

A CLEANER PORT.  
A BRIGHTER  
FUTURE.



# Clean Air Program 5-Year Plan

Environmental Management Division  
Port of Los Angeles

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AIR



A CLEANER PORT.  
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## 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

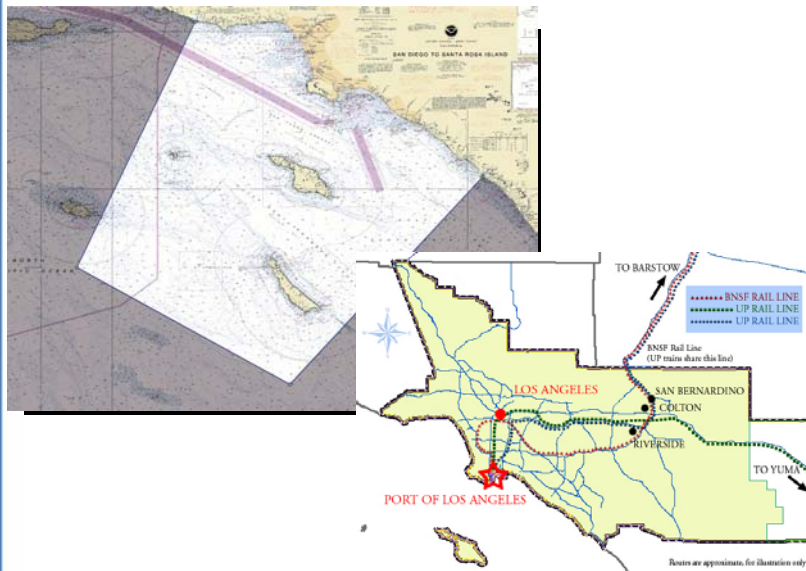
### Existing Programs

- 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

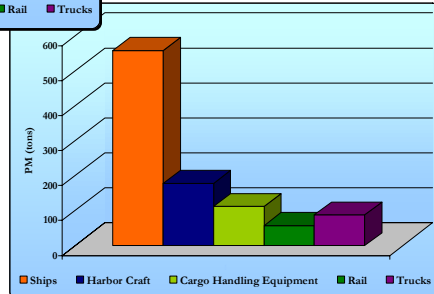
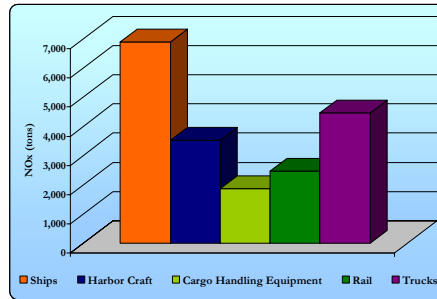
### EI – Geographical Extent





## 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



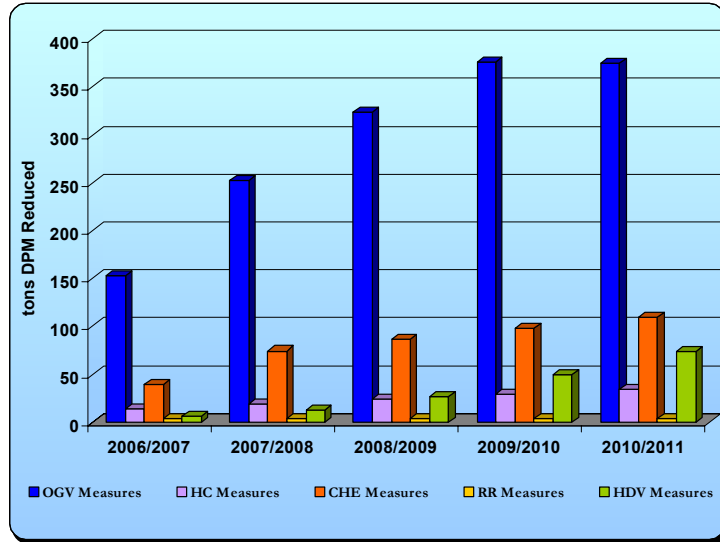
## Clean Air Program 5-Year Plan Implementation Strategies

- 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



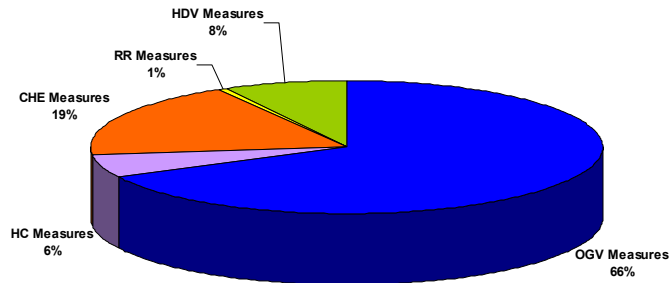
## Clean Air Program 5-Year Plan

### Draft DPM Emissions Reduction Estimates by Source Category



## Clean Air Program 5-Year Plan

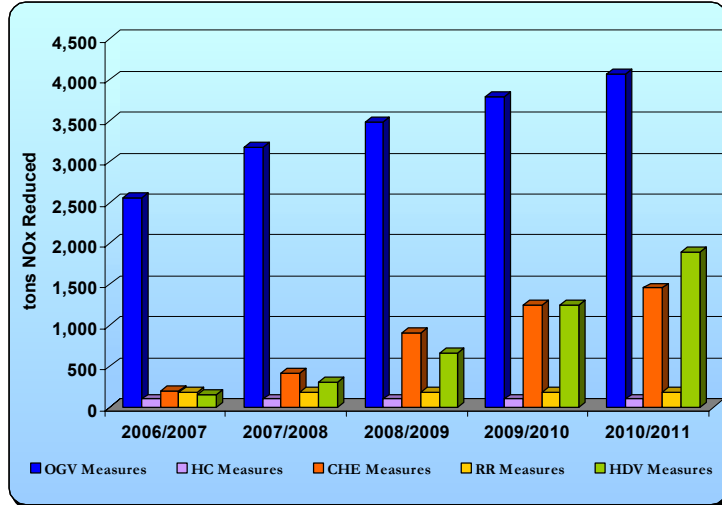
### Draft DPM Emissions Reduction Contribution by Source Category





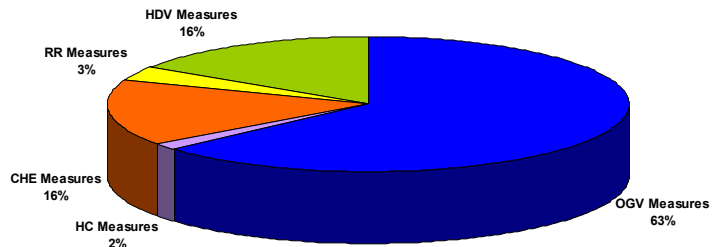
## Clean Air Program 5-Year Plan

### Draft NOx Emissions Reduction Estimates by Source Category



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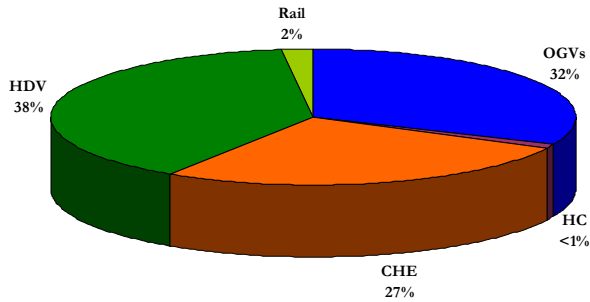
### Draft NOx Emissions Reduction Contribution by Source Category





## 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
<b>Total</b>	<b>\$59,272,600</b>



## Berth 206-209 Project

### Upcoming Lease





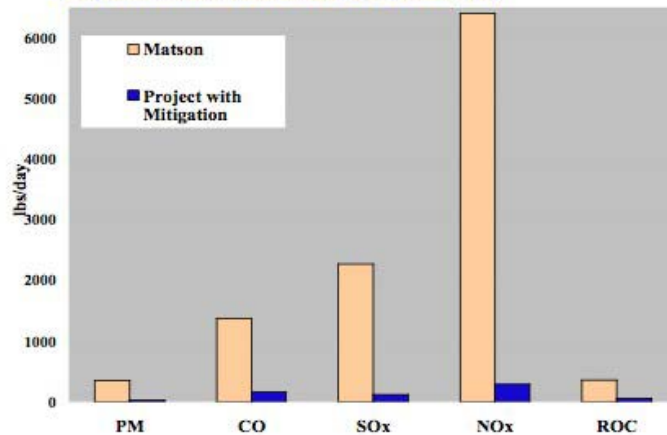
## Berth 206-209 Project Green Measures

- 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