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# **EPA's Ports Vision and Strategy**

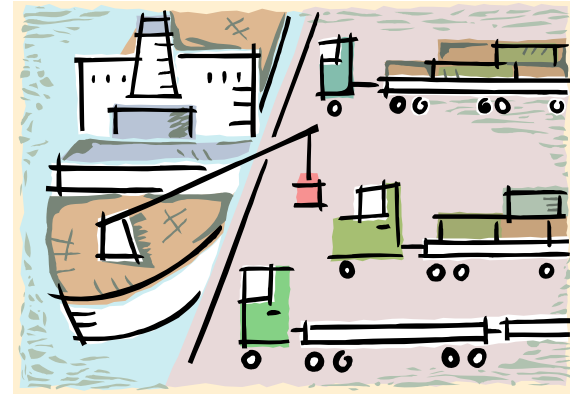
**Faster Freight – Cleaner Air California  
Goods Movement 101  
February 25, 2008**

**Presenter: Reema Loutan  
EPA Region 2**



# Presentation Overview

- Ports Primer
  - Who are the “Ports”?
  - Key Issues
- EPA Regulations and Partnerships
  - Locomotive and Marine Rule
  - Ocean-Going Vessels
- EPA Ports Visions, Mission and Strategy
  - Strategy Implementation
  - Funding





## Ports are “Mini Cities”



- Collections of independent entities involved in contractual arrangements to do their business
  - **Port Authorities**
  - **Terminal Operators/ tenants**
  - **Shipping Companies (Cargo and Cruise)**
  - **Drayage Trucks and Rail**
  - **Private ports/docks/warehouses/distribution centers**
  - **Cargo Owners**
  - **US Coast Guard**
  - **Army Corps of Engineers**
- Many ports actively engaged in reducing diesel emissions and more to do





# Key Issues for Port Authorities

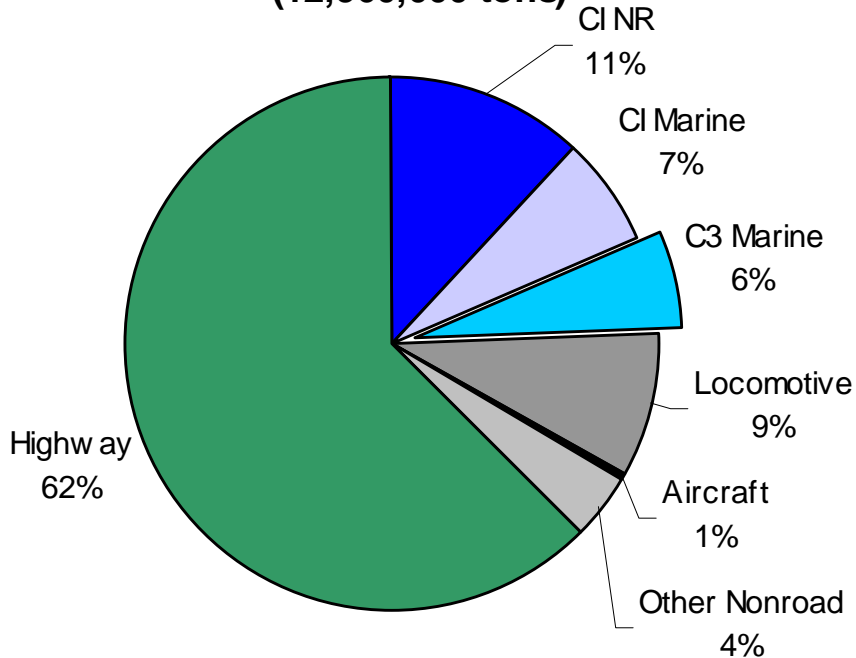
- US international waterborne freight is expected to double by 2020
  - Ports spent \$2.8 billion on capital improvements in 2001-2
  - Cruise ships are increasingly using port facilities
- National security issues are paramount
- Vessel sizes increasing
  - Need for dredging offsets
  - Panama canal dredging
- Ports face community pressures
  - Lawsuits from environmental organizations and neighborhood groups
- Nonattainment designations create opportunities



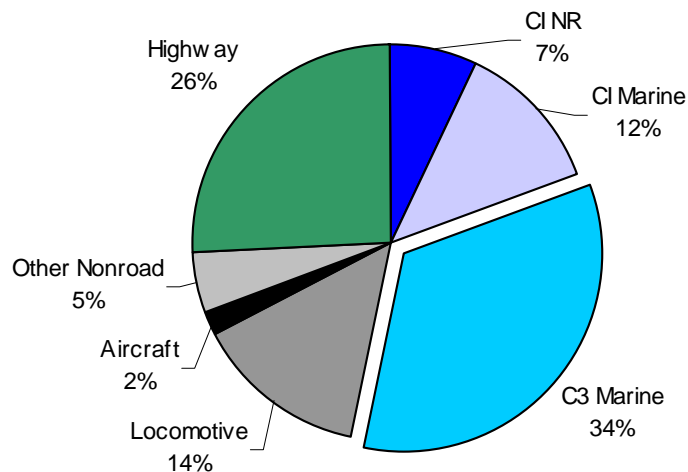
# Inventory Overview for NO<sub>x</sub>

- Marine diesel engines contribute significantly to air pollution mobile sources in the United States

**2001 Mobile Source NO<sub>x</sub> Inventory  
(12,960,000 tons)**



**2030 Mobile Source NO<sub>x</sub> Inventory  
(6,010,000 tons)**

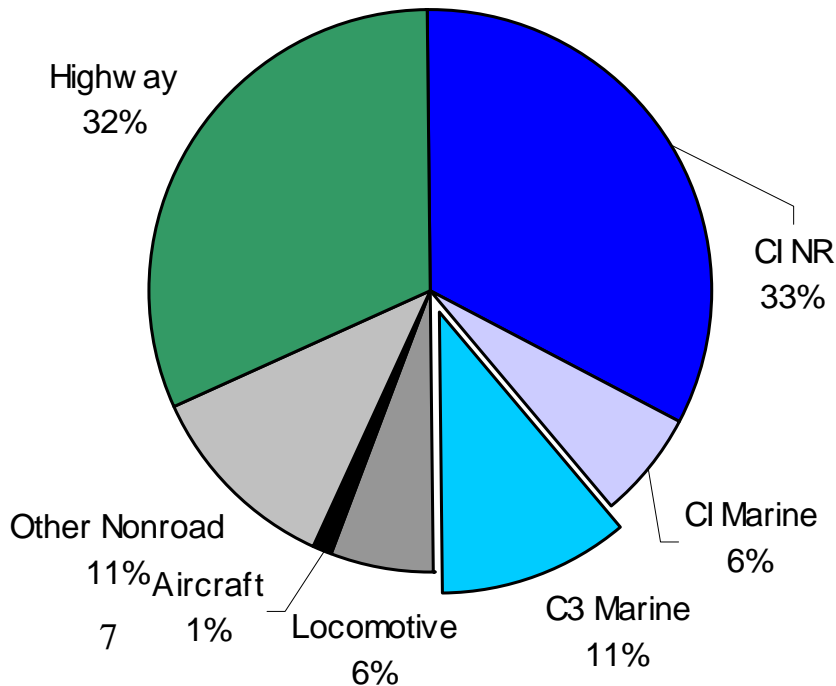




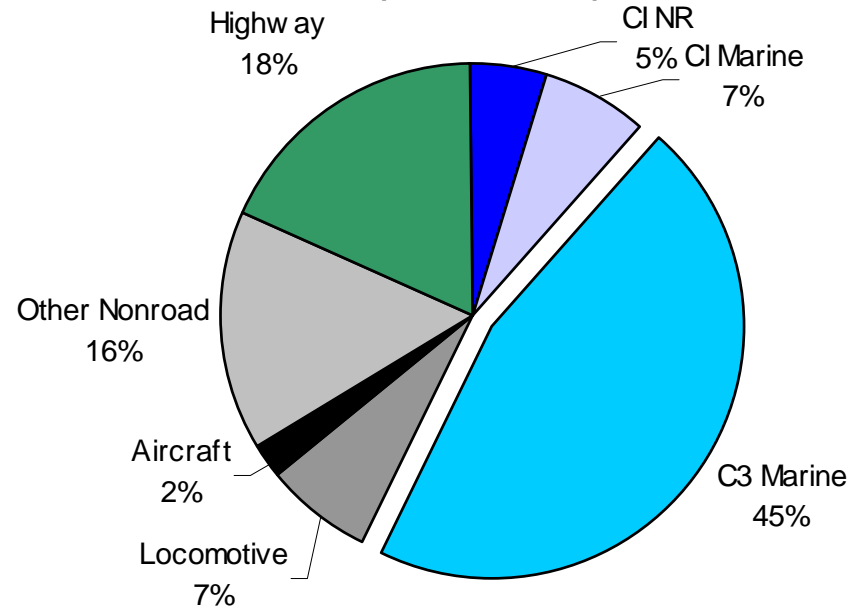
# Inventory Overview for PM2.5

- The marine diesel contribution is expected to grow as emissions from other sources decrease

2001 Mobile Source PM2.5 Inventory  
(500,400 tons)



2030 Mobile Source PM2.5 Inventory  
(366,300 tons)

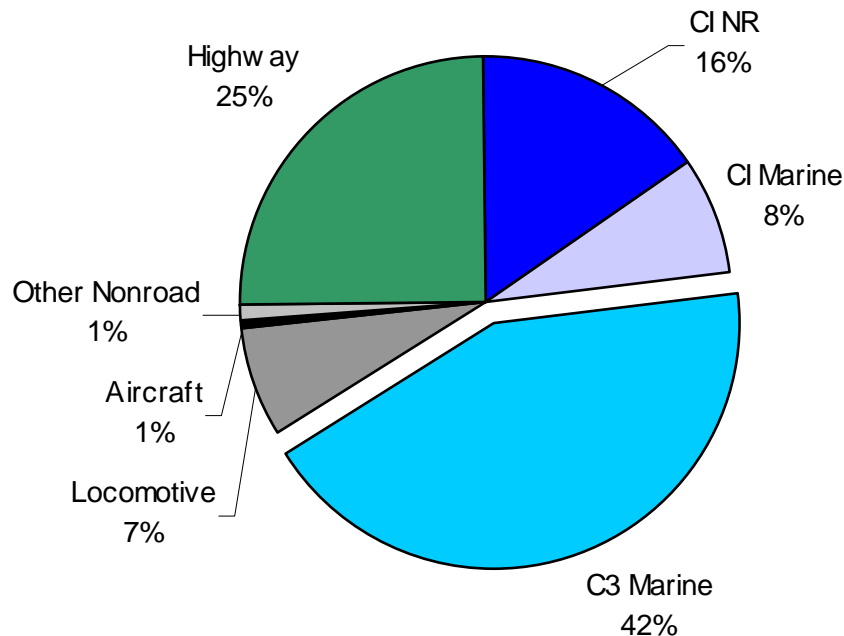




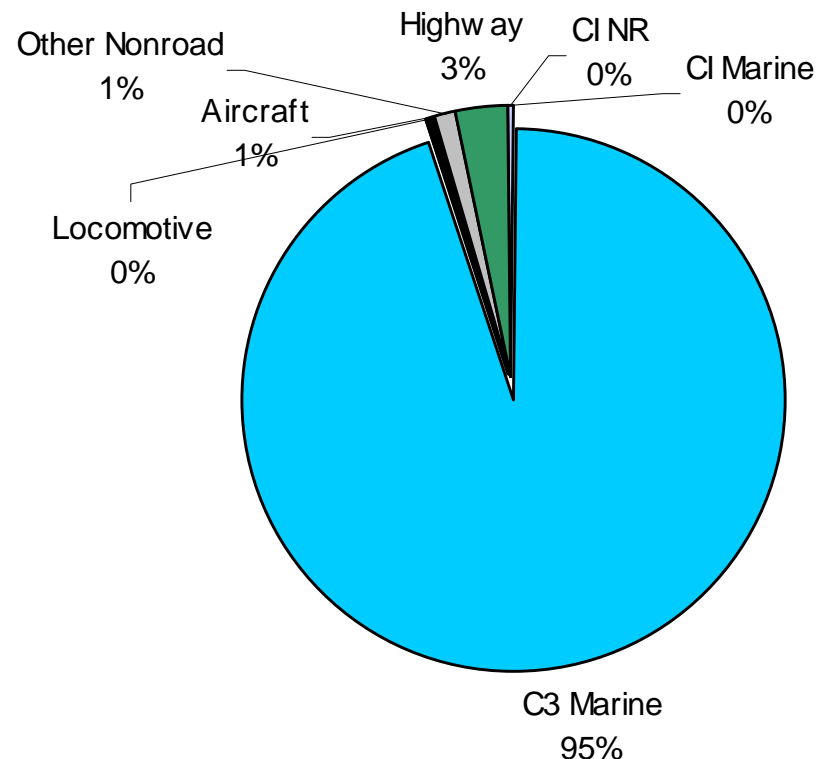
# Inventory Overview for SO<sub>x</sub>

- SO<sub>x</sub> emissions are high due to the sulfur content of residual fuel used in C3 engines

**2001 Mobile Source SO<sub>2</sub> Inventory  
(1,080,000 tons)**



**2030 Mobile Source SO<sub>2</sub> Inventory  
(1,480,000 tons)**





# Ocean-Going Vessels

## C3<sup>a</sup> 2002 Contribution to Selected Ports from OGVs

Port Area	NOx	PM <sub>2.5</sub>	SOx
Valdez, AK	4%	10%	43%
Seattle, WA	10%	20%	56%
Tacoma, WA	20%	38%	74%
<b>San Francisco, CA</b>	<b>1%</b>	<b>1%</b>	<b>31%</b>
<b>Oakland, CA</b>	<b>8%</b>	<b>14%</b>	<b>80%</b>
<b>LA/Long Beach, CA</b>	<b>5%</b>	<b>10%</b>	<b>71%</b>
Beaumont, TX	6%	20%	55%
Galveston, TX	5%	12%	47%
Houston, TX	3%	10%	41%
New Orleans, LA	14%	24%	59%
South Louisiana, LA	12%	24%	58%
Miami, FL	13%	25%	66%
Port Everglades, FL	9%	20%	56%
Jacksonville, FL	5%	11%	52%
<b>Savannah, GA</b>	<b>24%</b>	<b>39%</b>	80%
<b>Charleston, SC</b>	22%	33%	<b>87%</b>
Wilmington, NC	7%	16%	73%
Baltimore, MD	12%	27%	69%
<b>New York/New Jersey</b>	<b>4%</b>	<b>9%</b>	<b>39%</b>
Boston, MA	4%	5%	30%



# Air Emissions Reduction Strategies

## •Technology Strategies

- Refuel
- Retrofit
- Repair/Rebuild
- Repower
- Replace



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## •Operational Strategies

- Idle Reduction
- Improved Port Efficiency
- Use of On-shore Power
- Considering Air Quality Impacts of Security Changes
- Contract Specs, Chassis Pools



# Clean Ports USA



- **Technology-driven**
- **Cost-effective**
- **Helping communities achieve public health goals**



Marcus Peacock (EPA Deputy Administrator) and Wayne Nastri (EPA R9 Administrator) present \$300,000 award to Port of Long Beach for Hybrid Yard Hostler Project.

- **Appropriation for the first time under Energy Policy Act (\$49.2 million in FY08)**
  - **Verified Technology required for funding**



# Sharing Best Practices

- **Clean Ports USA web site features case studies**
  - We're looking for your information about projects
  - Clearinghouse: creating searchable database
- **Recognition for fleet owners, port authorities and terminal operators reducing pollution**
- **Verification of technologies**



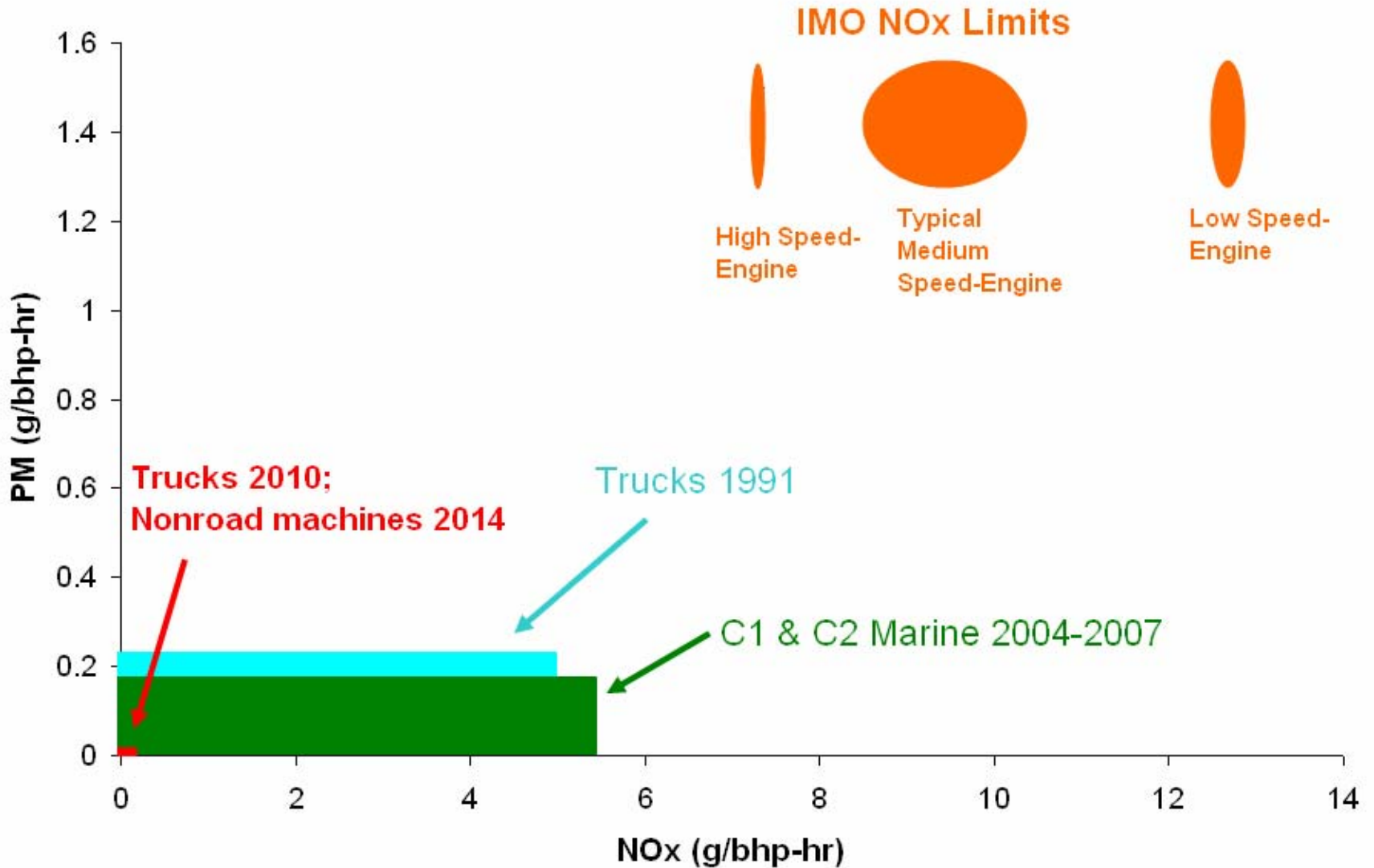


# National Regulatory Programs

- Mobile source programs are key tools for improving air quality at ports
- Centerpieces: recent highway truck and nonroad engine standards, ultra-low sulfur diesel fuel standards
  - Ports will see significant reductions from these programs as fleets turn over
  - More voluntary reductions needed from in-use fleet
- EPA's new locomotive and marine programs will provide additional emission benefits



# US Standards Comparison





# US EPA Updates: Locomotives and Marine Engines

- **Locomotive and Marine C1 and C2 rulemaking**
  - March 2007 EPA proposed more stringent PM and NO<sub>x</sub> exhaust emission standards for locomotives and marine diesel engines.
  - EPA proposed a three-part program:
    - (1) Tightening emission standards for existing locomotive and marine engines when they are remanufactured;
    - (2) Setting near-term engine-out emission standards (Tier 3), for newly-built locomotives and marine diesel engines; and
    - (3) Setting longer-term standards (Tier 4), for newly-built locomotives and marine diesel engines that reflect the application of high-efficiency aftertreatment technology.





# Ocean-Going Vessels



- Regulatory Program
  - International actions at International Maritime Organization
    - Engine standards
    - Fuel standards
  - Domestic actions pursuant to Clean Air Act
    - Category 3 Engine standards
- Additional Actions
  - Port authority lease agreements
  - Eco-speed programs (e.g., Port of Long Beach)
  - “Cold ironing” or shore-side electric power (e.g., AMP)
  - Freight owners interest in sustainable environmental footprint
  - Technologies and cleaner fuel demonstrations



# US EPA Update: OGV

- **C3 Marine Advanced Notice of Proposed Rulemaking**
  - Comments due March 6, 2008
  - Significant contributors to our national mobile-source emission inventory
  - The standards under consideration consist of two tiers of NOx emission standards and performance-based SOx and PM standards, could begin as early as 2011
- **C3 Marine Final Rulemaking**
  - New deadline has been established for a final rule: December 2009



# Annex VI Update



- MARPOL Annex VI entered into force as of May 19, 2005.
- Senate gave advice and consent on April 6, 2006.
- House passed H.R. 802, an Act “To amend the Act to Prevent Pollution from Ships to implement MARPOL Annex VI” on March 26, 2007.
- H.R. 802 is presently before to the Senate Commerce, Science, and Transportation Committee for consideration.



# EPA Sustainable Ports Strategy

- At the 2007 EPA Regional Leadership Forum, EPA Regional Administrators and Assistant Administrators ratified Ports Vision Statement

*“EPA will partner with port authorities, their business partners, their communities and other stakeholders to become world leaders in sustainability. Ports will be environmentally and socially responsible, economically viable, safe and secure.”*



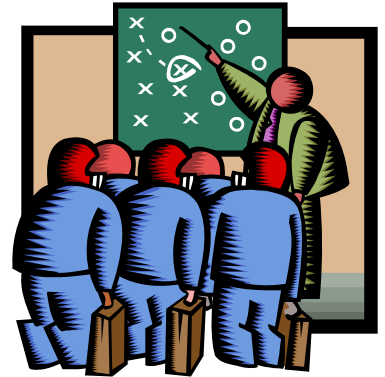
# Mission

*“Collaborate with marine port authorities, their business partners and port communities to promote sustainability and to minimize the negative effects of inter-modal marine and land-side goods movement on human health and the environment.”*



# Multi-media Ports Strategy

- The Strategy has **six** themes
  - *Clean Air and Affordable Energy*
  - *Clean and Safe Water*
  - *Healthy Communities and Eco-systems*
  - *The Global Environment*
  - *Ports Communications*
  - *Enforcement*
- Each theme has a menu of emission reduction actions that Regions will choose according to local priorities
- Actions mirror local activities across multiple media





# Strategy Implementation

- Regional staff meeting with Ports, State and Local Government, Shippers, Carriers
- Identifying areas of interest
- Setting emission reduction goals
- Funding for Air Quality programs
  - National Clean Diesel Funding Assistance Program
    - \$49.2 million in FY08
      - President's request for \$49.2 million in FY09 includes \$15 million for port diesel emissions reductions
    - Congestion Mitigation and Air Quality (CMAQ)
    - State and Local Grants

# National Clean Diesel Program

\$49.2 Million for 2008

## National

\$34.4 Million (70%)



National Clean Diesel  
Funding Assistance Program \$27.6 M

Clean Diesel Emerging Technologies Program \$3.4 M

National Clean Diesel Finance Program \$3.4 M

## State

\$14.8 Million (30%)



State Clean Diesel Grant Program \$14.8 M

State Base

Matching Bonus



# CMAAQ



- US Dept. of Transportation funding for projects and programs in air quality nonattainment & maintenance areas
  - Implemented through Metropolitan Planning Organizations
  - Gives priority for cost-effective retrofits (e.g., construction)
  - Advanced truck stop electrification systems
  - Transportation systems management/operations to mitigate congestion or improve air quality
  - Diesel retrofits for nonroad vehicles and engines
  - Outreach assistance on diesel retrofit purchase and installation
  - Alternative Fuels





# Opportunities Available Now

- **EPA's programs are in place to help communities clean up diesel engines**
  - Through these programs EPA is working with its partners to develop and implement strategies
- **Now is the time to target the existing fleet**
  - Cost effective strategies exist today
  - Cleaner fuels are deployed throughout the country
  - Broad stakeholder support
  - States and tribes putting plans in place to achieve PM and Ozone attainment goals or regional haze
  - Funding opportunities exist at state and federal level



# Additional Information

- More information about EPA's Clean Ports USA can be found on our website:
  - [www.epa.gov/cleandiesel/ports](http://www.epa.gov/cleandiesel/ports)
- Contacts:
  - Trish Koman at 734-214-4955 [koman.trish@epa.gov](mailto:koman.trish@epa.gov)
  - Reema Loutan at 212- 637-3760 [loutan.reema@epa.gov](mailto:loutan.reema@epa.gov)

