



California's Efforts to Address Air Quality Impacts Related to Goods Movement Activities

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Faster Freight Cleaner Air Conference
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California Environmental Protection Agency



Air Resources Board

California Air Resources Board

- ◆ Attain & Maintain Healthy Air Quality
 - Direct authority to address
 - Mobile source emissions
 - Fuel specifications
 - Consumer products
 - Airborne toxics
 - Global climate change
 - Work with local air districts in controlling stationary sources



Need for Action



Public Health Is Imperative

- ◆ Will prevent attainment if not addressed
- ◆ Localized exposure and risk a significant concern

Future Trends

- ◆ Dramatic increase in trade
- ◆ More emissions from entire goods movement system
- ◆ Concentrated near population centers
- ◆ Some sources still poorly controlled



California's Framework for Air Quality Improvement

- ◆ Diesel Risk Reduction Plan
 - Adopted in 2000
 - 75% reduction in diesel PM by 2010
 - 85% reduction in diesel PM by 2020
- ◆ State Implementation Plan
 - Blueprint for meeting federal air quality standards for ozone and PM
- ◆ Governor's Environmental Action Plan
 - Calls for 50% reduction in air pollutant emissions by 2010

Reducing Air Quality Impacts due to Goods Movement Will Require:

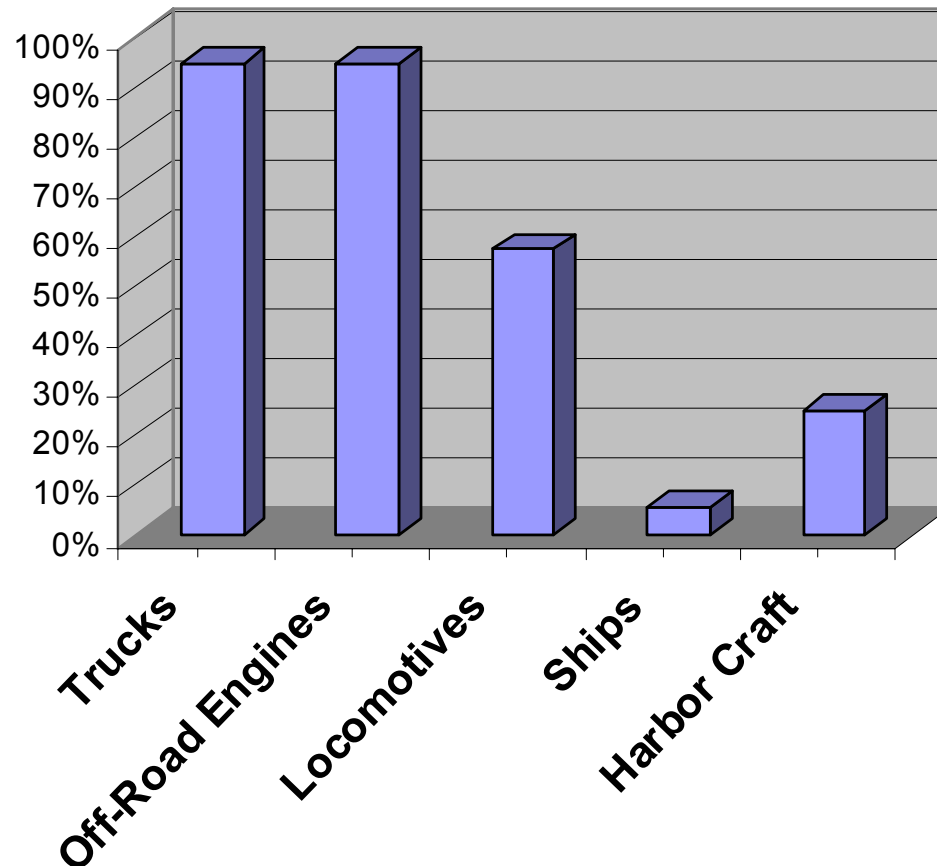
- ◆ Effective new engine standards
- ◆ Clean fuels for all sectors
- ◆ Program to modernize in-use fleets
- ◆ Improving efficiencies

Need the Best Possible New Engine Standards

- ◆ **Engines Used by Trucks and other Goods Handling Equipment**
 - U.S. EPA and ARB adopted effective new engine standards to reduce emissions from on- and off-road engines by 95% as compared to uncontrolled emissions
- ◆ **Locomotive Engines**
 - Standards adopted by U.S. EPA provide modest reductions
 - Much more effective national standards are needed and are feasible
- ◆ **Ship Engines**
 - Standards recently adopted at both national and international level but levels far exceed land-based engines
 - Much more effective standards technically possible and critically needed

Percent Reduction of NOx Emissions as Compared to Uncontrolled Emissions

(Based on Adopted New Engine Standards)



Cleaner Fuels Also Needed

- ◆ Reduce criteria and toxic emissions
- ◆ Enable advanced control technologies
- ◆ Beginning in 2007 all on- and off-road equipment required to use 15 ppm sulfur diesel fuel in California
- ◆ Alternative fuels such as CNG, electricity, and LPG also needed

In-Use Fleets Need To Be Cleaned Up

- ◆ Long engine life of diesel engines requires steps to be taken to reduce emissions from in-use engines
- ◆ Options for reducing emissions from in-use engines
 - retrofit
 - repower
 - replace
 - restrict operation

Measures for On-Road Trucks

- ◆ Clean Up New Trucks
 - Truck idling restrictions
 - In-use testing
- ◆ Existing On-Road Vehicles
 - Diesel in-use fleet rules
 - TRU regulations (adopted 2004)
 - Truck idling restrictions (adopted 2004)
 - Extend idling restrictions to trucks equipped with sleeper cabs (2006)
- ◆ Increased Truck & Bus Inspections in Highly Impacted Communities
- ◆ Cleaner Fuels



Measures for Cargo Handling Equipment

- ◆ Cargo handling equipment rule for ports and rail intermodal facilities (2005)
 - statewide rule
 - address equipment used to load and unload containers, dry bulk, etc.



Measures for Locomotives

- ◆ **Federal New Engine Standards**
 - EPA's rulemaking underway, ARB commented Aug 04
- ◆ **Cleaner Fuels**
 - Proposed rule for captive locomotives requiring use of California on-road diesel fuel
- ◆ **In-Use Strategies**
 - Reduced idling
 - Accelerate turn-over of older engines
 - Memorandum of Understanding



Measures for Harbor Craft

- ◆ **Federal New Engine Standards**
 - ARB seeking aftertreatment based standards in pending federal rulemaking
- ◆ **Cleaner Fuels**
 - Proposed ARB rule requiring use of California on-road diesel fuel in captive harbor craft
- ◆ **In-Use Strategies**
 - Proposed ARB regulation requiring clean-up of in-use harbor craft (4th Quarter 2005)
 - Continued Carl Moyer funding of vessel repowers



Measures for Ocean-Going Ships

◆ Internat'l & Federal New Engine Standards

- States, USEPA pushing IMO for more stringent standards
- USEPA committed to more stringent standards for US flagged ships in 2007, should consider unilateral controls for all ships if IMO will not act

◆ Cleaner Fuels

- ARB rule for cleaner fuels in auxiliary engines (4th Q 2005)
 - Will require additional reduction for frequent visitors
- Sulfur Emission Control Area designation
 - Best if done at national level

◆ In-Use Strategies

- Cold-ironing feasibility study
- Ship water emulsion demonstration



Additional Efforts Regarding Ports and Rail Yards

- ◆ Inventory Development
- ◆ Health Risk Assessments for Nearby Communities
 - Roseville Railyard
- ◆ Voluntary Programs
 - Carl Moyer
- ◆ Port and Railyard Statewide Comprehensive Strategy (2005)

