Meeting goals

In 2009: On track to meet or exceed new draft CAAP standards for 2014

Significantly improving air quality

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CAAP initiatives greatly reduced air pollution.

Slowdown in trade cut business activities and boosted reduction of emissions.
Economic environment

Global economic downturn

Our container shipments fell 24% compared to 2005

Resulting in fewer ships, trucks, trains...
For example

While TEUs fell 24%...

Overall ship calls fell only 15%

Container ship calls declined 15%

TEUs per call dropped only 11%
CAAP Initiatives

Green Flag Vessel Speed Reduction

Vessel Fuel Incentive Program

Shore Power

Clean Trucks Program

First hybrid tugboat
Sources of Port emissions

Vessels account for about 65% of Diesel Particulate Matter

Trucks 15% of DPM

Tugs, harbor craft 10%

Locomotives, cargo-handling equipment 10%

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Reduced vessel emissions

CARB Marine Fuel Regulation

Main and auxiliary engines, auxiliary boilers switched to cleaner, low-sulfur fuel

Within 24 nautical miles of coastline

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Reduced vessel emissions

Diesel PM down 47%
Nitrogen Oxide down 19%
Sulfur Oxide down 45%
Carbon Monoxide down 11%
Hydrocarbons down 9%
Reduced truck emissions

Newer trucks: 6.9 years in 2009 vs. 11.2 years in 2005

64% reduction in truck idling hours

32% decrease for truck vehicles miles traveled

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Reduced truck emissions

- Diesel PM down 73%
- Nitrogen Oxide down 53%
- Sulfur Oxide down 92%
- Carbon Monoxide down 64%
- Hydrocarbons down 63%
On-dock rail shipments increased to 24% in 2009

In 2005, 16% of cargo shipments moved by on-dock rail
Reduced rail emissions

Diesel PM down 50%
Nitrogen Oxide down 44%
Sulfur Oxide down 93%
Carbon Monoxide down 33%
Hydrocarbons down 42%
Cargo-Handling Equipment

CARB regulation

Newer equipment or level 3 retrofit

More equipment with cleaner, on-road engines
Reduced equipment emissions

Diesel PM down 50%
Nitrogen Oxide down 50%
Sulfur Oxide down 92%
Carbon Monoxide down 41%
Hydrocarbons down 65%
Mixed tug emissions

Diesel PM down 52%
Nitrogen Oxide down 35%
Sulfur Oxide down 88%
Carbon Monoxide down 43%
Hydrocarbons down 38%
Greenhouse gas reductions

Carbon dioxide, or greenhouse gas emissions declined 22%
All emissions reduced

Diesel PM down 52%  
(Proposed 2014 standard: -72%)

Nitrogen Oxide down 35%  (22%)
Sulfur Oxide down 46%  (93%)
Carbon Monoxide down 43%
Hydrocarbons down 38%
Looking ahead

Clean Air Action Plan
- Clean Trucks Program
- Green Flag Vessel Speed Reduction
- Technology Advancement Program

Green Leases

CARB Regulations
- Cargo-Handling Equipment
- Harbor Craft
- Ocean-Going Vessels

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Summary

Diesel pollution down 50%

Smog-forming emissions down 40%

Cargo decline boosted emission reductions

On track to meet or exceed draft CAAP standard to reduce diesel pollution 72% by 2014