

A CLEANER PORT.
A BRIGHTER
FUTURE.



Clean Air Program 5-Year Plan

Environmental Management Division
Port of Los Angeles

AIR



A CLEANER PORT.
A BRIGHTER
FUTURE.



Clean Air Program 5-Year Plan Presentation Overview

- Emissions Inventory
- Existing Programs - Summary
- Public Policy Shift – Heavy Alt Fuel Push
- Clean Air Plan (CAP) 5-Year Plan
 - ✓ Emissions Control Measures
 - ✓ Implementation Strategies
 - ✓ Emissions Reduction Projections
 - ✓ Cost Estimates
- Green Terminal Program -0 example
- Wrap Up

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Clean Air Program 5-Year Plan

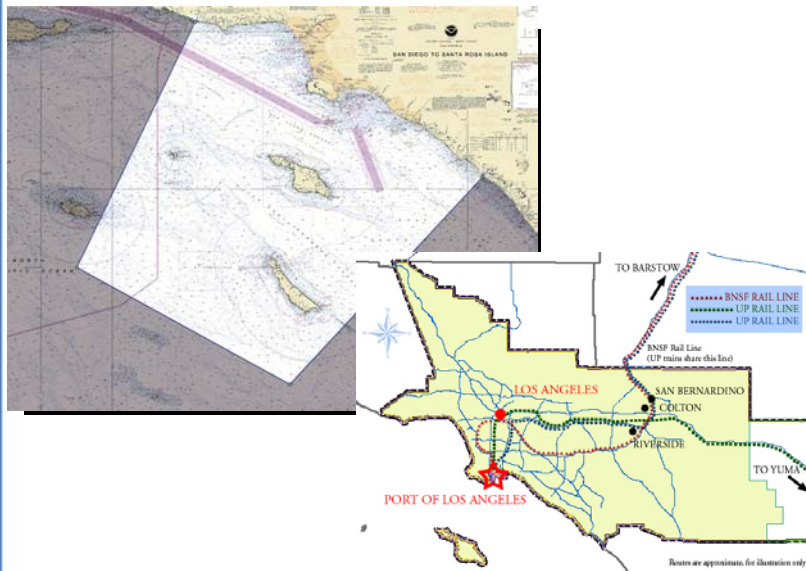
Existing Programs

- Alternative Maritime Power (AMP) - A first
- Vessel Speed Reduction (VSR) - 40 miles
- Tug Boat Retrofit Program
- Switcher Locomotive Replacement - w/ PHL & POLB
- Yard Equipment: DOC & Emulsified Fuel, Alternative Fuel (NYK, China Shipping)
- Green Terminal Program
 - ✓ Alternative Maritime Power
 - ✓ Vessel Speed Reduction
 - ✓ Alternative Fuel Yard Equipment
 - ✓ Low Sulfur Fuel Ship Mains & Auxiliaries
- Keeping Track
 - ✓ Repeat Emission Inventories
 - ✓ Air Quality Monitoring Stations
 - ✓ Annual Reporting



Clean Air Program 5-Year Plan

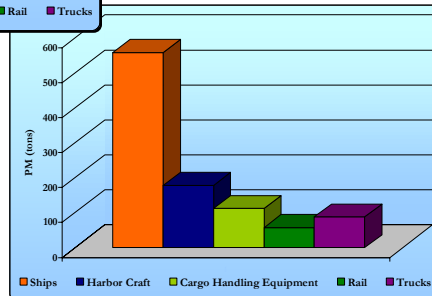
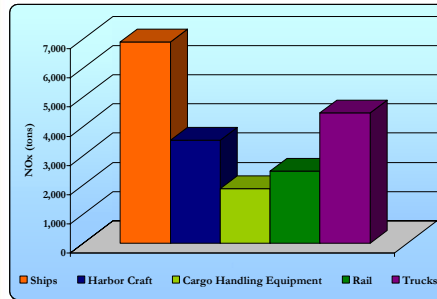
EI – Geographical Extent





Clean Air Program 5-Year Plan

EI – Summary 2001 Baseline Emissions



Clean Air Program 5-Year Plan

Public Policy Shift

- New Mayor Villaraigosa
- New Board of Harbor Commissioners
- Public Policy Shift – Alt Fuels:
 - ✓ Eliminate Port-Related Air Quality Health Risks
 - ✓ Focus on Diesel Particulate Matter & NOx
 - ✓ Disconnect Cargo Growth w/Increase of Emissions
 - ✓ Move Away from Diesel Fuels Where Possible
 - ✓ Outreach to International Trading Partners
 - ✓ Plan, Do, Check
- Develop New CAP 5-Year Plan



Clean Air Program 5-Year Plan Control Measures - OGV

- Six OGV Emissions Reduction Measures
 - ✓ Vessel Speed Reduction
 - ✓ Alternative Maritime Power (AMP)
 - ✓ Cleaner Fuels
 - ✓ Cleaner Engines
- Partnering w/International Trading Partner Ports
 - ✓ Shanghai Municipal Port
 - ✓ Port of Nagoya
 - ✓ Port of Tokyo
 - ✓ Port of Busan
- Establishment of Pacific Ports Air Quality Collaborative
 - ✓ EPA Grant Funding
- Engage:
 - ✓ Marine Engine Manufacturers
 - ✓ Shipping Lines
 - ✓ Fuel Providers/Manufacturers



Clean Air Program 5-Year Plan Control Measures – HC & CHE

- Two Harbor Craft (HC) Emissions Reduction Measures
 - ✓ Cleaner Fuels - ULSD, Biodiesel, other
 - ✓ Repowers & Retrofits
- Engage Harbor Craft Operators

- Three Cargo Handling Equipment (CHE) Emissions Reduction Measures
 - ✓ Cleaner Fuels - Prioritize Alternative Fuels
 - ✓ Cleaner Engines
 - ✓ Supporting Infrastructure - LNG Fueling
- Engage Tenants



Clean Air Program 5-Year Plan Control Measures – Rail & HDV

- Four Rail Emissions Reduction Measures
 - ✓ Cleaner Switch-Locomotive Engines
 - ✓ Idling Controls
 - ✓ Electrification Analysis
 - ✓ New Technologies - Mag. Lev., Electric
- Engage Rail Operators

- Two Heavy Duty Vehicles (Trucks) Emissions Reduction Measures - Major Priority
 - ✓ Phase in Cleaner Alternative Fuel Trucks
 - ✓ Supporting Infrastructure
- Engage Truck Operators



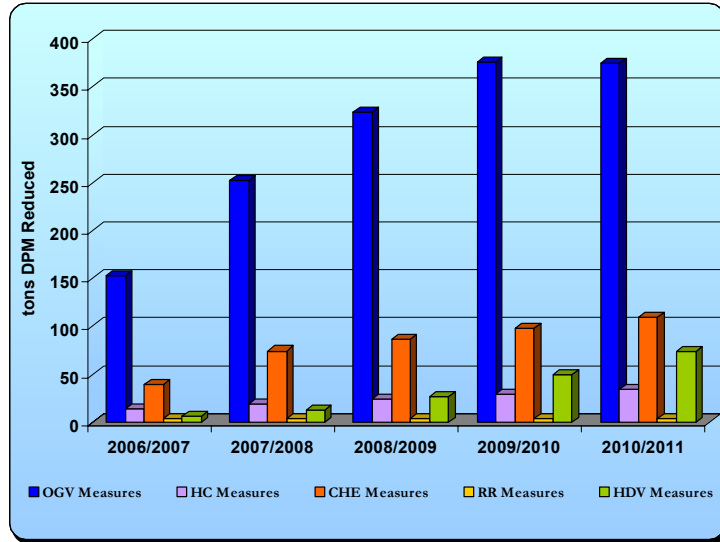
Clean Air Program 5-Year Plan Implementation Strategies

- CAP Evaluating 11 Potential Strategies
 - ✓ Voluntary Measures
 - ✓ Port Incentive Funding
 - ✓ Port Infrastructure Improvement Funding
 - ✓ Port Research/Development, Monitoring, & Reporting Funding
 - ✓ Green Port Program - “Economic Rewards”
 - ✓ Credit Trading/Market-Based Incentives
 - ✓ Regulatory Incentive/Grant Programs
 - ✓ Capital Lease-Backs - e.g. trucks
 - ✓ Tariff Changes
 - ✓ Lease Negotiations/Requirements – CEQA Evaluations
 - ✓ Funding Collaboration



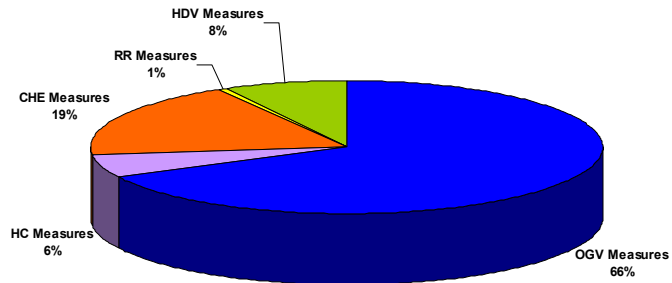
Clean Air Program 5-Year Plan

Draft DPM Emissions Reduction Estimates by Source Category



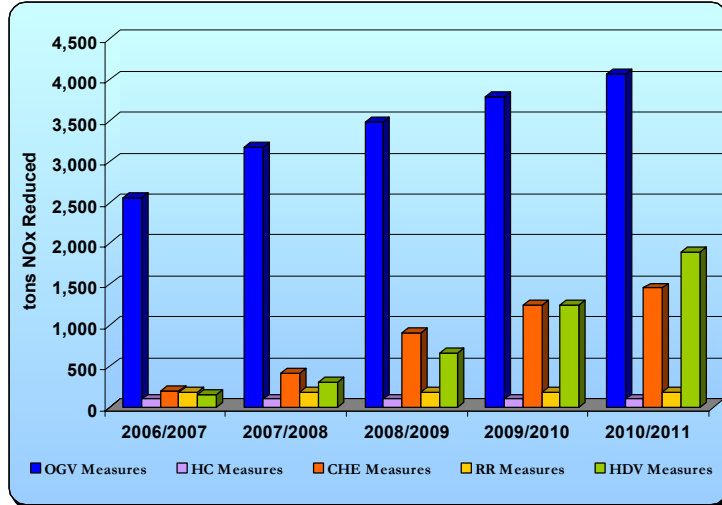
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Draft DPM Emissions Reduction Contribution by Source Category

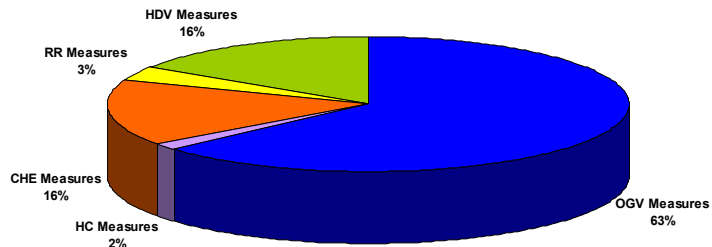




Clean Air Program 5-Year Plan Draft NOx Emissions Reduction Estimates by Source Category



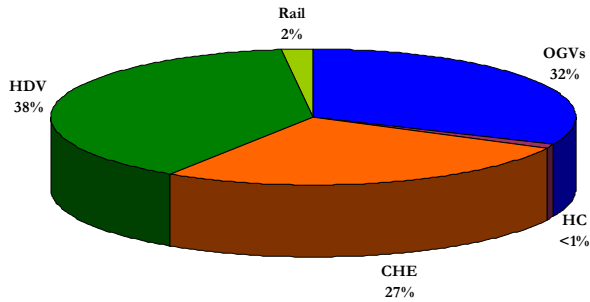
Clean Air Program 5-Year Plan Draft NOx Emissions Reduction Contribution by Source Category





Clean Air Program 5-Year Plan

Draft FY 06/07 Cost Estimates by Source Category



OGVs	\$18,708,600
HC	\$572,000
CHE	\$15,790,000
HDV	\$23,067,000
Rail	\$1,135,000
Total	\$59,272,600



Berth 206-209 Project

Upcoming Lease





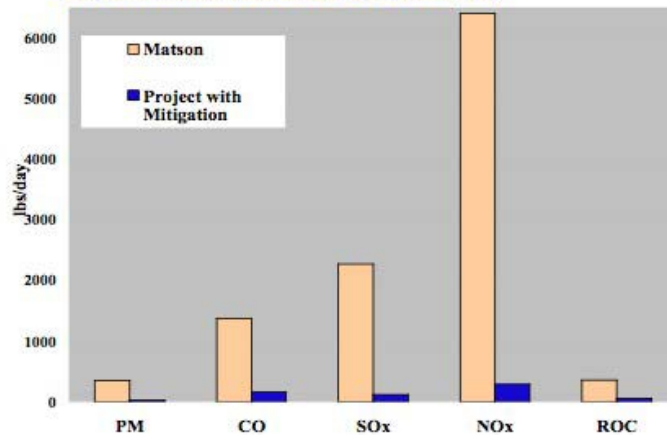
Berth 206-209 Project Green Measures

- Implement a Corporate Environmental Policy and/or EMS.
- Participate in AMP Program (70% - 100%)
- Observe VSRP (100% - 40 miles out)
- **Using low sulfur fuel (1.5%) in ship main & auxiliary ship engines**
- Maximize use of on-dock or near-dock rail (65% of discretionary goods to be shipped via rail within 2 years).
- Use of Alternative Fuel in all new yard tractors. **(LNG)**
- Use emulsified fuel and DOCs on all other yard equipment, where feasible.
- **Using electric yard utility vehicles.**
- Using non-ozone-depleting compounds in refrigerated containers.
- Institute housekeeping and maintenance procedures to reduce water use and minimize discharges to storm drains and harbor waters



Berth 206-209 Project Green Measures

Project Emissions Berth 206-209 (Years 4-5)





Port of Los Angeles Air Quality Wrap Up

- POLA is Highly Motivated to Implement Emission Reductions
- Diesel Particulate Matter (Ultrafines) is Public Enemy #1
- This Will Be an Important Milestone When Adopted
- Plan is Being Reviewed by New Port Executive Director for Input/Direction
- Plan is Being Reviewed by Agencies
- Will Include an Opportunity for Public Comment