



# Air Pollution Liability and Vessel Emissions

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- Introduction to Air Pollution
  - Entities Regulating and Their Authority
  - Why the Interest in the Maritime Sector
- What does Air Pollution Regulation Mean to You?
  - Liabilities
- MARPOL Annex VI and US Regulations

## Air Pollution Liability and Vessel Emissions



- Criteria Air Pollutants

Ozone, Oxides of Nitrogen, Oxides of Sulfur,  
Carbon Monoxide, Particulate Matter, Lead

- Green House Gasses

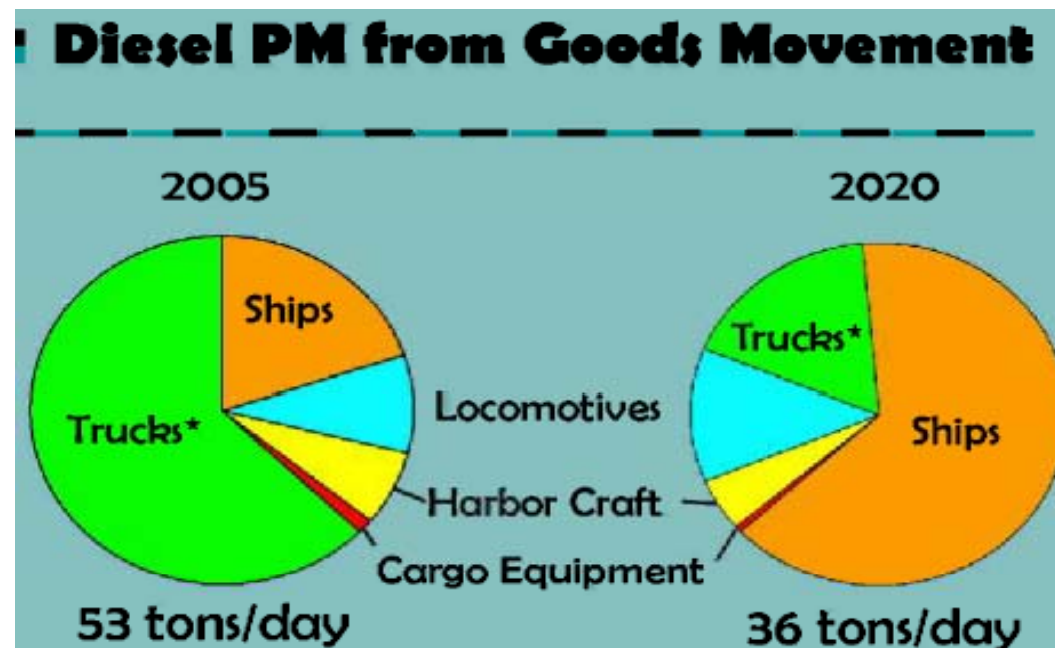
CO<sub>2</sub> Equivalence

- How Do They Interact?

# Air Pollution Liability and Vessel Emissions

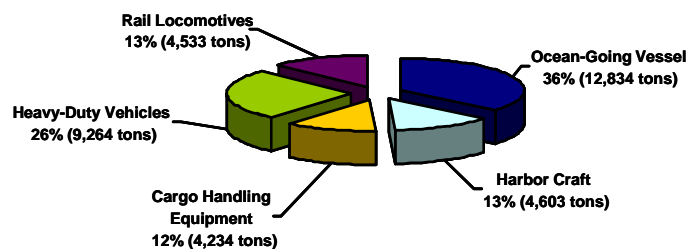
## Why All the Attention?

- Increasing Public Awareness
- Increasing Health Concerns
- Lack of Regulation in the Past
- Increasing Relative Contribution due to Growth

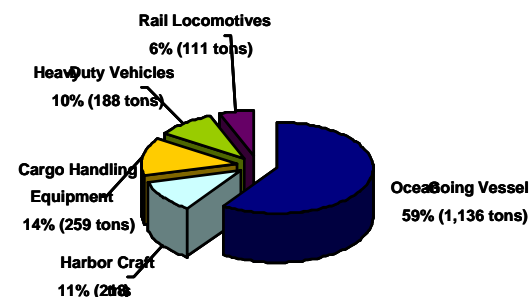


# Air Pollution Liability and Vessel Emissions

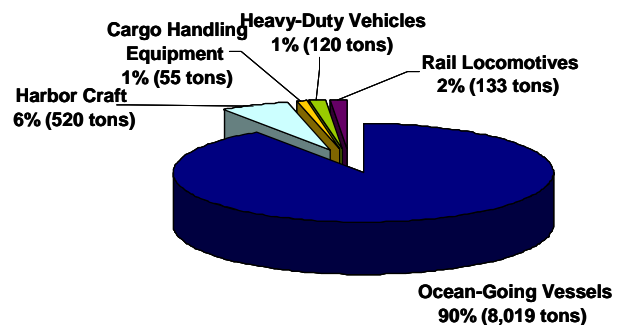
## NO<sub>x</sub>



## DPM



## SO<sub>x</sub>





# Air Pollution Liability and Vessel Emissions

## Regulation of Air Pollution

- IMO
- Air Pollution Prevention and Control  
(Clean Air Act)  
42 USC §§7401 to 7671q
- California Health & Safety Code  
§§39000 to 44474
- Local Air District Regulations



# Air Pollution Liability and Vessel Emissions

## Agencies Regulating Air Emissions

- IMO
- US EPA
- States
- Local Air Districts
- Ports





# Air Pollution Liability and Vessel Emissions Authority

- CAA §107 – States have primary responsibility for assuring AQ
- CAA §109 NAAQS
- CAA §110 Plans
- CAA §209 – Mobile Sources – EPA & CARB
- Health & Saf. Code §39002, 40000 - Districts have primary responsibility over all sources except motor vehicles; motor vehicles responsibility of state
- Health & Saf. Code §40449 City or County may adopt more stringent rules



# Air Pollution Liability and Vessel Emissions

US EPA

## Source Specific Regulations

- Marine Vessel Engines
- Locomotive Engines
- Other Onroad and Nonroad Engines

## West Coast Collaborative

- Identify Voluntary Measures
- Provide Financial Incentives



# Air Pollution Liability and Vessel Emissions

## California Regulations

### Why California?

- California Regulations Will Affect All Ship Calls at its Ports
- California is a World Leader in Air Pollution Regulation



# Air Pollution Liability and Vessel Emissions

## CARB Regulations

### Onboard Incineration

- Cruise Ships 5/1/06
- Expanded to All Oceangoing Vessels 300 Registered Gross Tons Effective 11/28/07
- No Onboard Incineration Within 3nm of Shore



# Air Pollution Liability and Vessel Emissions

## CARB Regulations (Cont.)

### Regulations for Auxiliary Engines and Diesel-Electric Engines

- Regulation in Effect for Auxiliary Engines upon OAL Approval
- Main engines in 2009
- All Ocean-Going Vessels 24 nm From Shore
- Low Sulfur fuel
- Noncompliance Fee



# Air Pollution Liability and Vessel Emissions

## CARB Regulations (Cont.)

### Cold Ironing

- Adopted 12/07
- Requires the Phased-in Use of Shore Side Power
- Amendments Currently Proposed to add Flexibility



# Air Pollution Liability and Vessel Emissions

## CARB Proposed Rules

- Vessel Speed Reduction
- AB 32 GHG Emission Reductions



# Air Pollution Liability and Vessel Emissions

## Local Air Districts

### Visible Emission Regulations

20% Opacity for 3 Minutes

### SCAQMD

- Rule 1142- Marine Tank Vessel Operations
- Backstop Measures in AQMP to Ensure Reductions in CAAP

### BAAQMD

- Indirect Source Rule Over All Ports





### Clean Air Action Plans

Port of Long Beach and Port of Los Angeles

Port of Oakland

Seattle/ Tacoma/Vancouver

- Limits Sulfur Content of Fuels Used (cap at 4.5% in fuel oil)
- Establishes SO<sub>x</sub> Emission Control Areas (SECAs) (1.5% in fuel oil)
- Establishes record keeping requirements
- Applies diesel engine NO<sub>x</sub> controls to post- January 1, 2000 engines (over 130 kW)
- Requires vapor recovery systems to control VOC emissions from tankers
- Prohibits incineration of certain materials (PVCs, PCBs, halogens, heavy metals)
- Prohibits new installations containing ODCs
- Establishes a greenhouse gas policy supporting Kyoto Protocol and reduction in 7 GHG compounds



New Provisions Expected in October

US will Apply for SECAs/ECAs

US Ratified, EPA and USCG will Enforce



## Air Pollution Liability and Vessel Emissions

### What Does This Mean for You?

Many Overlapping and Competing Regulations

Exposure for Vessels Varies Depending Upon  
Jurisdiction

Civil and Criminal Penalties will be Assessed

Fines will be Increasing



# Air Pollution Liability and Vessel Emissions

## Become Informed

Keep up to date with regulations

EPA: [www.epa.gov](http://www.epa.gov)

CARB: [www.arb.ca.gov](http://www.arb.ca.gov)

SCAQMD: [www.aqmd.gov](http://www.aqmd.gov)

BAAQMD: [www.baaqmd.gov](http://www.baaqmd.gov)

Puget Sound CAA: [www.pscleanair.org](http://www.pscleanair.org)



# Air Pollution Liability and Vessel Emissions

## Encourage Members to Participate

- Attend public agency workshops and working group meetings
- Provide specific input to public agencies regarding proposed rules
  - Include documentation of reasons for the infeasibility of the rule
  - Prepare alternative solutions

***You can impact the decision to adopt a proposed rule***