



National Clean Diesel Campaign



WEST COAST COLLABORATIVE
Public-private partnership to reduce diesel emissions



National Clean Diesel Campaign

CLEANPORTSUSA
SVC

Gay MacGregor
U.S. Environmental Protection Agency

Office of Transportation and Air Quality



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- Reducing emissions from diesel engines is one of the most important air quality challenges facing the country
- Even with more stringent standards set to take effect in the next decade, over the next 20 years millions of in-use engines will continue to emit large amounts of pollution





NCDC: Two Components

Dual Role for Federal Government:

Regulator

- Regulations for new engines

• Convener

- Technology Exists to address diesel emissions
 - Retrofit, Replacement, Idling reduction, smart operations, etc.
- Authority varies for in-use engines
- Leadership - a national dialogue that results in voluntary action
 - Identify incentives/barriers and funding opportunities

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Regulatory Strategy for NEW diesels

Diesel engines in all mobile source applications--

- *Regulations adopted; now focused on implementation:*



Heavy-duty trucks & buses



Nonroad machines



Light-duty vehicles

- *Rulemakings underway for:*



Locomotives



Marine vessels



Ocean-going ships

- **Current Regulations**
 - Very large public health and environmental benefits will result:
 - By 2030, PM reduced by ~250,000 tons/year, NOx by ~4 million tons/year
 - Annual benefits expected to exceed \$150 billion versus costs of approximately \$7 billion
- **15 ppm sulfur cap gets immediate PM and SOx reductions from existing fleet of diesels**
 - Highway (mid 2006)
 - Nonroad (500 ppm in 2007, 15 ppm in 2010)
 - Locomotive and marine (500 ppm in 2007, 15 ppm in 2012)

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Locomotive & Marine Diesels Rulemaking

- Published Advance Notice in May 2004
- Targeting high-efficiency aftertreatment
 - Patterned after highway and nonroad programs
 - L&M fuel will be at 500 ppm in 2007, 15 ppm in 2012
 - Large pool of 15 ppm fuel (highway/nonroad) earlier
- Considering new standards as early as 2011
- PM-filter based standard is high environmental priority
- Possibly phase in NOx aftertreatment similar to highway/nonroad approach
- Looking to address existing locomotives too (at remanufacture)

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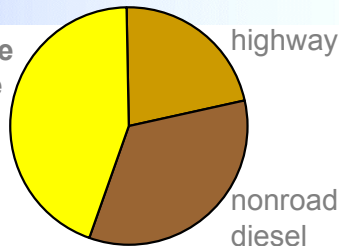


Diesel PM_{2.5}

Mobile Source Inventories in 2030

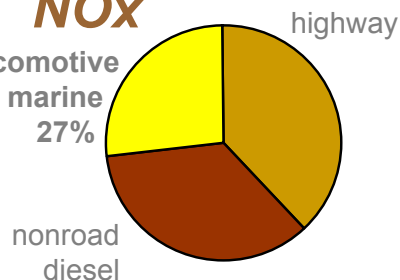
- Potential reductions on the order of:
 - ~25,000 tons/yr of PM
 - ~900,000 tons/yr of NOx
- Compares to nonroad rule reductions of:
 - ~129,000 tons/yr of PM
 - 738,000 tons/yr of NOx

locomotive & marine
45%



NOx

Locomotive & marine
27%



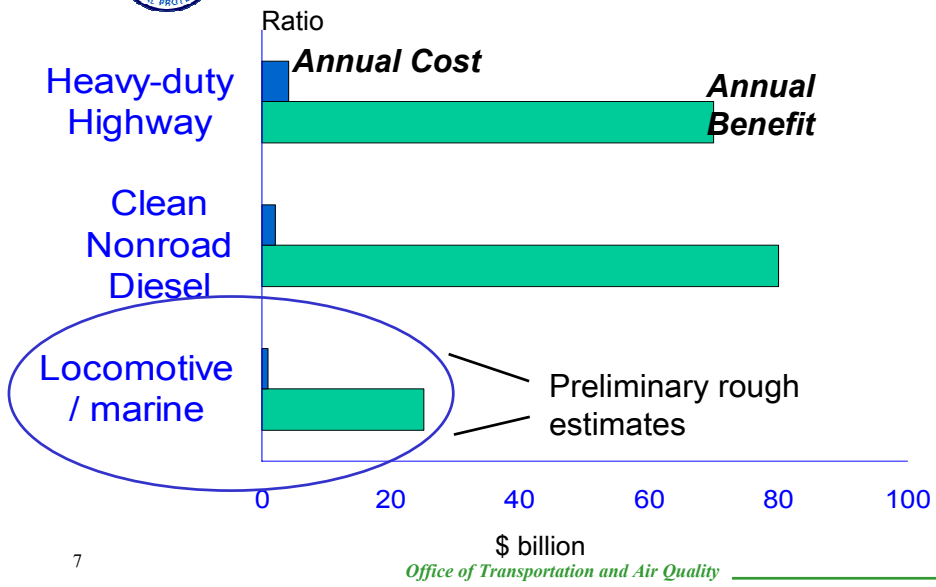
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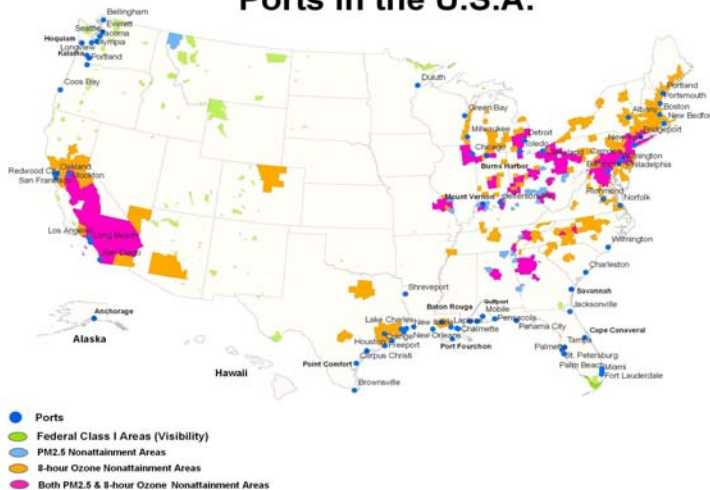
Potential Health Benefits

Are a Sizeable Fraction of Recent
Historic Programs, with a Comparably Large Benefit-Cost



Ports located in Nonattainment Areas

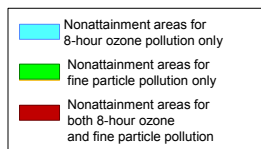
Ports in the U.S.A.



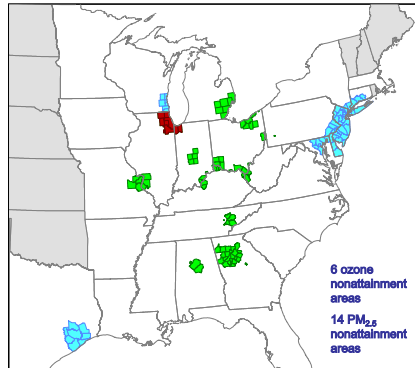


Future Nonattainment for Ports

Even after regulations take effect and new engines are phased in, coastal areas will still struggle to meet the Ozone and PM Standards – Projections in 2015



Projected Nonattainment Areas* in 2015 after Reductions from Existing Clean Air Act Programs



*Although tallies include all nonattainment areas in the eastern U.S., maps show only limited States. Nonattainment areas in Los Angeles would also be projected. Four current O₃ nonattainment areas in New England are not pictured.



Voluntary Approaches to the “Legacy” Diesel Engines

Objective: By 2014 reduce emissions from the over 11 million engines in use

Sectors:

- Marine Ports
- Construction
- School buses
- Freight
- Agriculture

Where are the opportunities? How do we provide incentives for voluntary action?





Cost-Effective Reduction Strategies Exist Today

•Technology Strategies

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

•Operational Strategies

- Idle Reduction
- Improved Port Efficiency
- Use of On-shore Power
- Considering Air Quality Impacts of Security Changes
- 11 -Contract or Lease Specs for terminals and construction



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Terminal and Port Operational Strategies



Chassis Pools



Terminal Appointments



Alternative Terminal Design



Intermodal Operations



Truck Technologies



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Federal Advisory Work Group - Clean Ports USA



- **Work Group – April 2004**
- **Draft Report Recommends**
 - Grants, Loans, Rebates
 - Tax incentives
 - Contract/Lease Requirements
 - Recognition/Awards
 - Regulatory Credits – SIP, Conformity – Guidance due soon
 - Streamline Technology Verification – Underway
 - Better Inventories - Underway
- **Clean Ports USA - Voluntary program to encourage reductions in diesel emissions at ports**

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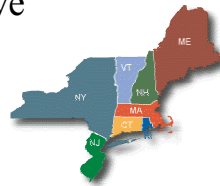
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EPA Regional Initiatives

- Many localized, regional approaches have been established:
 - West Coast Diesel Collaborative
 - Northeast Diesel Collaborative
 - Mid-West Clean Diesel Initiative
 - Mid-Atlantic Diesel Collaborative
 - Blue Skies Collaborative



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EPA's role

Headquarters Role

- Facilitate National/International Dialogue – raise issues to public agenda
- Provide high-quality, verifiable data on emissions reduction options, program results and tools for evaluating options
- Facilitate information exchange and program evaluation
- Seed funding through loans and grants
- Work with national partners and key Regional collaboratives: West Coast, Northeast and Midwest

Regional Role

- Develop long-term relationships with key port authority environmental managers
- Manage specific projects and grants
- Work with state and local agencies to promote diesel emission reductions

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Future Federal Funding: Overview

– **FY06 budget**

- \$5 Million for National Clean Diesel Campaign
 - RFP for West Coast closes 3-23-06
- \$7 Million for Clean School Bus USA



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– **Transportation SAFETEA- LU**

- CMAQ \$ for nonroad retrofit (over \$8 billion available)
 - Makes the construction equipment retrofits eligible for trust fund
 - Funding available now from MPOs

– **Energy Policy Act 2005**

- Diesel Emission Reduction Act (DERA) \$1 Billion over 5 years
 - Authorization, still needs appropriation
 - Provisions for state programs

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For more information....



National Clean Diesel Campaign

www.epa.gov/cleandiesel

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Energy Policy Act Provisions

• **Diesel Emission Reduction Act (DERA)**

- \$1 Billion over 5 years
- Expect to fund 150-200 projects
- 70% of the funds EPA Grants and Loans
- 20% of the funds to establish State grant/loan programs
- An optional 10% of the funds can be used to increase state allocations for states that match federal funds

• **Fleet Modernization**

- \$100 M over 3 years (focus on ports)

• **Idle Reduction**

- \$140M over 3 years for idle reduction



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Energy Policy Act (cont'd)

Amendments to the Biomass Research and Development Act of 2000

- Authorizes \$200 million for 10 years (FY 2006-2015) to develop technologies and processes necessary for abundant commercial production of biobased fuels at prices competitive with fossil fuels and a diversity of sustainable domestic sources of biomass for conversion to biobased fuels and biobased products.
- **Advanced Biofuel Technologies Program**
 - Authorizes EPA to spend \$110 million/year for 5 years (2005 to 2009) on biofuels technology development.
 - Priority shall be given to projects that enhance geographic diversity of alternative fuels and utilize feedstocks that represent 10% or less of ethanol or biodiesel fuel production in the US during the previous fiscal year.

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Opportunities Available Now

- **EPA's programs are in place to help communities clean up diesel engines**
 - Through these programs the Agency has gained expertise and is working with states and locals to develop and implement program strategies

- **Now is the time to target the existing fleet**
 - Cost effective strategies exist today
 - Cleaner fuels are being 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