



California's Emission Reduction Plan for Ports and International Goods Movement

January 30, 2006

Faster Freight – Cleaner Air 2006 Long Beach Convention Center



Air Resources Board

California Environmental Protection Agency

Goods Movement Emission Reduction Goals

- Meet federal air quality standards
- Reduce community exposure to toxic air contaminants
- Mitigate anticipated growth in trade and associated emissions
- Identify funding needs

Draft Plan Features

- Public health assessments
 - Statewide impacts
 - Community impacts
- Emission reduction strategies
 - >20% diesel PM reduction by 2010 (from 2001)
 - 2/3 diesel PM risk reduction by 2020
 - Meets South Coast ozone & PM2.5 reduction targets



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What the Draft Plan Covers

- **All port emission sources, including cruise ships and fishing vessels**
- **All ship emissions to 24 miles offshore**
- **Cargo handling equipment**
- **Rail and truck travel associated with imports and exports**

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Health Findings

- 750 premature deaths/year today
- 920 premature deaths/year by 2020 without new controls
- Asthma attacks, lost work days, and other health effects also quantified

The Plan would reduce health impacts 60% or more by 2020

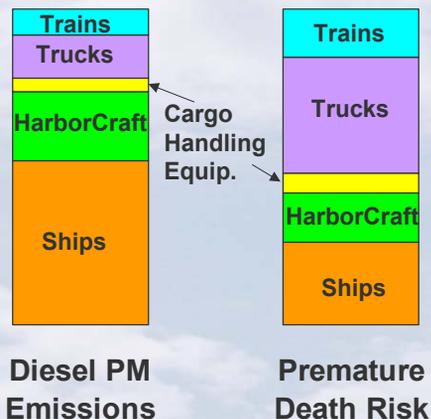
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Basic Approach

- Cleaner engines
- Cleaner fuels
- Fleet modernization (retrofit or replace)
- Speed reduction and idling limits
- Shore-based power
- Potential mechanisms include rules, fees/incentives, market concepts, enforceable agreements

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Emissions vs. Health Impacts (current)



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Ships

Key: Equip ships with pollution controls, use cleaner fuels and use shore-based power

| Number of Clean Ship Visits: | <u>2010</u> | <u>2015</u> | <u>2020</u> |
|-------------------------------|-------------|-------------|-------------|
| >30% NOx + 30% PM control | 20% | 50% | 40% |
| 90% NOx + 60% PM control | --- | 25% | 50% |
| Ships using shore-based power | 20% | 60% | 80% |

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Commercial Harbor Craft



Key: Clean up existing vessels starting in 2010, set new engine standards and use shore based power



Particulate Filters



Catalysts

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Cargo Handling Equipment

Key: Accelerate engine turnover to meet on-road engine standards



- **New ARB rule for new/existing equipment**
- **85% PM control on all engines by 2015**
- **Zero or near-zero emission equipment by 2020**

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Trucks

Key: Replace port trucks with 2003 or newer trucks by 2010 and retrofit pre-2007 trucks with diesel particulate filters



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Locomotives

Key: Concentrate Tier 3 Locomotives in California and upgrade switcher engines

Clean Locomotives in California:

- 30% by 2015

- 90% by 2020



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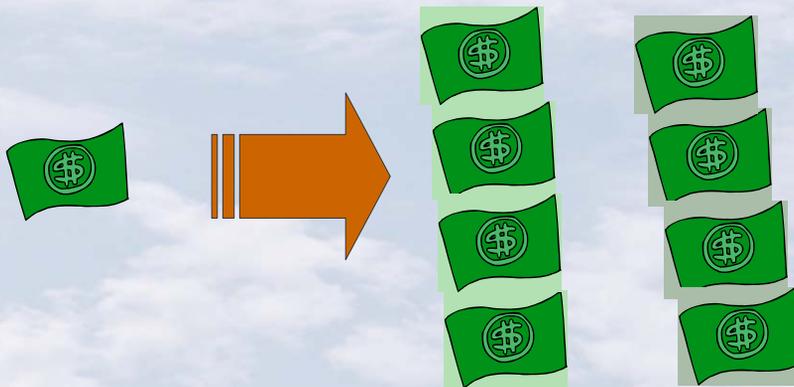
Other Strategies

- Operational efficiency
- Land use decisions
- Project and community specific mitigation
- Port programs

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Draft Plan

**Each \$1 spent on controls
saves \$4-\$8 in health costs**



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Draft Plan Review

- Peer review (health assessment, inventory methodology) completed
- Public comments due February 15
- Workshops in February

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Next Steps

- Review public and industry comments
- Revised draft late March
- Board consideration April 20-21
- Develop State Implementation Plan elements by mid-2007 / early 2008

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Emission Reduction Plan Contacts

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<http://www.arb.ca.gov/planning/gmerp/gmerp.htm>