SAN PEDRO BAY PORTS
CLEAN AIR ACTION PLAN
IMPLEMENTATION STAKEHOLDER ADVISORY MEETING
March 29, 2018
Role of the CAAP Implementation Stakeholder Advisory Meeting
NEAR-TERM PRIORITIES FOR CAAP IMPLEMENTATION

Heather Tomley
Director of Environmental Planning
Port of Long Beach
Near-Term Truck Priorities

- Tariff Changes for MY 2014 New Registration Requirements and Fee Waiver
- Feasibility Assessment
- Truck Rate-Setting Study
- Begin Establishing Rate Collection Mechanism
- Begin Developing Truck Reservation System
Near-Term CHE Priorities

- Feasibility Assessment
- Zero Emission Infrastructure Planning
Additional Near-Term Priorities

• Launch CAAP Implementation Stakeholder Advisory Meetings

• Baseline Greenhouse Gas Emissions Inventory

• Funding Advocacy & Grant Strategy
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CLEAN TRUCK PROGRAM STATUS

Chris Cannon
Director of Environmental Management
Port of Los Angeles
2017 CAAP Update CTP milestones

• 2018 – Pre-2014 Trucks can no longer register in PDTR
• 2018 – Zero/Near-Zero Emission Feasibility Study completed
  – Study to be updated every 3 years at minimum
• 2019 – Clean Truck Rate Study completed
• 2019 – CARB promulgates Near-Zero Manufacturing Standard
• 2019 – Pilot Heavy-Duty Inspection Program
• 2020 – Clean Truck Rate goes into effect on non-NZE/ZE Trucks
2017 CAAP Update CTP milestones cont.

- 2023 – Only NZE/ZE trucks can register in PDTR
  - Pre-2010 drayage trucks banned by State Truck and Bus Rule
- 2023-2035 – Clean Truck Rate continues to be evaluated and adjusted as needed
  - Informed by Zero/Near-Zero Emission Feasibility Study and updates
  - Informed by fleet composition and transition to ZE by 2035
- 2035 only ZE trucks can register in PDTR
CTP Implementation

• 2018 Tariff Modification Activities
  – Only allow 2014 or newer trucks to register in the PDTR
    • Existing pre-2014 trucks grandfathered, provided no change in ownership
  – PDTR registration fee exemption for trucks participating in Port demonstration programs
  – PDTR registration fee exemption for all NZE/ZE trucks requires regulatory standard/definition
CTP Implementation

• Clean Truck Rate Study
  – Goals:
    • Determine optimal rate(s)
    • Project anticipated fleet composition over time
    • Evaluate anticipated effect on trucking companies/drivers, drayage service availability, cargo diversion
    • Evaluate how public funding or private financing mechanisms could mitigate impacts
CTP Implementation

- **Clean Truck Rate Study cont.**
  - Draft scope of work has been developed
  - Selection of economic expertise in Spring 2018
  - Study expected to begin Summer 2018
  - Estimated completion 2nd Quarter 2019
CTP Implementation

• Near-zero and zero emission early adopter activities
  – Joint incentive program with AQMD under development to encourage early deployment of NZE trucks

  – 50 to 100 ZE Truck Pilot Deployment
    • Grant programs and stakeholder partners being considered
Port Truck Reservation System

- **Goals:**
  - Reduce turn times and improve efficiencies
  - Establish uniform ports-wide system for securing appointments for all truck transactions at the terminals, including imports, empties, exports and chassis
  - Integrate with existing terminal operating systems
  - Improve data availability to allow for advanced planning
Pilot Program

GE Information Portal

A first-of-its-kind port information portal to demonstrate the benefits of digitizing maritime operational data and making it available in real time to cargo owners, shipping lines and supply chain operators on a permissions-based, highly-secure platform that provides cargo owners and their agents complete control over who can see their data.
FEASIBILITY ASSESSMENTS:
SCOPE, PROCESS, TIMELINE

Tim DeMoss
Air Quality Supervisor
Port of Los Angeles
Feasibility Assessments

- Trucks
- Terminal Equipment

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Framework for Developing Feasibility Assessments

NOVEMBER 2017
Purpose

- Assess feasibility of near-zero and zero-emissions
- Evaluate progress toward CAAP goals
- Identify actions to overcome challenges
- Determine if timelines need to be adjusted
Process

- Expert consultant to develop assessments
  - Tetra Tech
- Public review and stakeholder outreach
- Third-party outside reviews
  - Starcrest Consulting, LLC
  - National Renewable Energy Lab
  - Technology Advancement Program Advisory Committee
Timeline

Q1: Scoping
   - Outside Reviews

Q2: Research
   - Outside Reviews

Q4: Drafts
   - Public Comment
   - Outside Reviews

December 2018: Finals
Scope

- Technical Viability
- Commercial Availability
- Operational Feasibility
- Infrastructure Availability
- Key Economic Considerations
Technical Viability

- Performance Meets or Exceeds In-Use Equipment
- State Certified
Commercial Availability

- Major Manufacturer
- Production Timeframes
- Manufacturer Warranty, Long-Term Maintenance and Parts Support
Operational Feasibility

- Minimum Performance
- Required Duty Cycles
- Similar Maintenance
- Operator Feedback
- Long-Term Market Support
Infrastructure Availability

- Charging and/or fueling infrastructure is available at ports and regionally.
Economic Considerations

- Direct Costs
- Fueling Costs
- Incentive Funding
- Workforce Impacts
- Cost Effectiveness
- Economic Impacts
Technology Development

- Demonstrations of Zero Emission On-Road Trucks and Development of 50-100 Truck Pilot Deployment
- Evaluation of Vessel Energy Efficiency Technologies and Demonstration of Vessel At-Berth Technologies
- Demonstration of Harbor Craft Technology
- Near-Zero Switcher Locomotive Demonstration
- Demonstrations of Zero Emission Terminal Equipment
POLB’s Zero Emission Terminal Equipment Transition Project

- Convert 4 LNG trucks to plug-in hybrid electric
- Convert 9 RTGs from diesel to electric
- Demonstrate 12 battery-electric yard tractors and charging infrastructure
Additional Priorities & Next Steps

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

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

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

POLA’s Everport
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.
CAAP WEB SITE OVERVIEW

Renee Moilanen
Manager of Air Quality Practices
Port of Long Beach
2017 CAAP Update

- Communication
- Transparency
- Easy Access
www.cleanairactionplan.org

• News
• Plan and supporting documents
• Technology reports
• CAAP progress reports
• Details on strategies
2017 CLEAN AIR ACTION PLAN UPDATE APPROVED BY HARBOR COMMISSIONS

LATEST CLEAN AIR ACTION PLAN NEWS

› Clean Air Action Plan Advisory Meeting Set for March 29
› Proposals Sought for Ocean-Going Vessel At-Berth Exhaust Emissions Capture & Treatment Systems
› San Pedro Bay Ports Approve Bold New Clean Air Strategies

 STRATEGIES

The Clean Air Action Plan identifies strategies to reduce pollution from every source – ships, trucks, trains, cargo-handling equipment and harbor craft.

VIEW STRATEGIES

 TECHNOLOGY ADVANCEMENT PROGRAM

The Ports’ Technology Advancement Program provides funding, guidance, and staff support to test promising clean air technologies.

VIEW TAP

 2017 CAAP UPDATE

Learn more about the 2017 Clean Air Action Plan Update and follow our progress as we transform into the cleanest container port complex in the world.

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2017 CLEAN AIR ACTION PLAN UPDATE

The governing boards of the ports of Los Angeles and Long Beach have approved the 2017 Clean Air Action Plan Update, ushering in a new era of aggressive clean air strategies for moving cargo through the nation’s busiest container port complex. The document provides high-level guidance for accelerating progress toward a zero-emission future while protecting and strengthening the ports’ competitive position in the global economy.

2017 Clean Air Action Plan Documents

- Final 2017 CAAP Update
- Response to Comments
- Supporting Docs
  - Preliminary Cost Estimates for Select CAAP Strategies
  - Economic and Workforce Considerations
  - Potential Emission Reductions
  - Feasibility Assessment Framework
  - Vessel Forecast (Draft)

- 2017 Clean Air Action Plan Fact Sheet
- 2017 Final Clean Air Action Plan Presentation
- Webcast of joint Port of Los Angeles/Port of Long Beach Board Meeting on the CAAP update

Progress Reports to be Added
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COMPLETED PROJECTS

Here’s what we have completed: A final report summarizes the technology’s emission reductions and performance during the demonstration, and may be accessed below.

OCEAN-GOING VESSELS

- Evaluation of the Emission Reduction Performance of a Hamworthy/Krystallon Exhaust Gas Cleaning Scrubber
- MAN Slide Valve Low-Load Emissions Test

ON-ROAD TRUCKS

- Compressed Natural Gas (CNG) Port Drayage Truck Demonstration Program Final Report July 2010
- TIAX Characterization of Drayage Truck Duty Cycles at the Port of Long Beach and Port of Los Angeles (March 2011)
- TIAX Development of a Drayage Truck Chassis Dynamometer Test Cycle at the Port of Long Beach and Port of Los Angeles (September 2011)
- TIAX Technology Status Report Zero Emission Drayage Trucks (June 2011)
- Yard Tractor Test Protocol Final Draft

CARGO-HANDLING EQUIPMENT

- CAPACITY Plug-in Hybrid Terminal Tractor (PHETT) Demonstration – POLA Final Report
- CAPACITY Plug-in Hybrid Terminal Tractor (PHETT) Demonstration – POLB Final Report
- Hybrid Yard Hostler Demonstration and Commercialization Project Revised Final Report (August 2012)
- LBCT EcoCrane Final Report (January 2012)
- Rypos Verification Testing for RYPOS ActiveDPF/C3+ Summary Report (May 2015)
THANK YOU FOR PARTICIPATING

Upcoming Meetings:

June 2018
September 2018
December 2018