

# EPA's Ports Initiative

May 17, 2016

U.S. Environmental Protection Agency

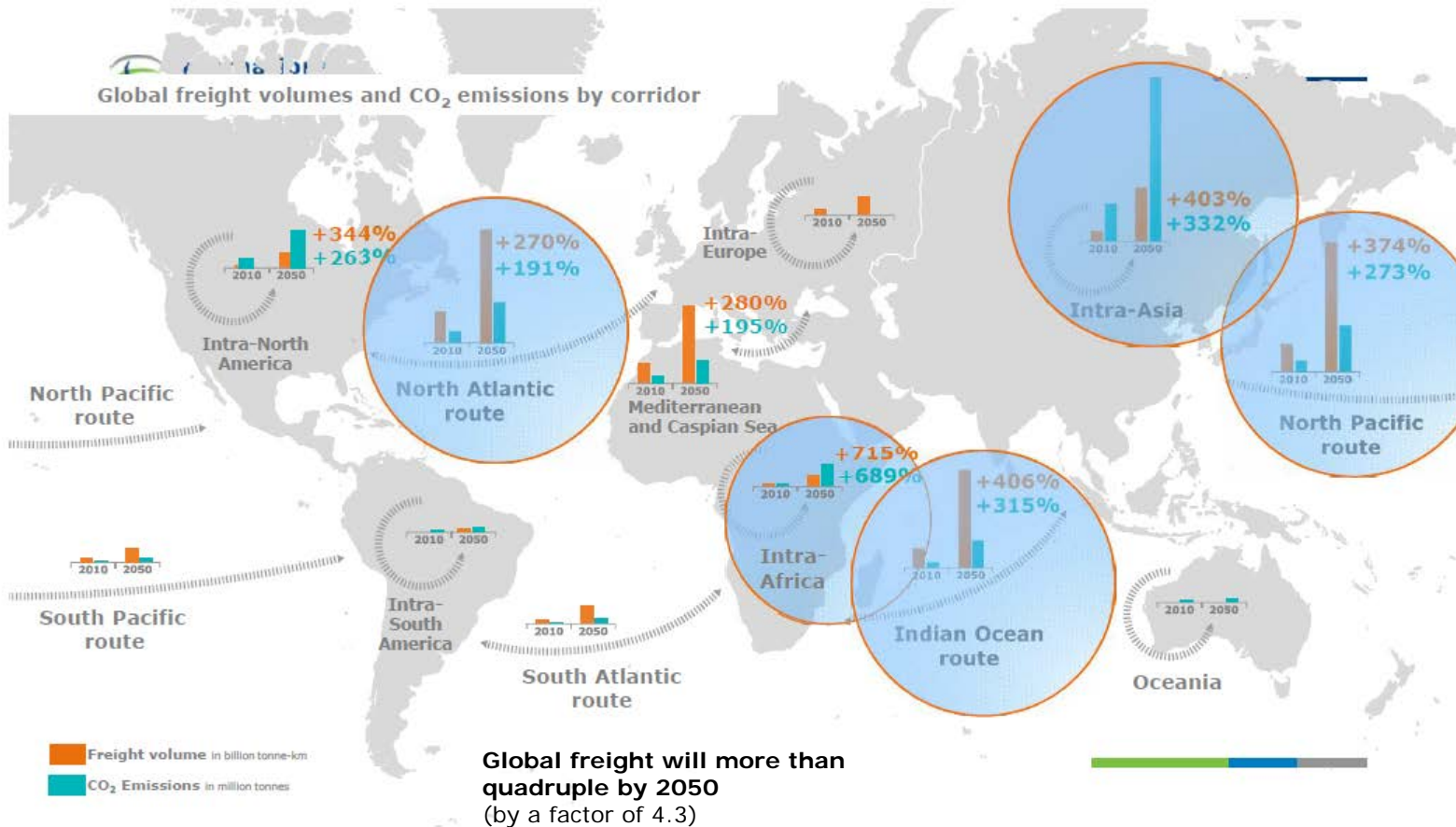




# Why Focus on Ports?

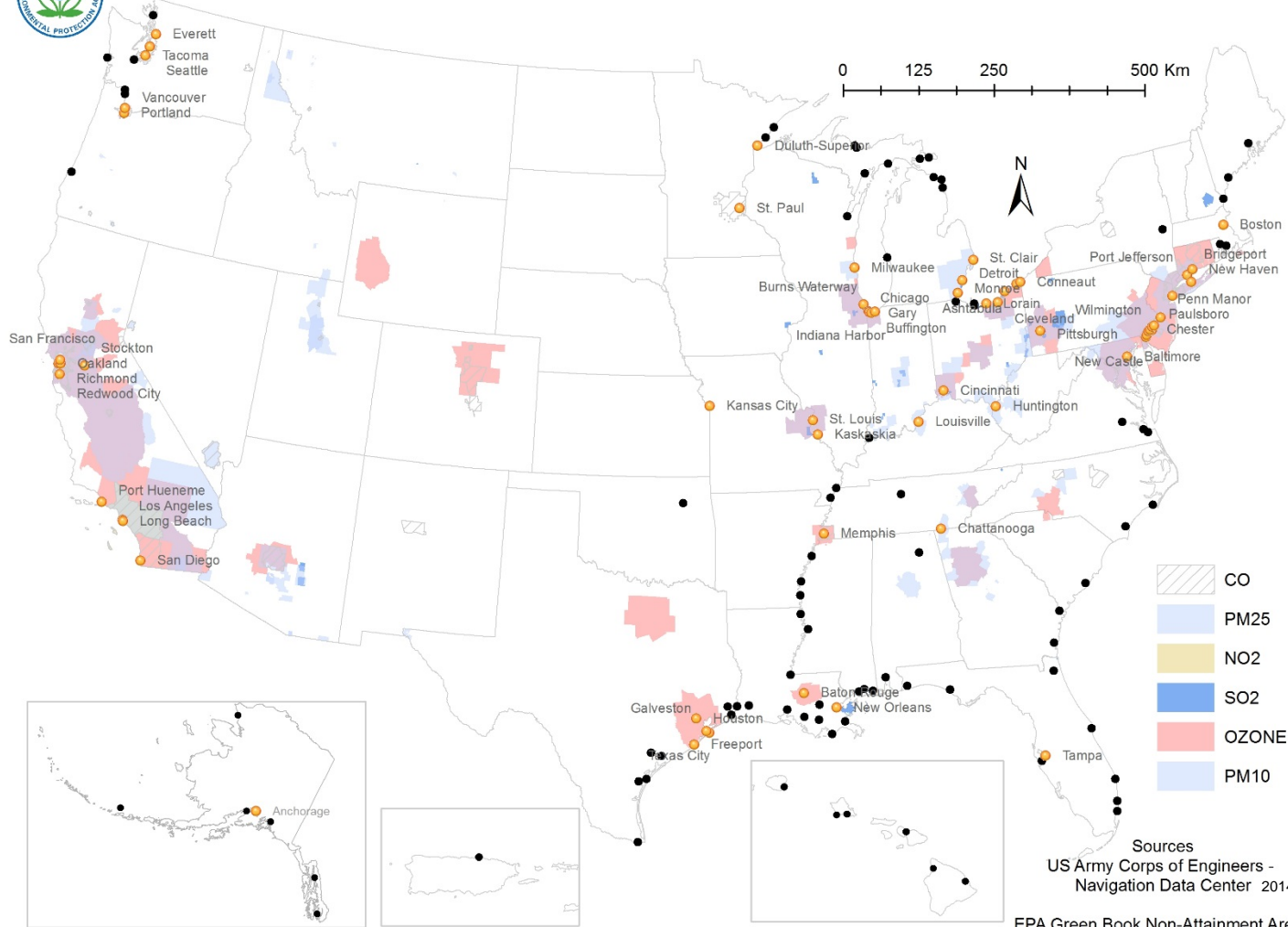
- Compelling public health need
  - Concentrated emissions
  - Urban high population density settings that are often also EJ areas
  - Located in virtually every state that borders ocean, lake or major internal seaway
- Freight Movement Emissions are increasing nationally
  - Predict increased freight and commensurate port growth
  - Even a small annual percent growth translates into significant new port activity by 2020
- Increasing community pressure/interest
  - Potential for conflict, long litigation
  - Communities want to be more involved in the planning & decision process
- Need for better quantification/inventories for decision-making
- Need for dedicated sustainable funding

Source: Jari Kauppi  
 Senior Economist, Head of Outlook and Statistics, OECD  
 Smart Freight Leadership, Leipzig, 26 May 2015





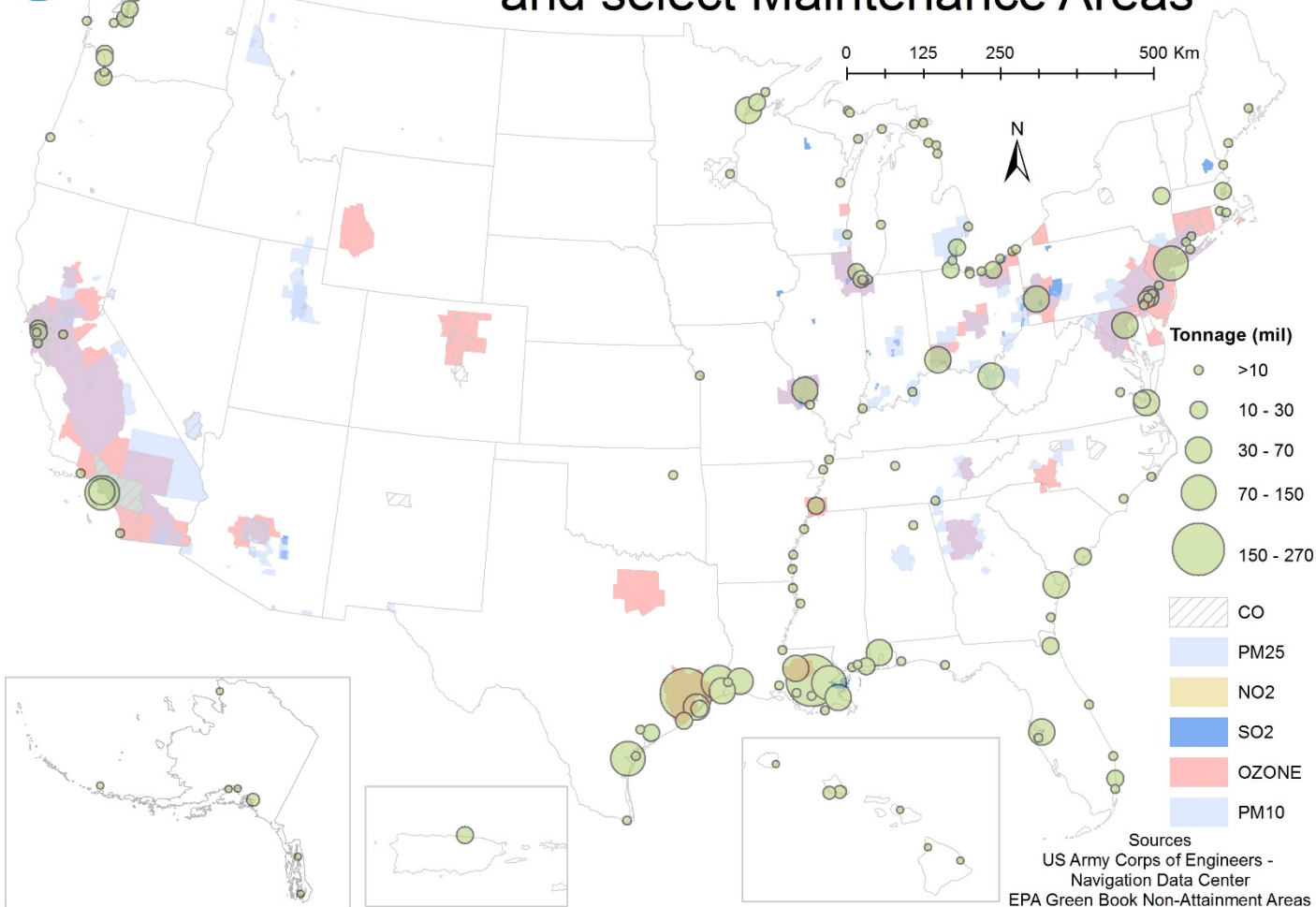
# Ports in Nonattainment / select Maintenance Areas



EPA Green Book Non-Attainment Areas

NA & Maintenance Data: USEPA/OAQPS

# Ports Tonnage in Nonattainment and select Maintenance Areas





# EPA's Ports Initiative Background

- *National Conversation With Port Stakeholders*  
Webinar Listening Sessions
  - Sept 24, 2013 - Promoting Port Stakeholder Success
  - Jan 14, 2014 - Goods Movement and Ports:  
Collaborative Solutions & Community Impacts
  - Mar 4, 2014 - Advancing Sustainable Solutions
- Port Stakeholders Summit—April 8, 2014
- Formed Ports Initiative Workgroup under Mobile Source FACA (MSTRS/CAAAC) – May 2014



# MSTRS Ports Initiative Workgroup Charge

- EPA asked MSTRS for recommendations on:
  - Development of EPA-led voluntary environmental port initiative
  - How to effectively measure AQ and GHG performance of ports
- The workgroup should consider:
  - Past MSTRS and other recommendations
  - Existing port environmental improvement programs
  - Ports in the context of the broader transportation supply chain
  - Information from EPA's Assessments as available



# MSTRS Port Workgroup Status

- Workgroup includes ports and port associations, shipping lines, environmental organizations, manufacturers, retailers, transportation providers and state government
- Workgroup is in the process of finalizing recommendations
  - Presentation to MSTRS on June 16
  - Presentation to CAAAC at Fall meeting
- We're getting a much clearer picture of stakeholder perspectives and potential recommendations
- We believe there will be many areas of consensus





# EPA Actions Already Underway

- Community-Port Capacity Building Tools
- Macro Assessment
  - Demonstrates magnitude of problem and effectiveness of mitigation measures
- Micro Assessment with Port Everglades
  - Scalable inventory guidance
- DERA
- Collaboration with Regions and other EPA offices
- Federal Coordination through Committee on Marine Transportation Systems



# Near-port Community Capacity Building

- Pilot tools/resource materials promoting port/community decision-making
  - Ports Primer for Communities
    - Characterizes port sector – overview of planning & operations, environmental & community health impacts
  - Community Action Roadmap
    - Companion for Ports Primer – Step by Step guide preparing community to engage with port and local/regional stakeholders
  - Environmental Justice Primer for Ports
- Post for Public Comment and Solicit Interest for Pilot Locations to Test Tools– June 2016
- Select/Announce/Begin Pilots - Fall 2016



# Macro Port Assessment

- Purpose:
  - **Update our understanding** of future national port-related emissions for criteria, air toxics, and climate pollutants
  - **Assess the effectiveness of** technological and operational emission reduction **strategies** across ports with different emissions profiles
  - **Inform national policy** discussion for port initiatives
- Status:
  - Draft final report under development
  - Target release in **summer 2016**



## Macro Design

- Estimate 2011 baseline emissions for PM<sub>2.5</sub>, NO<sub>x</sub>, VOC, SO<sub>2</sub>, CO<sub>2</sub>, BC, and air toxics
- Estimate business-as-usual (BAU) inventories for 2020, 2030, and 2050 (CO<sub>2</sub> only)
- Subtract emission reductions from BAU inventories under 2 scenarios:
  - Scenario A: Enhanced fleet turnover with existing technologies and operational improvements
  - Scenario B: More aggressive suite of strategies than Scenario A

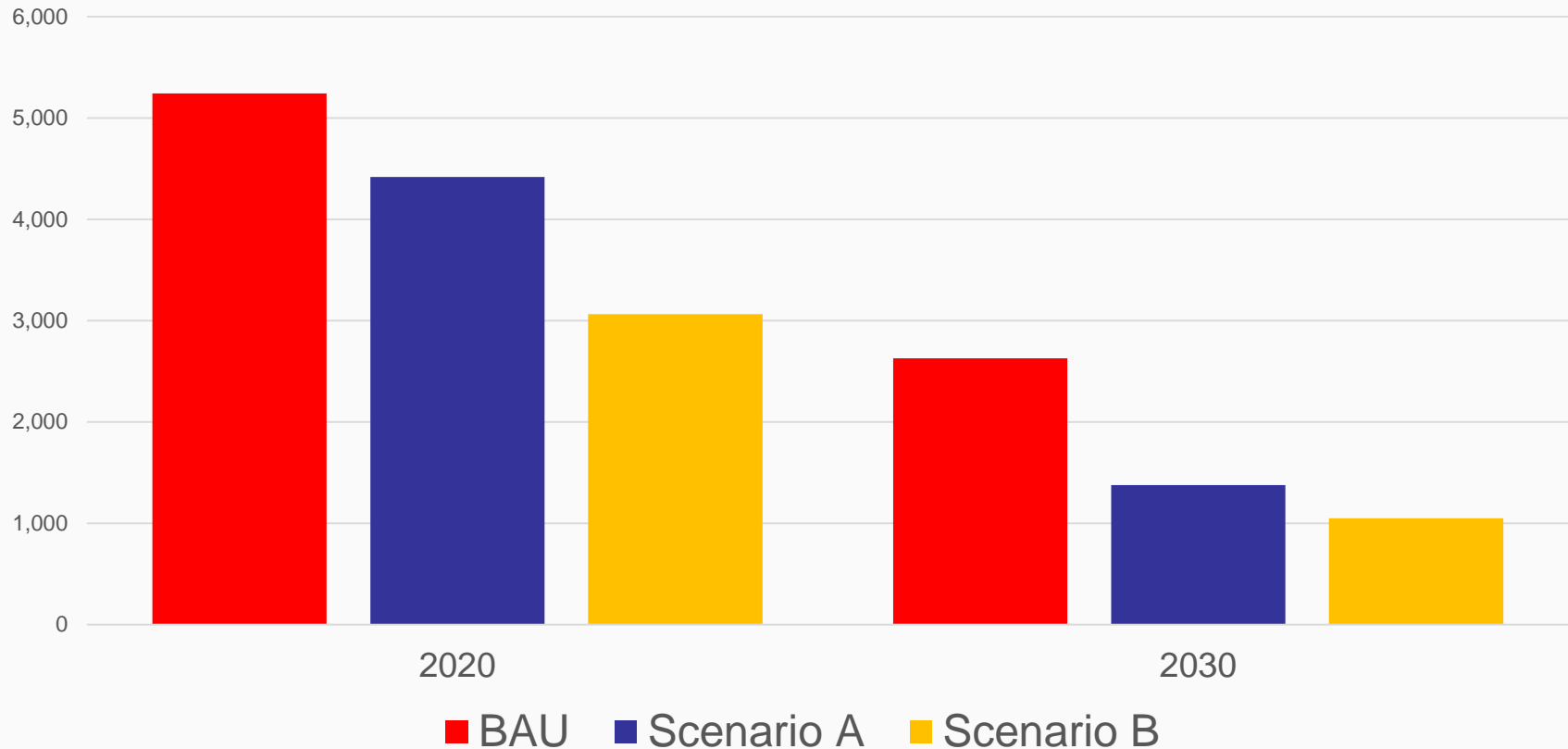


Sector	Strategy	Specific Equipment
Drayage Trucks	Enhanced Fleet Turnover	On-road Trucks
	Operational Improvements	
Rail	Enhanced Fleet Turnover	Line Haulers, Switchers
	Operational Improvements	Line Haulers
Cargo Handling Equipment	Enhanced Fleet Turnover	Yard Trucks, RTG Cranes, Container Handlers
Harbor Craft	Enhanced Fleet Turnover	Tugs, Ferries



# Drayage Strategy Results

NO<sub>x</sub> Emissions (tons/year)





Sector	Strategy	Specifics
OGV	Fuel Changes (lower sulfur levels, LNG)	Propulsion & Auxiliary Engines
	Shore Power	Frequent Callers Only (>5 calls for passenger, >6 calls for container & reefer)
	Stack Bonnets	Non-frequent Callers Only (container & tanker)
	Reduced Hotelling	Container



# Port-Specific Assessment

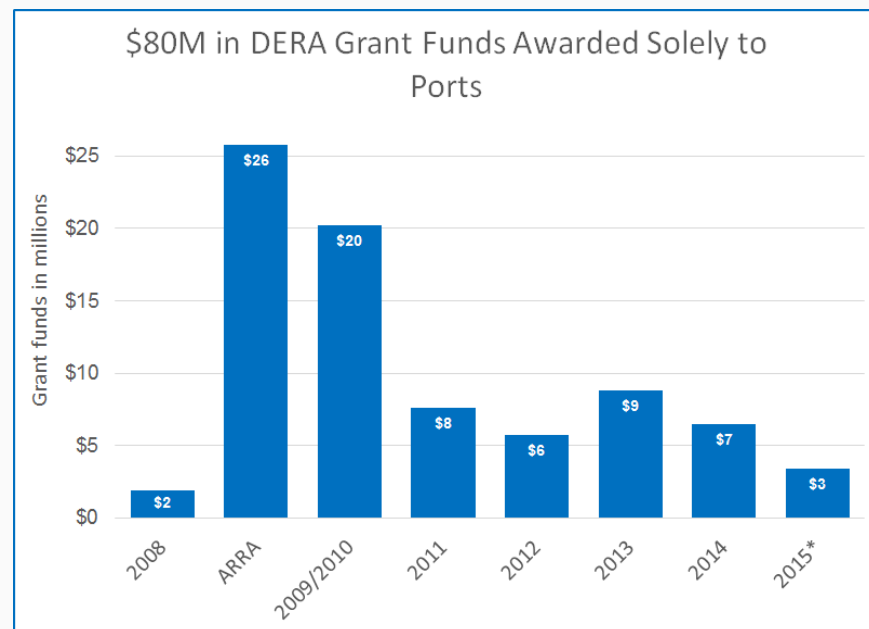
- Working with Port Everglades & Region 4 on detailed emissions inventory
  - Quantify port emissions in a base year and future years and evaluate specific criteria and climate emission reduction strategies
  - Our work with Port Everglades will inform an update to EPA's existing port inventory guidance
  - Estimated completion of Port Everglades work is in FY17





# \$80M in DERA Grant Funds Awarded to Ports

- \$80 million in grants awarded to projects focused entirely on ports
  - Includes \$9.2M awarded for 2013 & 2014 DERA Port RFPs
- Another \$68M in grants awarded to projects that involve ports





## Examples of DERA Funds at Ports

- 2013: \$750k awarded to Virginia Port Authority to replace Tier 1 shuttle carriers with Tier 4 hybrids at the Port of Virginia
- 2014: \$550k awarded to MARAMA to assist in replacement of 19 drayage trucks in DE and VA
- 2015: \$870k awarded to Maryland Environmental Services to assist in replacement of 25 drayage trucks at Port of Baltimore



# Federal Collaboration

- EPA
  - Regional Offices
  - Office of Environmental Justice
  - Office of Research and Development
  - Office of Water
- Committee on Maritime Transportation Systems
  - Maritime Energy and Emissions Workgroup
  - Focusing on elevating environment and AQ in funding decisions
- Regional staffs engaging with local federal counterparts on ports



U.S. Committee on the Marine Transportation System



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