efficiency upgrades and clean technologies
- Develop a Clean Ship Program to transition the oldest, most polluting ships out of the fleet
Heavy-Duty Trucks

- Advance the Clean Trucks Program and transition to zero-emission trucks by 2035
- Adopt a reservation system at terminals to improve trucks turn times
Terminal Equipment

- Transition to zero emissions terminal equipment by 2030
- Limit idling
Additional 2017 CAAP Update Highlights

- Expand use of on-dock rail
- Accelerate deployment of cleaner harbor craft engines
- Encourage improvements in freight efficiencies
- Develop Green Terminal Recognition Program
- Ensure energy infrastructure is available to support use of cleaner technologies
## Incremental Cost Estimates

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<tr>
<th>Category</th>
<th>Low End</th>
<th>High End</th>
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<td><strong>Trucks</strong></td>
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<td>Near-Zero Emissions</td>
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Technology Development

• Demonstrations of Zero Emission On-Road Trucks and Development of 50-100 Truck Pilot Deployment
• Demonstration of Harbor Craft Technologies
• Near-Zero Switcher Locomotive Demonstration
• Vessel Energy Efficiency Improvements Evaluation and Demonstration of At-Berth Emission Reduction Technologies
• Demonstrations of Zero Emission Terminal Equipment
Technology Development

POLB’s Zero Emission Terminal Equipment Transition Project

- Convert 4 LNG trucks to plug-in hybrid electric
- Demonstrate 12 battery-electric yard tractors and charging infrastructure
- Convert 9 RTGs from diesel to electric
Technology Development

C-PORT: Commercialization of the Port of Long Beach Off Road Technology Demonstration Project

Demonstrate 1 battery-electric top pick, 1 battery-electric yard tractor and 1 fuel cell yard tractor

Demonstrate 2 battery-electric top picks
Technology Development

POLB Microgrid – Resilience for Critical Facilities

Install solar panels, battery storage, and microgrid controls to allow JCCC to continue operations during an outage.
Technology Development

Port Advanced Vehicle Electrification (PAVE) Project

Demonstrate 6 battery electric yard tractors, install electrical charging infrastructure for nearly 40 piece of terminal equipment, demonstrate DC fast charging and battery storage
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
Technology Development

- Additional Priorities & Next Steps
  - Funding Advocacy & Grant Strategy
  - CAAP Implementation Stakeholder Advisory Group
  - Baseline Greenhouse Gas Emissions Inventory

- Technology Development
  - Advanced Cargo Handling Equipment Demonstration Projects
    - Demonstrate 20 low-NOx yard tractors, 8 battery-electric yard tractors, 2 battery-electric top picks, and charging infrastructure

POLA’s Everport Advanced Cargo Handling Equipment Demonstration Projects
Technology Development

POLA Advanced Infrastructure Deployment (AID) Project

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