



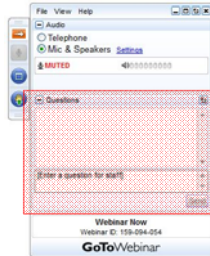
Welcome

Today's MDC Webinar
Clean Air Strategy for NY & NJ Ports
will begin shortly

Tuesday, September 22, 2015



Q & A





Peg Hanna
Assistant Director
Air Monitoring and Mobile Sources
NJ Department of Environmental Protection,
Division of Air Quality
Peg.hanna@dep.state.nj.us

Clean Air Strategy for NY and NJ Ports



Bill Nurthen

General Manager
Environmental & Waterways Development
Port Commerce Department
Port Authority of NY & NJ
wnurthen@panynj.gov

A Clean Air Strategy for the Port of New York and New Jersey

Mid-Atlantic Regional Air Management Association
Mid-Atlantic Diesel Collaborative
September 22, 2015
William A. Nurthen

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Port of New York and New Jersey



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Port of New York and New Jersey

Third largest Port in US - 5.8 million TEU in 2014

- Economic engine:
- 336,600 jobs
 - \$21.2B in wages
 - \$7.1B in taxes

- Definition of Success = Sustainable Port =
- Regional Prosperity +
 - Financial Return +
 - Environment & Security

Port of NY & NJ Air Quality Challenge

**How to accommodate cargo growth –
with all the economic benefits that it brings
– while protecting and improving the
environment, specifically air quality**

**Response: Develop A Clean Air Strategy for the
Port of New York and New Jersey**



Response: *Develop A Clean Air Strategy for the Port of New York and New Jersey*

Identify Emission Reduction Actions - All port sources

Incorporate feedback from:

- Port stakeholders
- Environment and Community Groups

Track Progress:

- Measurement, Verification and Reporting

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Clean Air Strategy Purpose and Goals

Purpose:

- Reduce air pollutant impacts on human health and environment
- Reduce greenhouse gas emissions in advance of regulation
- Help bring region into attainment of air quality standards

Goals:

- Overall decrease in emissions despite any Port Growth
- Annual 3 percent net decrease in criteria air pollutants
- Annual 5 percent net decrease in greenhouse
 - Agency wide goal to reduce 2006 GHG emissions level by 80% by 2050

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Highlights from the 2013 Clean Air Strategy Implementation Report

CAS implementation (Oct 2009 – Nov 2013):

- Eighty percent (27 of 34) of near-term/committed actions completed or underway
- 12 actions led by Port Authority with 4 Strategy Group partners and one community partner leading the remainder

Based on the latest Emissions Inventory at the time (2010):

- Average 17% decrease across criteria air pollutants associated with port operations, despite a 4.6% increase in cargo volume
- All maritime-related criteria air pollutants decreased at a rate greater than or equal to the 3% annual average reduction goal
- Annual 5% net decrease goal for GHGs was not met

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Highlights of Major Actions Implemented To-Date in Each Sector

Ocean-Going Vessels (OGV)

- LSD Fuel Incentive Program
 - Provided incentives to 701 qualifying vessels (2010-2012)
- Clean Vessel Incentive Program
 - Provided \$2.25M to 1192 qualifying vessel calls
- Installing Shore Power at Brooklyn Cruise Terminal



Trucks (HHDV)

- Truck Replacement Programs
 - Two programs: \$28M & \$6.2M; 429 old trucks replaced
 - Annual emissions reductions: 70% for NOx, 64% for PM
- Truck Phase Out Program
 - January 1, 2011 access denied to trucks with 1993 or older engines
 - January 1, 2017 must have 2007 or newer engine to gain access
- Truck Loan and Retrofit Program
 - Retrofitted 31 trucks with DPF and refinanced at 0% interest



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Highlights of Major Actions Implemented To-Date in Each Sector

Cargo Handling Equipment (CHE)

- Fleet modernization
 - Replaced 46 pieces CHE with new units meeting latest engine standards



Rail

- Engine retrofits
 - 4 switching locomotives retrofitted to GenSet configuration
 - 3 included additional retrofits achieving reductions >99% for PM and >88% for NOx compared to pre-retrofit engines



Harbor Craft (HC)

- Engine retrofits and upgrades
 - 10 engines on BillyBey, Waterway, and Seastreak/Wall Street ferries and 16 engines on 6 private harbor craft upgraded from Tier 0 to Tier 2
 - Diesel oxidation catalysts (DOCs) installed on over 31 boats



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Clean air Strategy

Questions

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Key Findings- Trucks (HDDV)

Vehicle Miles Traveled (VMT) and Idling Hours

		VMT	Idling Hrs
On Terminal	2012	4,696,337	1,970,936
	2010	4,025,715	3,483,603
On Road VMT	2012	124,718,000	
	2010	115,005,411	

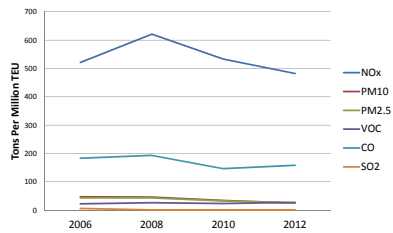


Percent change from 2006 to 2012 - tons/million TEU

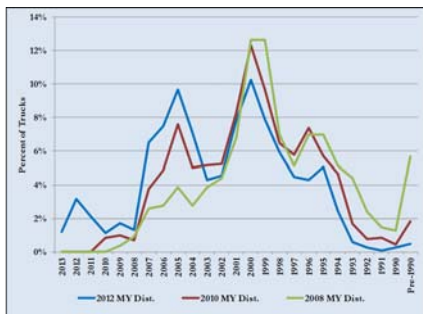
	NOx	PM10	PM2.5	VOC	CO	SO2	CO2 Eq
2006-12	-7%	-47%	-42%	23%	-14%	-92%	-3%

Key Findings- Trucks (HDDV)

Trucks Criteria Air Pollutant Emissions, 2006-2012



Key Findings – Trucks (HDDV)



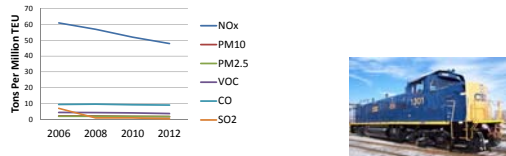
Key Findings – Rail

Containers Moved By Rail

- 2012: 433,000 ; 2010: 377,000

	NOx	PM10	PM2.5	VOC	CO	SO2	CO2 Eq
2006-12	-21%	-19%	-16%	-16%	-5%	-97%	6%

Rail Criteria Air Pollutant Emissions, 2006-2012



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Key Findings – Harbor Craft (HC)

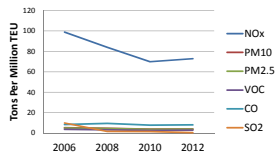
Tug Assists

- 2012: Total 11,448; 2010: Total 10,498



	NOx	PM10	PM2.5	VOC	CO	SO2	CO2 Eq
2006-12	-26%	-25%	-22%	-22%	-4%	-97%	-24%

Harbor Craft Criteria Air Pollutant Emissions, 2006-2012



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Clean air Strategy

Questions

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2014 Update Process

Round of stakeholder meetings in December 2012 to provide input on status and feasibility of outstanding committed and future 2009 CAS Actions

Strategy Group Meetings in Spring and Summer 2014

- Determined objectives, goals, scope, and process; reviewed 2009 outstanding actions and stakeholder input; reviewed draft 2012 Emissions Inventory findings; developed initial draft list of sector-based actions
- Round of stakeholder meetings August/September to discuss initial draft action list and gather input for additional actions
- Strategy Group meeting in September to discuss stakeholder input and develop final draft list of actions
- Public meeting in December to present/discuss final draft Strategy
 - Followed by Strategy Group meeting to finalize Strategy based on input received
- Published 2014 Clean Air Strategy Update in March 2015

CAS 2014 Update Draft Actions: Ocean-Going Vessels (OGV)

1. Implement a follow-on program to the Clean Vessel Incentive Program, which ends in 2015.
2. Research opportunities for reducing barriers to expansion of cold-ironing. If barriers can be overcome, create the infrastructure to support the use of cold ironing.
3. Implement pilot projects for promising new technologies, such as diesel particulate filters (DPFs), selective catalytic reduction (SCR), and scrubbers.
4. Examine the feasibility of and demand for a CNG/LNG refueling station for OGV and implement if feasible.



CAS 2014 Update Draft Actions: Cargo Handling Equipment (CHE)

1. Develop a new CHE program, prioritizing yard tractors and straddle carriers, to incentivize faster than end-of-cycle turnover of equipment to the best-available technology (currently Tier 4).
2. Replace a percentage of the CHE fleet at all Port Authority leased terminals with alternative-powered (e.g., CNG, electric) equipment meeting the best available technology standards.
3. Support changing business practices and operating systems that will increase efficiency, such as use of rail-mounted gantry cranes and Truck Actions #1 and 2.
4. Install new engines with diesel particulate filters (DPFs) on remaining five operating diesel wharf cranes. These cranes may be retained for emergency purposes in the event of lost power.
5. Conduct a demonstration project, such as bringing alternative power to a terminal (i.e., a mobile fueling station), which will help overcome fueling issues and increase demand.



CAS 2014 Update Draft Actions: Trucks

1. Support implementation of the Port Performance Task Force recommendation for a Chassis Management Improvement System.
2. Support the development of a Truck Management System recommended by the Port Performance Task Force for trucks serving the terminals in order to decrease truck congestion and peaking at terminal gates, as well as reducing truck on-terminal or turn time.
3. Develop strategies, including providing financial incentives to purchase alternative fuel vehicles, to replace the number of trucks necessary to comply with the 2017 phase out plan.
4. Examine the feasibility of and demand for a CNG/LNG refueling station for trucks and implement if feasible.
5. Conduct an on-terminal idling study that looks at a representative sample over the course of a year (accounting for seasonality, high/low cargo, etc.). Based on the results, develop and implement an idle reduction strategy and/or an incentive program for the use of on-board automatic shutdown devices.



CAS 2014 Update Draft Actions: Rail

1. Upgrade to the best available technology additional switching locomotive engines that regularly service the port.
2. Support building line-haul trains directly on-port to decrease the use of switching locomotives (number or operating hours).
3. Pilot a compressed natural gas (CNG) mother-slug set.
4. Evaluate and implement using alternative powered lifting equipment at Kearney, CSX, and Norfolk Southern intermodal yards.
5. Support implementation of long-term operational changes to increase the amount of cargo leaving the port on rail versus truck, including Express rail expansion and increasing short-haul rail capabilities (e.g., development of an inland port).



CAS 2014 Update Draft Actions: Harbor Craft

1. Develop dockside electrification for harbor craft at Brooklyn Army Terminal Pier 4, Atlantic Basin (Brooklyn), and Homeport (Staten Island).
2. Repower/upgrade additional engines on private ferries, tugs, and other harbor craft, as an effort separate from the Harbor Deepening Project Air Offset Program.
3. Investigate and test post-combustion controls (diesel oxidation catalysts) and after-treatment technologies for tugs.
4. Implement a hybrid harbor craft pilot program.



Questions



Thank you for attending today's webinar

Mid Atlantic Diesel Collaborative website
www.midatlanticdiesel.org

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