Charting the Course: Sustainable Emission Reduction Strategies at the Port of Long Beach

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Port of Long Beach
Port of Long Beach
Premier gateway for U.S-Asia trade, major Southern California economic engine
The Green Port
Long Beach leads the way in reducing impacts of Port operations with Green Port Policy and Clean Air Action Plan
Clean Air Action Plan

San Pedro Bay Ports Clean Air Action Plan
2010 Update

The Port of LONG BEACH
Clean Trucks Program

The Port of Long Beach
Green Ship Award Program
Fact Sheet

The Port of Long Beach
Clean Trucks Program

The Port of Long Beach
Green Ship Award Program

2012 POLB/POLA NOx and DPM Emissions

- **SHIPS**: 54%
- **HARBOR CRAFT**: 11%
- **CARGO HANDLING EQUIPMENT**: 10%
- **TRAINS**: 10%
- **TRUCKS**: 16%

- **SHIPS**: 52%
- **HARBOR CRAFT**: 16%
- **CARGO HANDLING EQUIPMENT**: 9%
- **TRAINS**: 15%
- **TRUCKS**: 7%
Cutting the health risk

2005

2020
2012 Emissions Inventory

- Diesel Particulate Matter: Down 81%
- Nitrogen Oxides: Down 54%
- Sulfur Oxides: Down 88%
- Green House Gases: Down 24%
- TEUs*: Down 10%
Sustainable Strategies

- Collaboration
- Tailored approaches
- Requirements and incentives
Strategies: Coordination Between Users

- Economies of scale.
- Improved resiliency.
- Stakeholder outreach.
- Federal and state financial support.
- Technical expertise.
- Legislative advocacy.
Clean Trucks
Port program replaced 11,000 vehicles, reducing truck emissions by 90%.
Slower Ships

The Vessel Speed Reduction Program prevents more than 1,000 tons a year of air pollution.
Green Ships

The Port gives financial incentives for ships with the cleanest engines.
Beginning in 2014, half of the container ships will plug in for shore power while at berth.
Zero Emissions Roadmap

- Presented at July 2010 Joint Board Meeting
- Focus on near-term technology development
- Local (Port) and regional focus
- Flexibility for the future
- Scalability to the region
- Success requires collaboration
Technology Advancement Program (TAP)

$1.5 million in port funding available each year

23 projects, including exhaust scrubbers for ships and fuel valve studies

$3.5 million committed by POLB to date
Focus on the community

Schools

Health Care

Greenhouse Gas
reduce indoor air pollution by at least 90 percent

capture 30 to 80 percent of ultrafine diesel particles and reduce noise

decrease hospital visits, reduce absences, improve quality of life with asthma
Energy Planning
Equipment replacement
Testing emerging technology
Developing financial incentives
Terminal resiliency studies
Sustainable Development Initiatives

- POLB Sustainable Design and Construction Guidelines
- West Coast Ports Collaborative for Sustainable Project Guidelines
- Procurement
Proposed Land Use Plan Process Overview

- Preliminary Objectives
  - BHC/Stakeholder Interviews
  - Plan Development
    - Terminal Capacity Analyses
    - Support Fac. Analyses
    - Alt. Land Use Plans
  - Plan Evaluation
    - Plan Performance
    - Finalize Objectives
    - Plan Selections
  - Plan Performance
  - Refine Objectives
  - Finalize Objectives
  - Refine Objectives
  - Public Workshop

- Cargo Forecasts
  - Update 2009 Container Forecast
  - Update 2007 Non-Container Forecast
  - New Market Forecast
  - Alternative Scenarios
Sustainable Plan Evaluation Component

- **Possible plan performance measures:**
  - Port revenues and costs
  - Local and regional job creation, business sales, value added and state/local revenues
  - Community health/quality of life impacts
  - Impacts on the road and rail infrastructure serving the Port.

- **Possible analytical tools (not exhaustive):**
  - Leachman’s cost elasticity model for containers
  - Port’s Input-Output model (Rutgers)
  - HRA model (in progress)
  - Port’s quick-trip model
Continue Progress

- Multiple pathways of action – no “one” solution!
- Strong collaborations and regional partnerships
- Flexibility – near term vs. long term
- Technically Feasible/Economically Viable
- Maintain Port Sustainability – need for balance
Thank You