

# Off Road Opportunities: Lowering Costs and Improving Emissions at Ports and Warehouses

*NASEO Annual Meeting  
September 10, 2014*

*Ezra Finkin  
Director of Policy*



# Our Members are the Leaders in Clean Diesel Technology

AGCO  
BP  
BorgWarner  
BOSCH  
Caterpillar Inc.  
Chrysler  
Cummins Inc  
Daimler  
Delphi Diesel Systems  
Deere & Company  
Ford Motor Company  
General Motors  
Honeywell  
Johnson Matthey

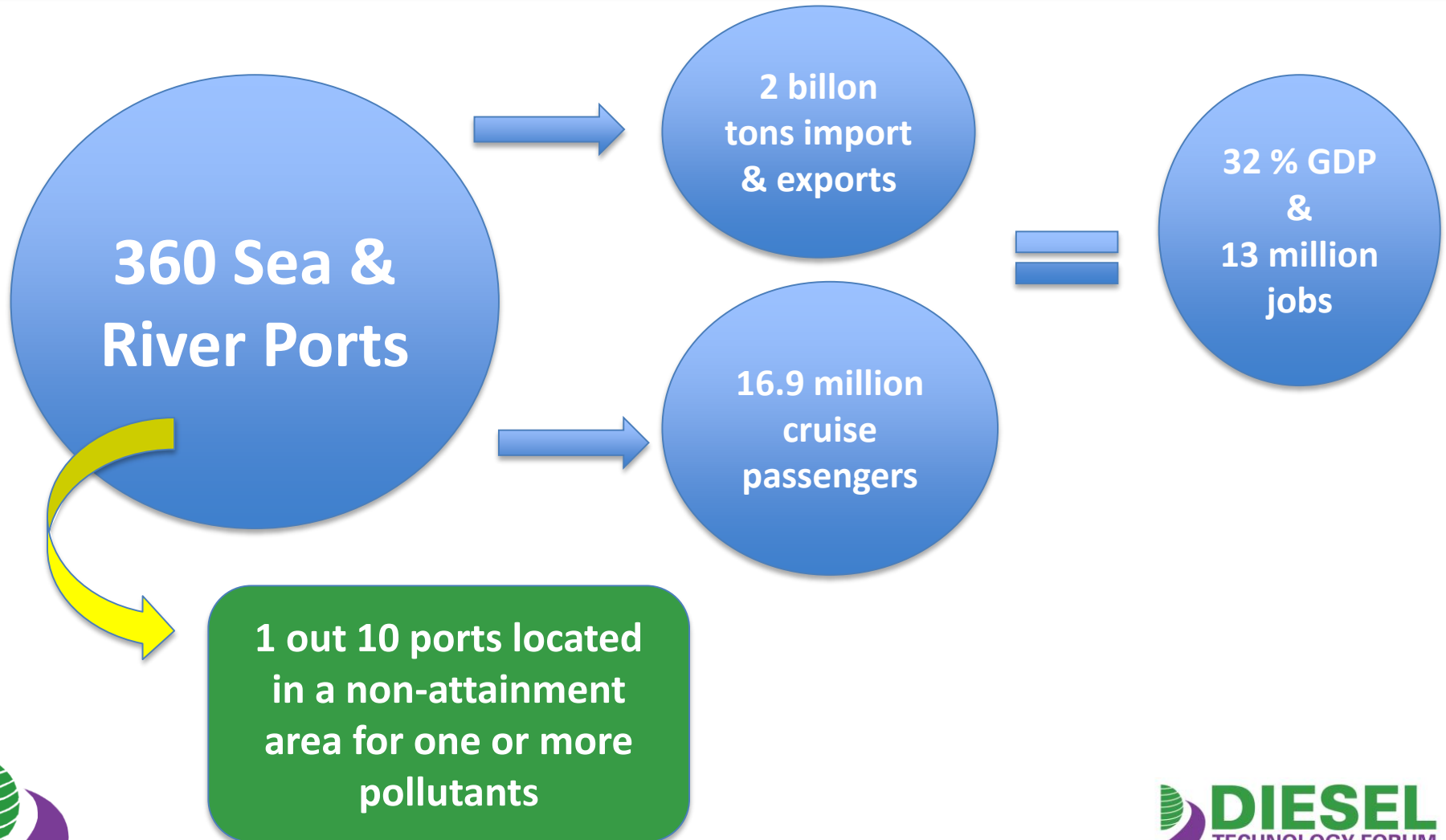
Mazda North American  
Operations  
Navistar  
Terra Environmental  
Volvo Group  
Volkswagen of America  
Yanmar

## ***Allied Members***

Association of Diesel  
Specialists  
National Biodiesel Board  
Western States Petroleum  
Association

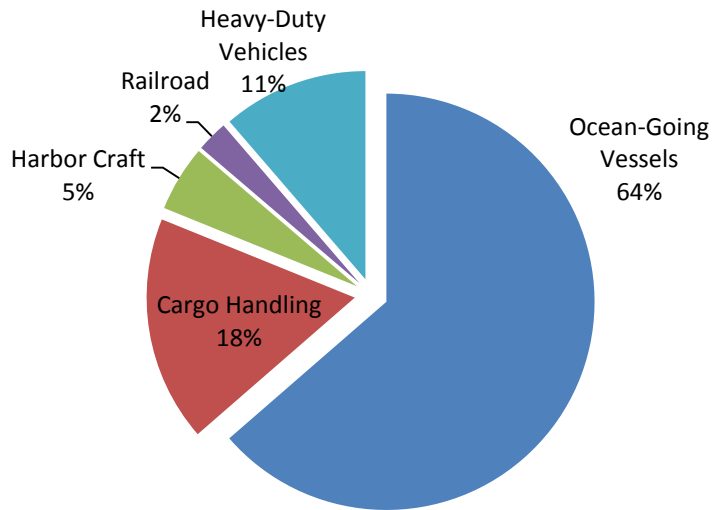


# Ports & Goods Movement Drive the Economy

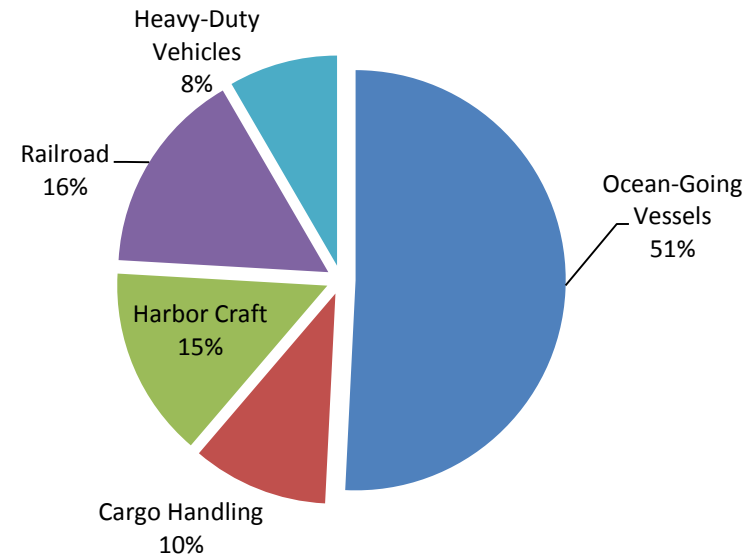


# SOURCES OF PORT EMISSIONS – PARTICULATE MATTER

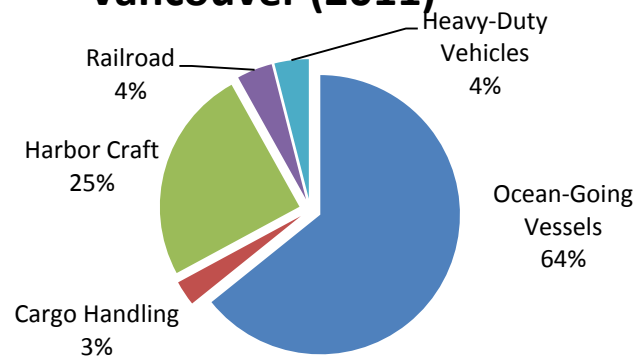
## The Port Authority of NY-NJ (2010)



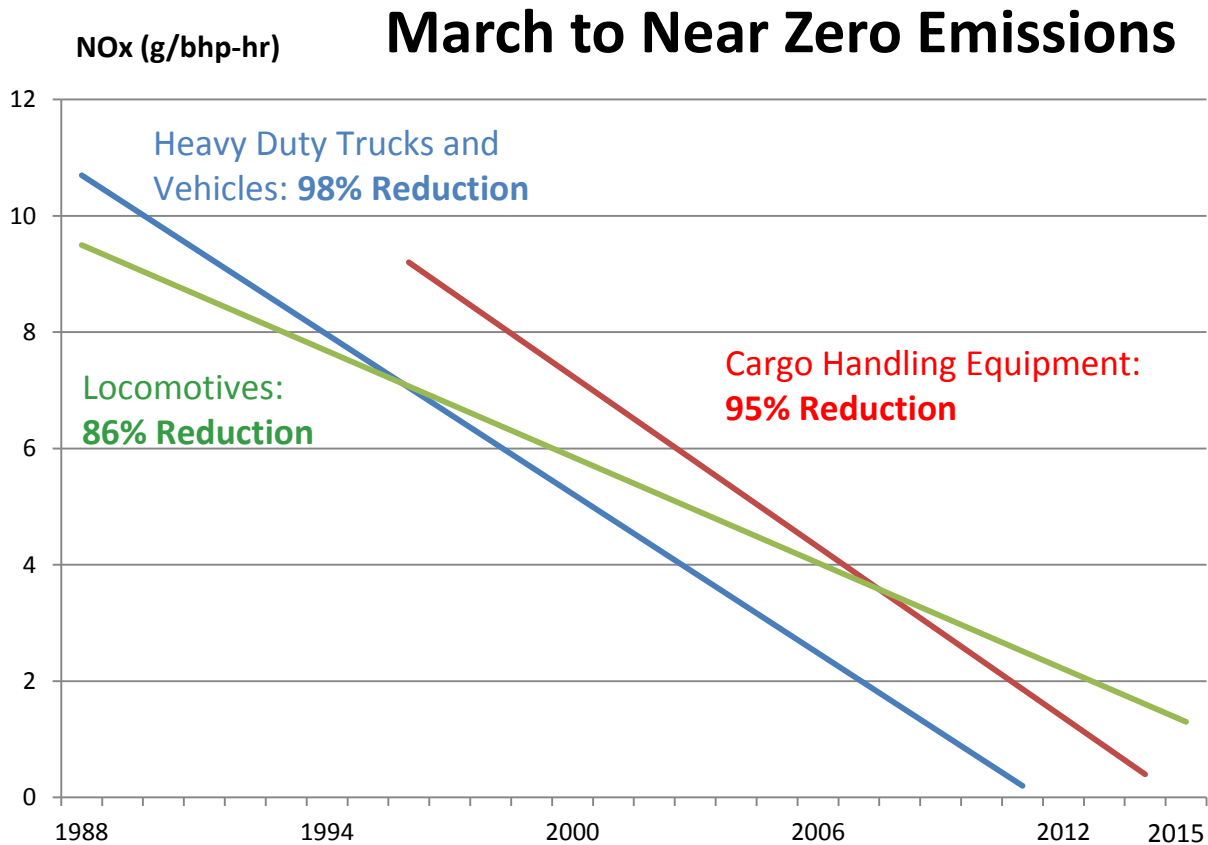
## The Port of Los Angeles (2012)



## The Ports of Tacoma, Seattle and Vancouver (2011)



# Clean Diesel Meeting the Port Emissions Challenge



### Emissions Milestones

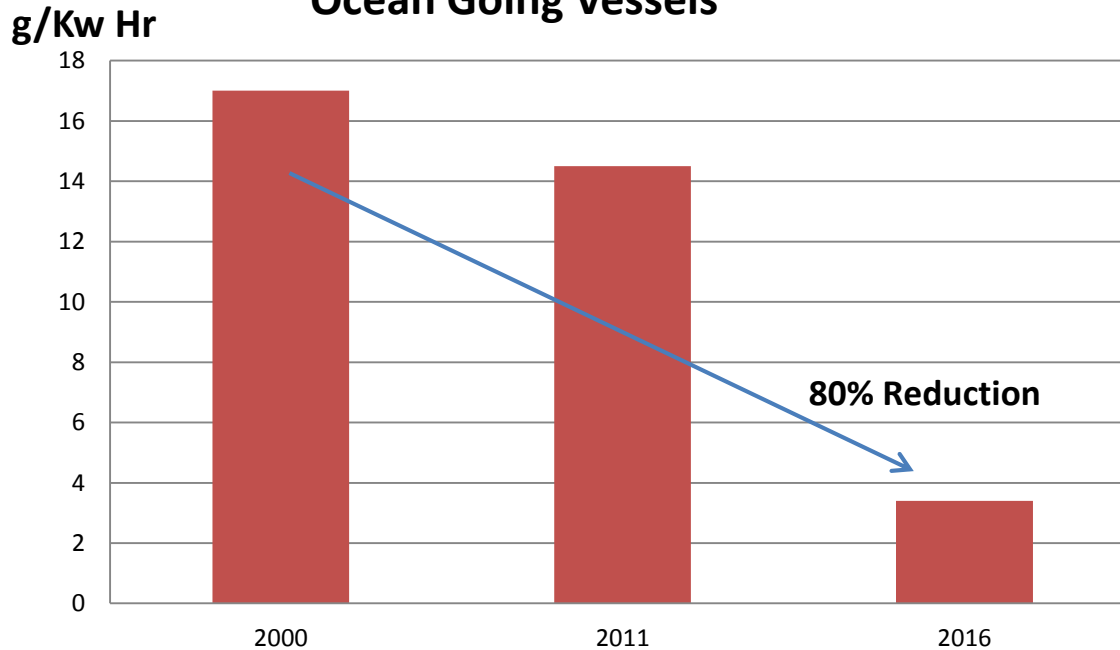
**Trucks:** Clean Diesel Standards - 2007 & 2010

**Cargo Handling Equipment:** Tier 4 Final – January 2014

**Locomotive & Marine:** Tier 4 – January 2015

# Clean Diesel Meeting the Port Emissions Challenge

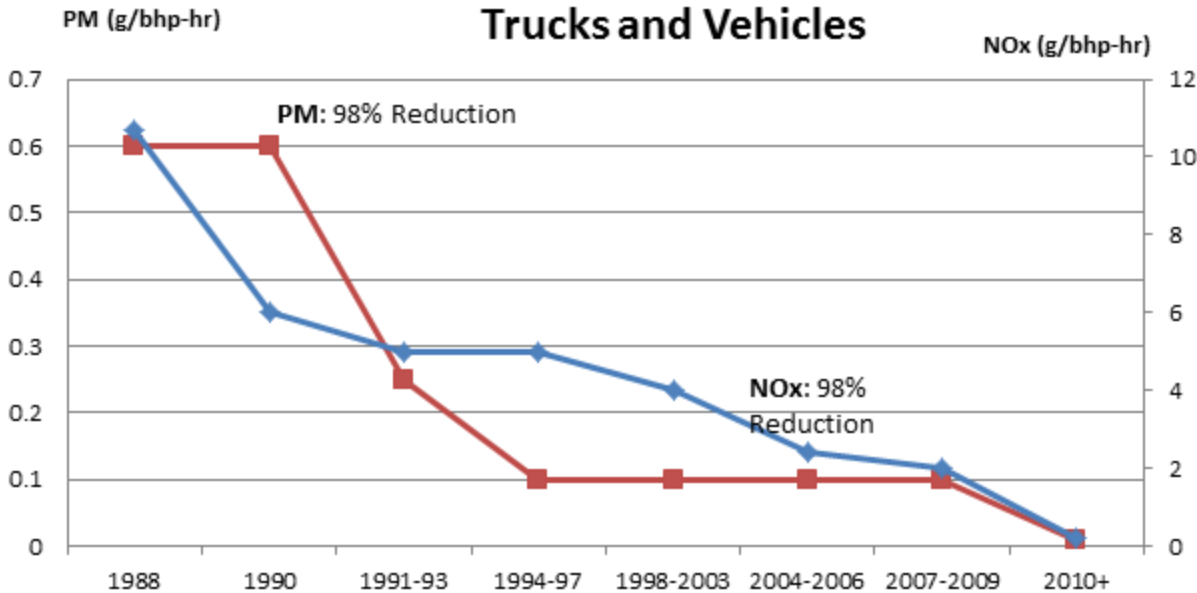
## NOx Limit on New Engines in Large Ocean Going Vessels



**NEXT UP: January 2016:**  
**International Regulations Kick-in for Large Ocean Going Vessels Coupled with Low Sulfur Fuel Requirements**

# First Clean Diesel Milestone = Heavy Duty Vehicles

## Progress to Near Zero Emissions in Heavy-Duty Trucks and Vehicles



Share of the National Clean Diesel Fleet

**33.5%**

**15.8%**

# New clean diesel engines in class 8 trucks save ~\$3,500/year in fuel costs.

## Class 8 Savings from Clean Diesel

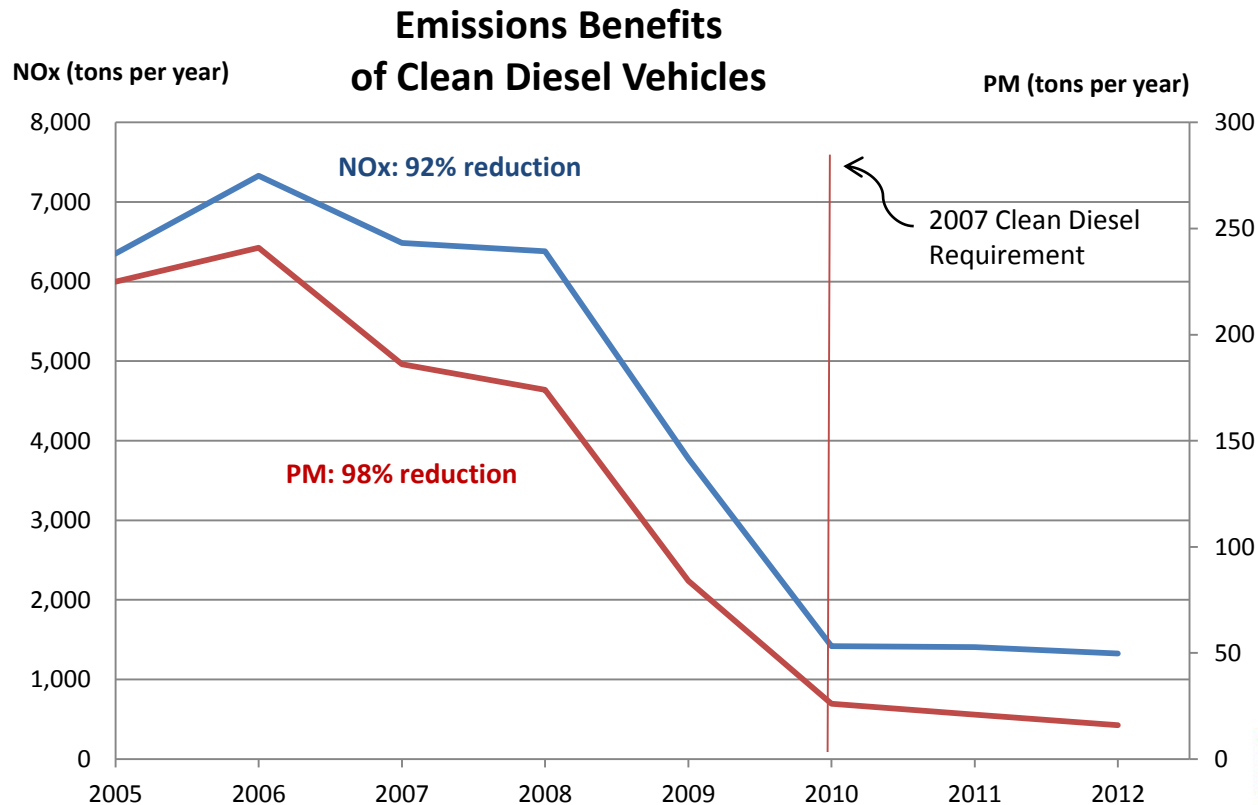
Savings to the new clean diesel buyer	Per Year
Average vehicle miles traveled	125,000
Fuel savings - gallons	875
Fuel savings - bbl	21
Fuel cost savings @ \$4.00/gal	\$3,500
CO <sub>2</sub> savings – metric tonnes	8.9
NO <sub>x</sub> savings – metric tonnes	1.1
Particulate matter savings – kg	26





# CLEAN TRUCKS IMPROVE AIR QUALITY IN L.A.

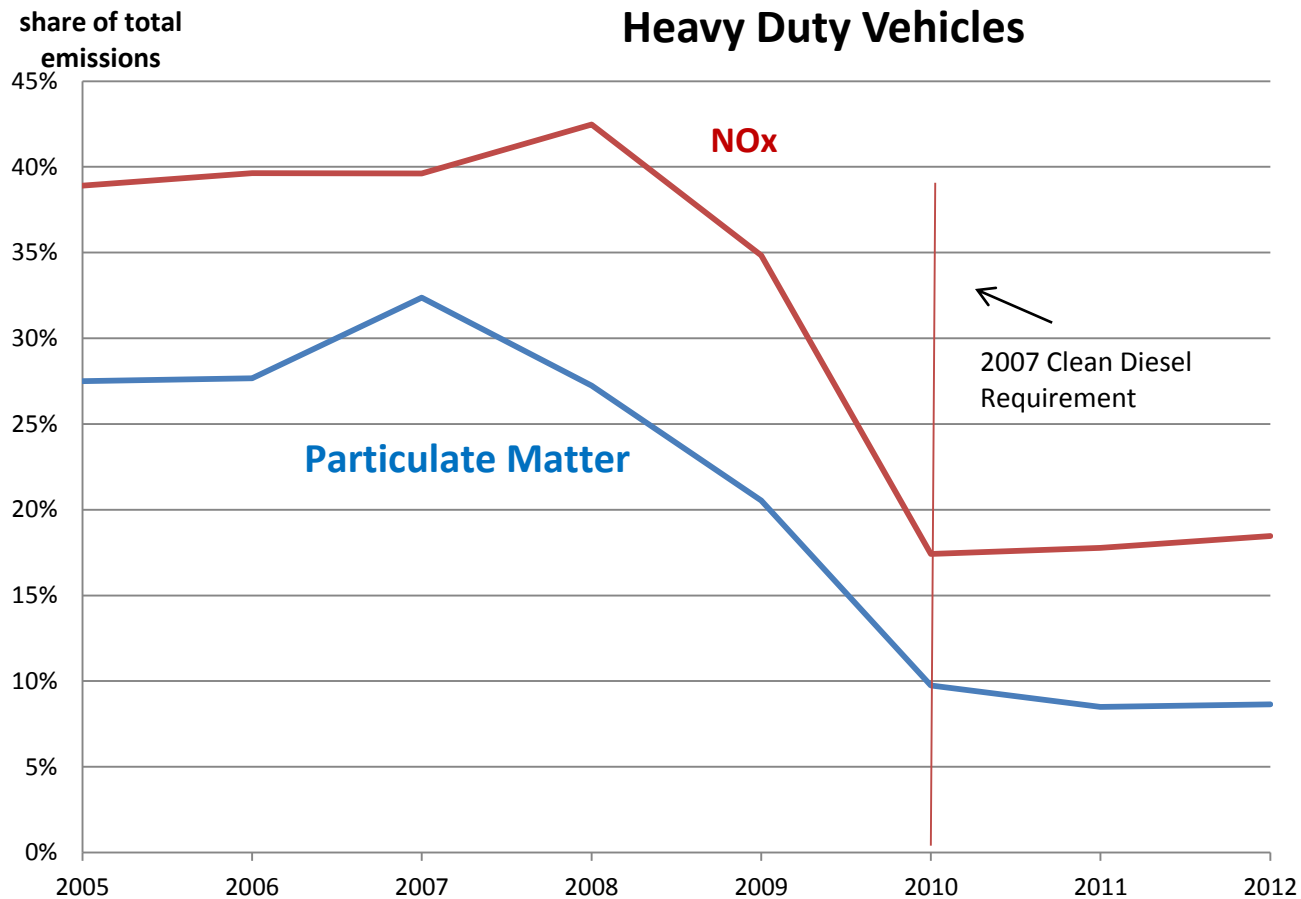
*The Clean Air Action Plan requires clean equipment*



**Over 90% of port trucks in service in So Cal are powered by diesel**

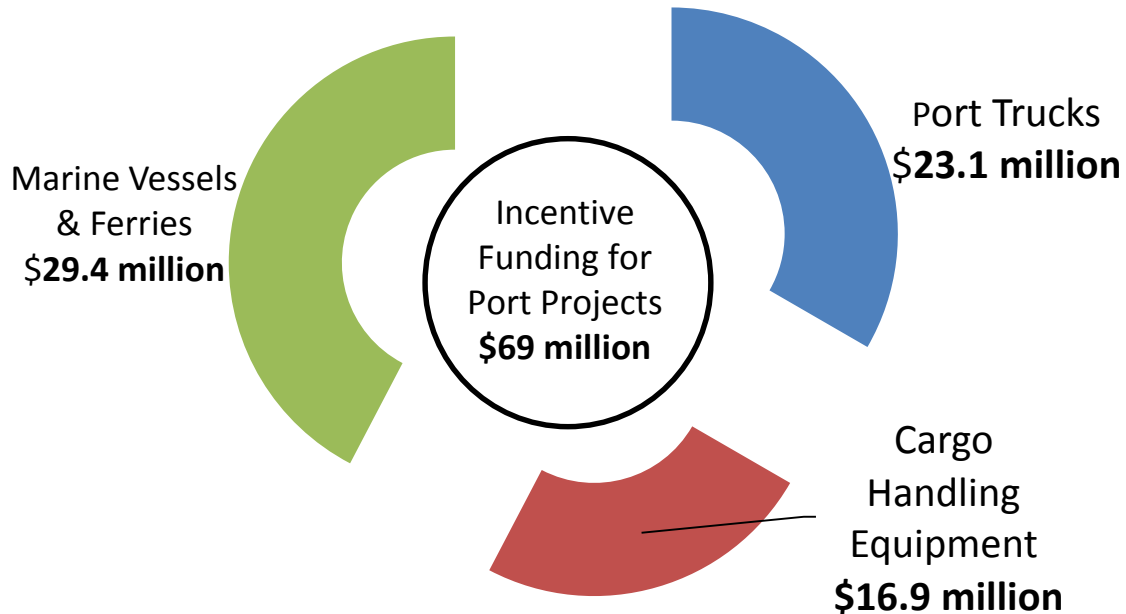


# CLEAN TRUCKS CONTRIBUTE TO CLEAN AIR



# EXISTING OLDER EQUIPMENT GETTING CLEANER

## Diesel Emission Reduction Act Funding Assistance to Projects in Ports (2008-2010)



# Thank you

Contact information

[www.dieselforum.org](http://www.dieselforum.org)

[www.facebook.com/dieseltechforum](http://www.facebook.com/dieseltechforum)

Twitter: @DieselTechForum

#cleandiesel

Ezra Finkin

[efinkin@dieselforum.org](mailto:efinkin@dieselforum.org)