

# The Haagen-Smit Symposium

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**Policy Levers for Reducing Emissions  
from Goods Transport: State Policy  
Options**

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# About STAPPA/ALAPCO

- Two national associations of air pollution control agencies in 53 states and territories and over 165 major metropolitan areas
- Encourage and facilitate air pollution control efforts that will result in clean, healthful air across the country
- Enhance communication and cooperation among federal, state and local regulatory agencies

# Our Nation Faces a Pervasive Air Quality Problem

- All or part of 474 counties violate the federal 8-hour ozone standard – 159 million people affected
- All or part of over 185 counties violate the federal PM<sub>2.5</sub> standard – over 90 million people affected
- Nearly every person in the country exposed to toxic air pollution exceeding federally acceptable levels; millions exposed to cancer risks greater than 1 in 10,000
- Emissions from sources involved in goods transport play a significant and growing role

# PM<sub>2.5</sub> from Diesel Engines in 2030



highway



locomotives

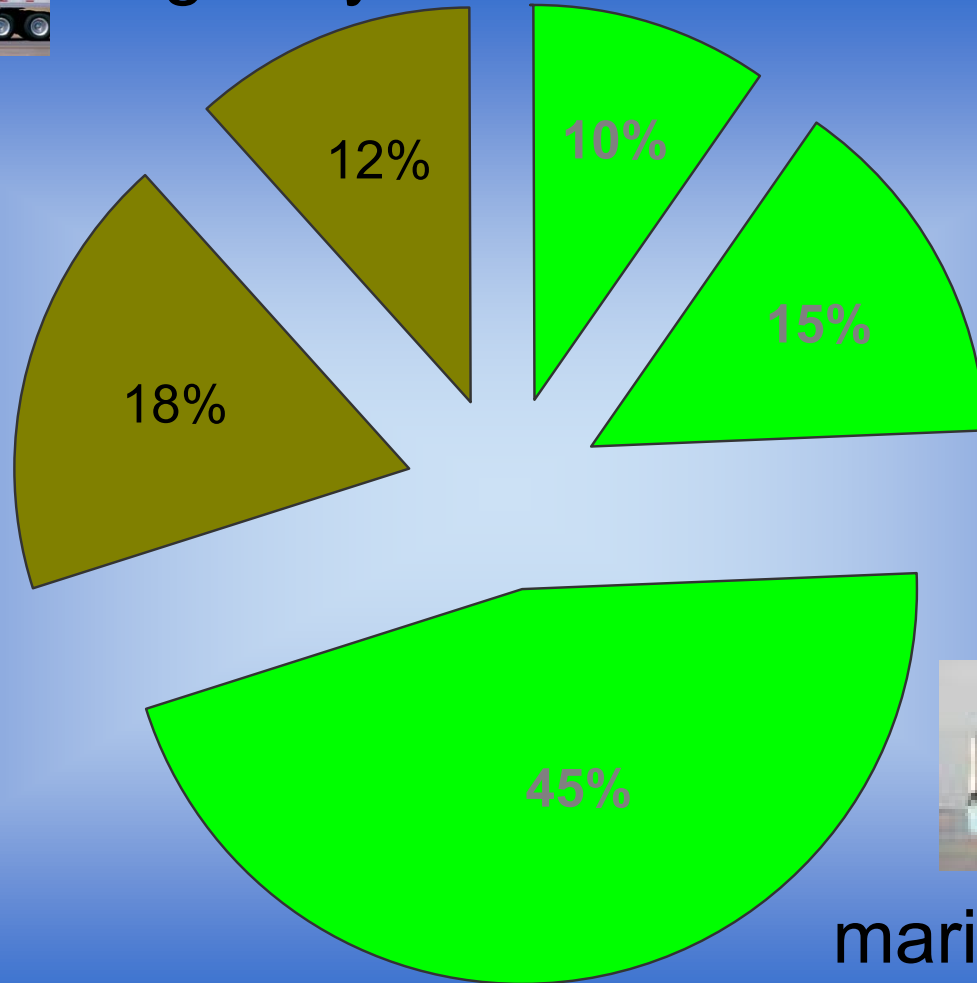
off-highway  
equipment



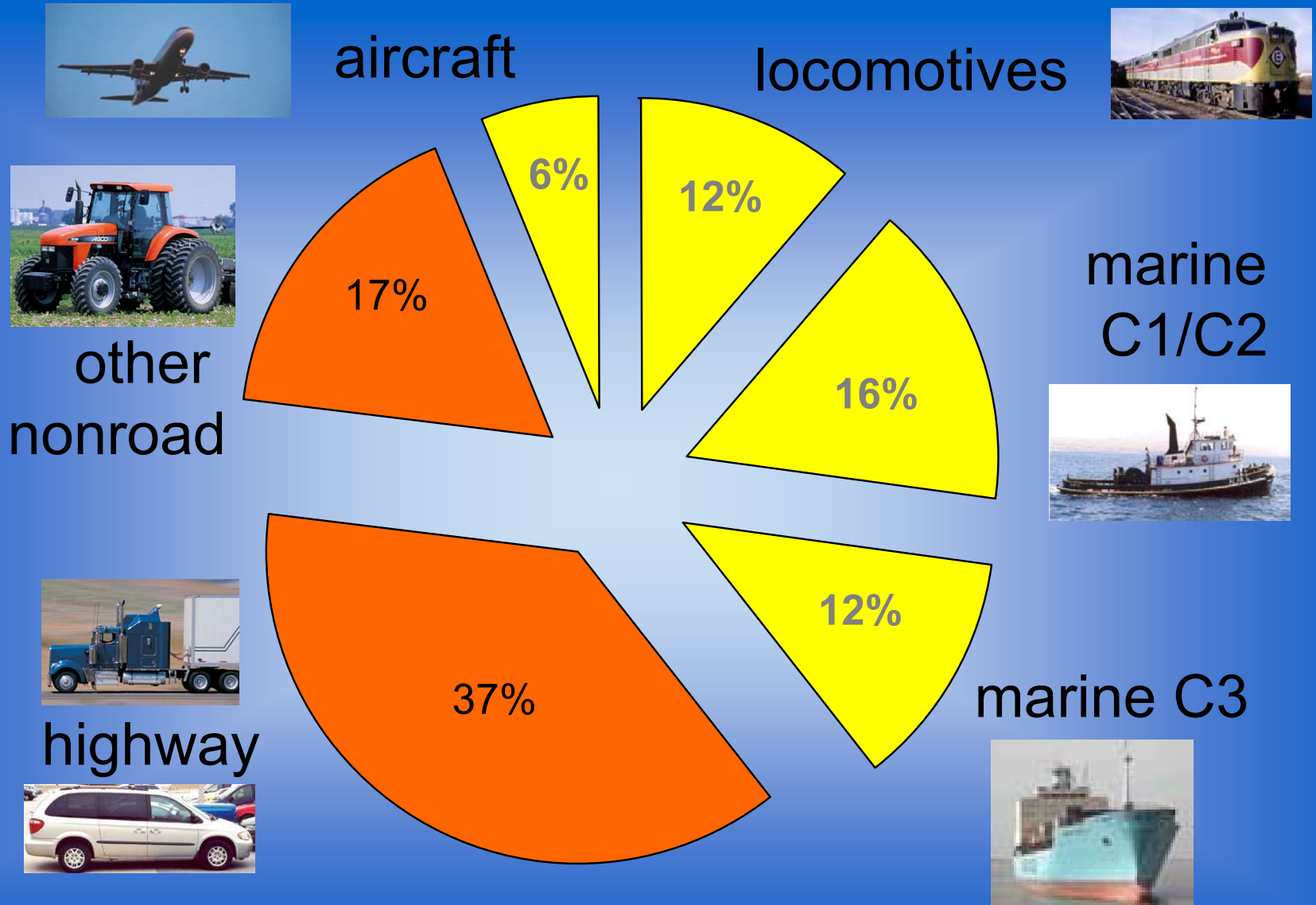
marine  
C1/C2



marine C3



# Mobile Source NO<sub>x</sub> in 2030



# Why State and Local Air Agencies Are So Concerned By Diesel Emissions

- Cause premature mortality
- Aggravate respiratory and cardiovascular disease and asthma; decrease lung function
- Contain over 40 chemicals listed by EPA & CA as toxic air contaminants, known and probable human carcinogens, reproductive toxicants and endocrine disruptors
  - STAPPA and ALAPCO estimated diesel particulate may be responsible for 125,000 cancers nationwide over a lifetime
- Contribute to elevated ozone and fine particulate levels, regional haze, acid rain and global warming

# Regulators' Challenges

- EPA must establish federal control programs for various air pollution sources, including those used for goods transport
- State and local air agencies responsible for developing and implementing “State Implementation Plans” detailing how they will reduce emissions and meet federal air quality standards by specified deadlines
- Also responsible for implementing emission control programs as necessary to augment federal programs
- Achieving clean, healthful air is a “zero-sum” calculation

# State/Local Policy Options for Reducing Emissions from Goods Transport

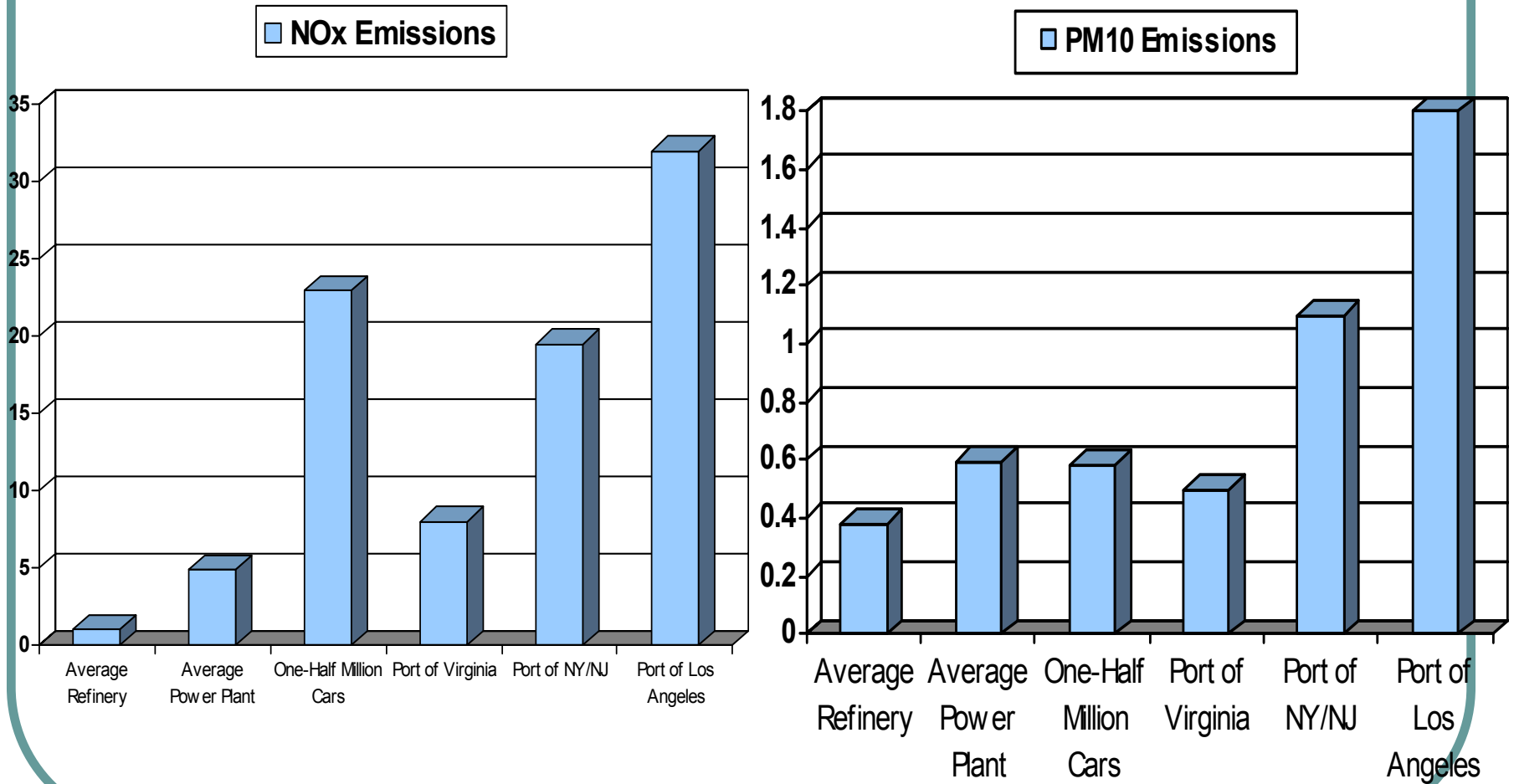
- Ports/Marine Vessels
- Locomotives
- Aviation
- Trucks
- Collaborative Efforts
- Comprehensive and Rigorous Federal Action

# State/Local Policy Options: Ports/Marine Vessels





# NO<sub>x</sub> and PM<sub>10</sub> Pollution from Ports Compared to Other Sources (in Tons Per Day)



# State/Local Policy Options: Ports/Marine Vessels

- Shore powering
- Reduced emissions from existing marine vessels and from port yard equipment:
  - Replace
  - Repower
  - Retrofit
  - Alternative/cleaner fuels
- Truck idling and queuing restrictions and improved port operations
- Reduced ship speed
- Cleaner fuel requirements for vessels in coastal waters and at berth
- Port lease specifications

# Case Study: Port of Los Angeles

- “Alternative Maritime Power” – First 2 ships at dock plugged in June 2004
- Container terminal operators will install nearly 600 DOCs in marine terminal equipment – 50% cut in emissions
- Use of emulsified fuels will optimize emission reductions
- 57 ship-loading cranes run on electric power
- On-dock and near-dock rail facilities cut 1.4 million short-distance truck trips per year
- 35% of port fleet converted to electric or alternative fuel vehicles
- Voluntary vessel speed reduction program
- “No Net Increase” Policy

# Case Study: Port of Long Beach

- Diesel Emission Reduction Program funds installation of emission controls
  - \$1 million from CARB
  - \$1 million from Port
  - \$75,000 EPA grant
- Allows port tenants to select emission reduction strategies

# Case Study: Port of Savannah

- System-wide improvements
  - Automated gate system
  - Extended gate hours
  - Additional and dedicated lanes (i.e., for bobtails and chassis)
  - Trucker assistance kiosks
  - WebAccess provides real-time cargo info 24/7
  - Reorganized container yard
- 5,500 gate moves per day
- 30% reduction in idling time
- Fuel savings of >3,000 gallons/day

# Case Study: APM Terminals (Port Authority of NY/NJ)

- Replace (versus retrofit) equipment
- Purchase cleaner on-road equipment for non-road application, when possible

# State/Local Policy Options: Locomotives



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- Idling restrictions/automatic engine shut-off requirements
- Replace or retrofit diesel switcher locomotives
- Emissions “hood”

# Case Study: Placer County APCD

- Locomotives in Roseville, CA emitted 25 tpy particulate in 2000
  - Moving locomotives contribute 50%
  - Idling locomotives contribute 45%
- Union Pacific has committed to cut diesel exhaust by 10% by 2008
- Placer Co. APCD proposal to Union Pacific to capture and pipe exhaust from stationary locomotives to a “scrubber”
- Anticipate two scrubber systems would reduce diesel PM health risk at entire rail yard by 40%

# State/Local Policy Options: Aviation



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- Ground support equipment:
  - Electrification
  - Conversion to CNG/LPG
  - Declining fleet emissions target
- Gate electrification
- Ground-level operation of aircraft
- Airport emission budgets or “bubbles”
- Fee-based strategies
  - Emissions-based landing fees

# Case Studies

- Texas and California
  - GSE emission reductions
- Logan Airport
  - Airport emissions cap
- Switzerland and Sweden
  - Variable landing fees for high emitters

# State/Local Policy Options: Trucks



# State/Local Policy Options: Trucks

- Replacements
- Retrofits
- Fuel options
- Opacity testing
- Idling restrictions
- Truck stop electrification

# State/Local Policy Options: Collaborative Efforts

- **Carl Moyer Program**
  - Clean diesel incentive program
- **Texas Emission Reduction Plan**
  - Voluntary financial incentive programs
- **West Coast Collaborative**
  - Public-private partnership to reduce diesel emissions

# State/Local Policy Options: Comprehensive & Rigorous Federal Action

- Protect federal on-road and non-road diesel engine and fuel rules
- Support EPA in promulgating a rigorous and timely locomotive and marine engine rule
- Urge EPA to pursue more stringent, forward-looking aircraft standards that meet the air quality needs of the U.S.
- Urge EPA to pursue a far more rigorous approach to for controlling emissions from Category 3 marine engines
- Support a national SECA
- Protect states' rights to protect their citizens from dirty air

# For Further Information, Contact Me:

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