

# Briefing on Accelerating Seaport Clean Air Goals



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# Briefing Overview

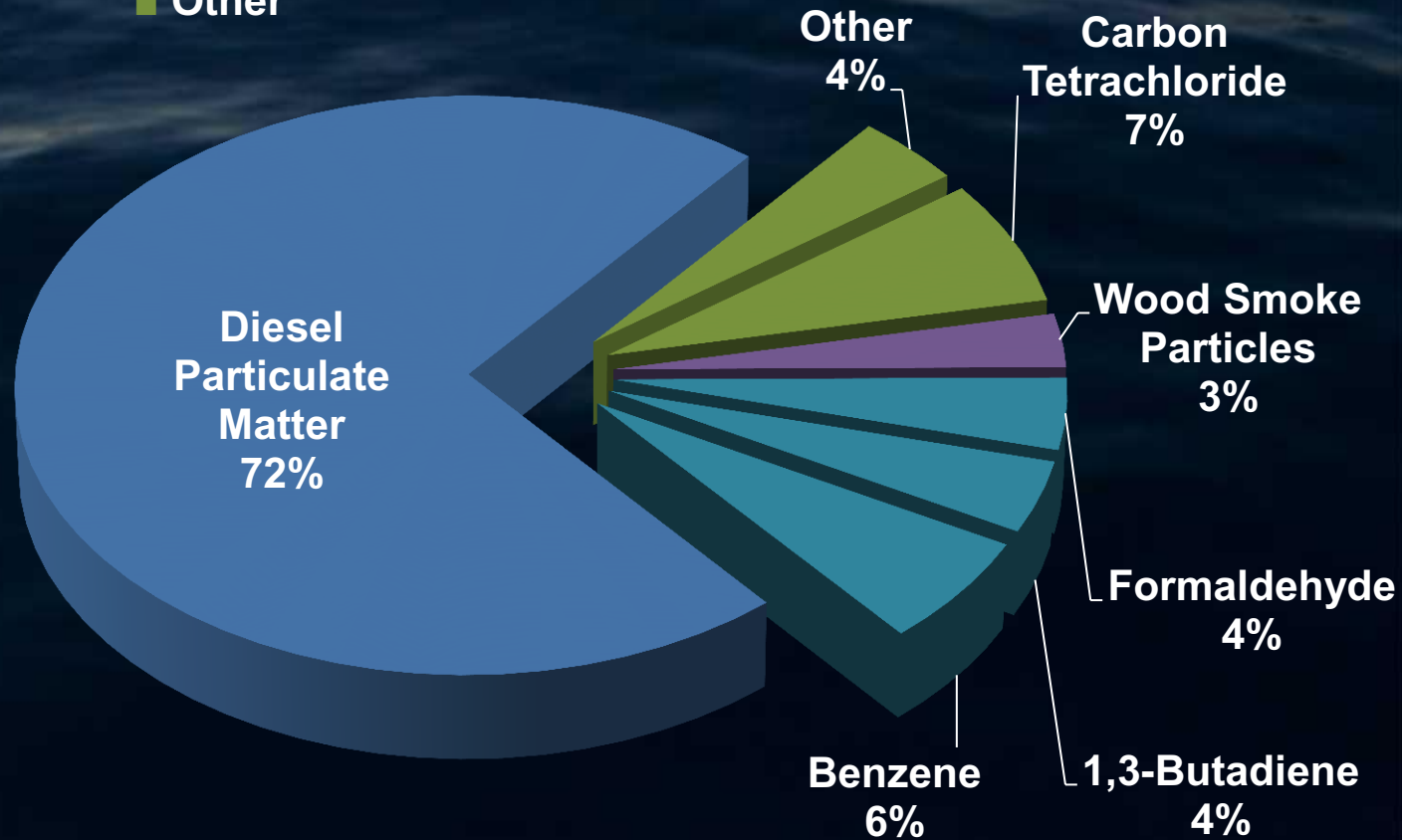
- Diesel Particulate Emissions and Air Toxics
- January Commission Motion to Accelerate Seaport Clean Air Goals to 2015
- 2011 Implementation
- 2011 Puget Sound Maritime Air Emissions Inventory
- Draft Recommendations to achieve Clean Air Goals by 2015
  - Trucks
  - Ocean-Going Vessels
  - Cargo Handling Equipment
- Community/Stakeholder Outreach
- Next Steps

# Puget Sound Clean Air Agency 2010 Comprehensive Air Toxics Evaluation

- Air Toxic Source:
- Mobile Sources – Cars, Trucks, Ships, etc.
  - Wood Combustion
  - Both Mobile Source and Wood Combustion
  - Other

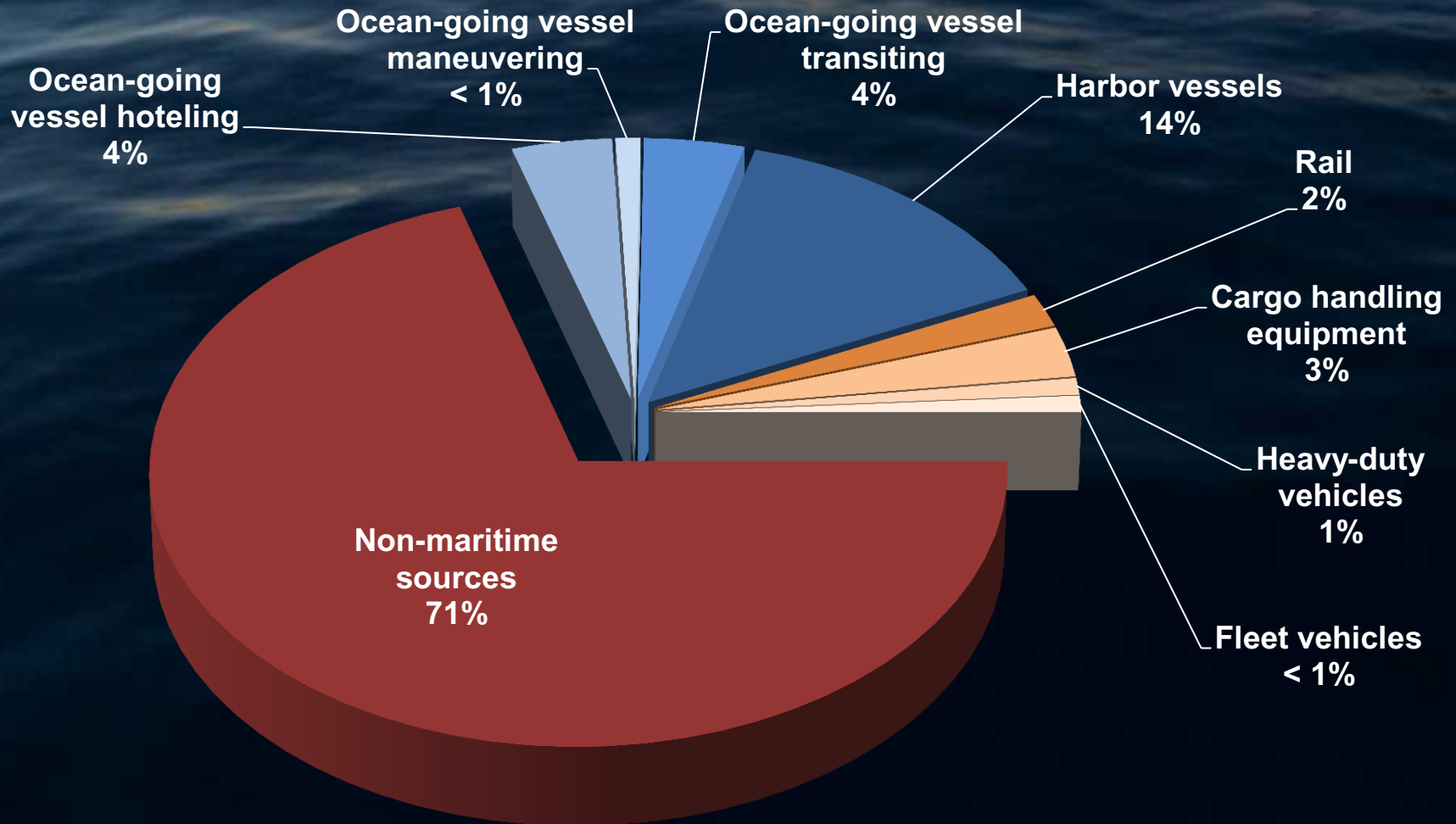
## Seattle Duwamish Valley

Total Potential  
Cancer Risk of  
450 per million:



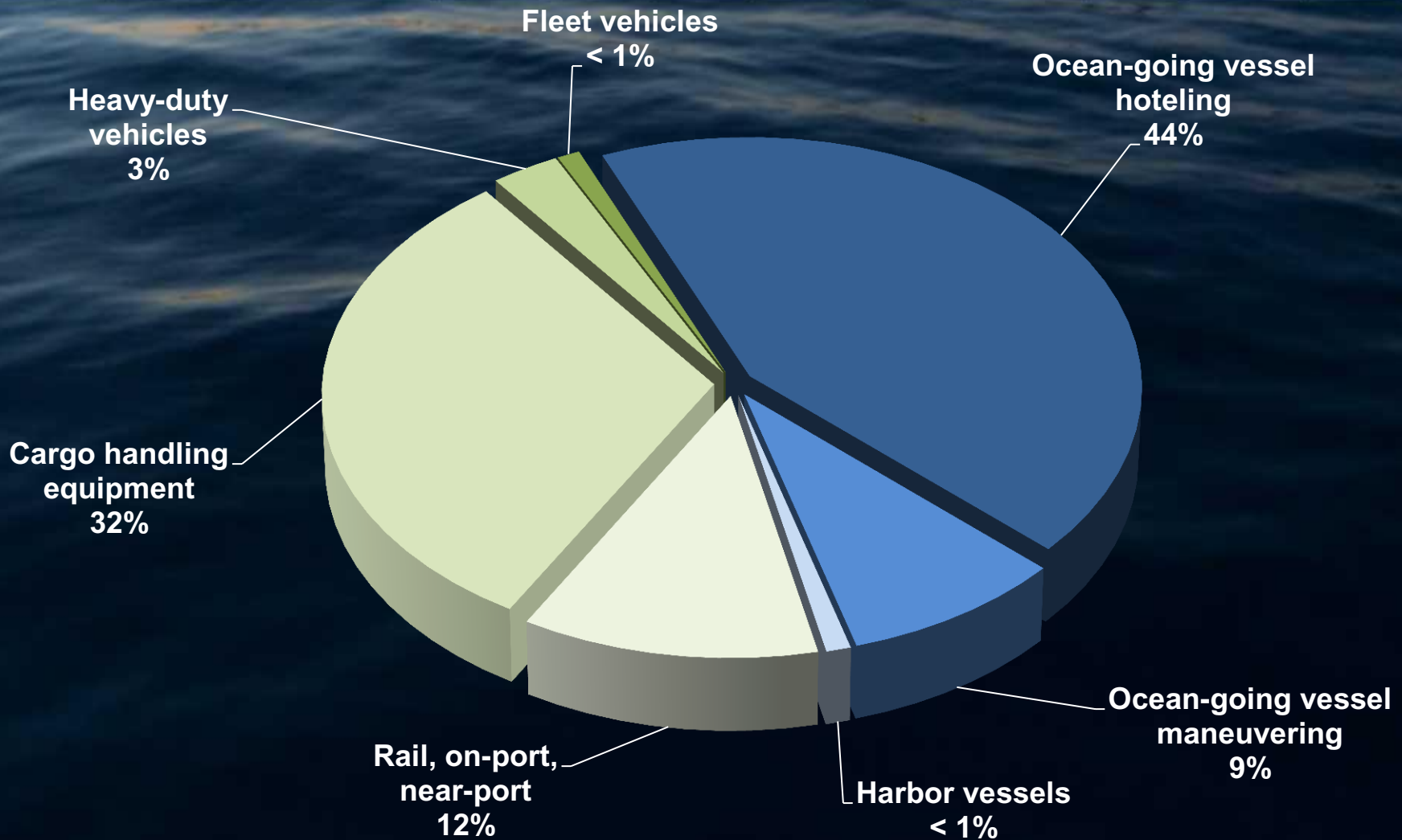
# 2005 Diesel Particulate Matter Puget Sound Region

Maritime Emissions = 29%



Source: 2005 Puget Sound Maritime Air Emissions Inventory

# 2005 Diesel Particulate Matter Port of Seattle Seaport



Source: 2005 Puget Sound Maritime Air Emissions Inventory

# January 2011 Commission Motion to Accelerate Clean Air Goals

- Motion intent is to call for the Port to implement an accelerated schedule in order to achieve our Clean Air goals by 2015.
- CEO shall direct Port staff to:
  - Conduct the 2011 Air Emissions Inventory Update throughout 2011, as previously presented to the Commission, to establish the new baseline of air quality in the Puget Sound.
  - Present draft recommendations and associated financial costs to the Commission in public session in December 2011.
  - Present final recommendations and associated schedules and financial costs to the Commission in public session in mid-2012, incorporating the final results of the 2011 Air Emissions Inventory Update.

# Northwest Ports Clean Air Strategy Performance Measures

	2010	2015
<b>Ocean-Going Vessels</b>	≤ 0.5% fuels in auxiliary engines while at berth	Meet IMO standards
<b>Cargo-Handling Equipment</b>	Use of ULSD, meet Tier 2 or 3 PM standards	Best available emission control devices
<b>Rail</b>	Expedite EPA SmartWay standards	Comply with U.S. EPA 2007 locomotive rules
<b>Trucks</b>	100% trucks must have 1994 or newer engines	80% of trucks must meet 2007 U.S. EPA PM emission standards, 100% by 2017
<b>Harbor Vessels</b>	Low-sulfur fuels, new technologies	Advanced technology pilot projects

# Ocean-Going Vessel 2011 Implementation Success

- In 2011, 70% of all frequent OGV calls (container and cruise) met or exceeded the 2010 performance measure
  - Cargo: 60% of frequently-calling container vessel calls (367) met goal
  - Cruise: 100% of all frequently-calling cruise vessel calls (195) met goal



# ABC Fuels

- Provides a per-call incentive for ships to use lower sulfur fuels ( $\leq 0.5\%$  sulfur) in auxiliary engines and boilers
- 2011 Program
  - Tiered incentive structure
  - 10 participating lines; 375 calls
  - Reduced 261 metric tons of sulfur
- Program To-Date (2009- Jan 2012)
  - 1023 participating vessel visits
  - 631 MT sulfur emissions reduced

# Cargo-Handling Equipment 2011 Implementation

- 58% of all CHE at Port of Seattle met the 2010 performance measure
- 100% of all CHE used ultra low sulfur diesel (ULSD) fuel and/or biodiesel blends
- In late 2010, 81 diesel multi-stage filters (DMFs) were removed from CHE because the EPA/CARB verification was revoked due to equipment failure
- 2011 – applied for and anticipate receiving Ecology funding for pilot study of idle reduction equipment installation on CHE
- Exploring opportunities for hybrid rubber tired gantry (RTG) cranes

# Rail and Harbor Vessel Implementation

- Rail
  - Installed anti-idling equipment on Louis Dreyfus switcher engine, reducing fuel consumption by 50%; switched to ultra-low sulfur diesel fuels
  - BNSF Railway North Seattle International Gateway (SIG) electrification
- Harbor Vessels
  - Port continues to support PSCAA efforts to reduce emissions from harbor vessels
  - Foss and Crowley voluntary use of low sulfur fuels

# Trucks Implementation Success

- 100% of drayage trucks met or exceeded the mandatory 2010 performance measure
- ScRAPs
  - 280 drayage trucks removed
  - ended January 2011
- Drayage Truck Registry
  - [www.portseattledtr.org](http://www.portseattledtr.org)
  - Ready to launch RFID with the MTOs



# Clean Truck Program Request for Information (RFI)

- Sought information and ideas on alternative ways to upgrade trucks to U.S. EPA particulate matter (PM) emission standards equivalent to a 2007 model year (MY) diesel truck engine
- Published on April 19<sup>th</sup>, 2011; responses due on May 20<sup>th</sup>, 2011
- Received one response
  - California Fleet Solutions comprehensive truck grant and lease program

# Puget Sound Maritime Air Emissions 2<sup>nd</sup> Inventory – 2011

- Update of 2005 inventory
- Led by Port of Tacoma; 12 funding partners
- Activity-based inventory of all maritime emissions in the greater Puget Sound region
- Data collection: January 1 – December 31, 2011
- Estimated cost: \$230k, not including significant in-kind resources
- Report complete: Mid-2012



# U.S. Environmental Protection Agency SmartWay for Drayage



- SmartWay is a partnership of government, business and consumers to protect the environment, reduce fuel consumption, and improve air quality
- On June 28, 2011 U.S. EPA announced the addition of drayage operations to the SmartWay program
- Founding partners
  - U.S. EPA
  - Coalition for Responsible Transportation
  - Environmental Defense Fund
- Charter shipper partners
  - Best Buy, The Home Depot, Hewlett Packard, JC Penney, Lowe's, Nike, Target, and Walmart
- Staff working to leverage this to accelerate the Clean Truck Program

# Accelerating Clean Air Goals Draft Recommendations

- Goal: accelerate clean air program implementation to 2015 standards
  - Ocean-going vessels
  - Cargo-handling equipment
  - Trucks
- Considerations:
  - Legal
  - Operational
  - Financial



# Draft Recommendations

## Clean Truck Program - Programmatic

- Option: No change to goals
- Considerations:
  - Legal: Current lease agreements with MTOs require implementation of Strategy truck goals as currently stated
  - Operational: Administration complexity of 80%/20% split
  - Financial: Allows more time for the trucking industry to finance truck replacements

# Draft Recommendations

## Clean Truck Program - Programmatic

- Option: Accelerate Long-Term Truck Goal to 2015
- Considerations:
  - Legal: Need to amend MTO lease agreements to match with accelerated Strategy goal for trucks
  - Operational: Low administration complexity
  - Financial: Requires investment in MY 2007 or newer trucks sooner

# Draft Recommendations

## Clean Truck Program - Programmatic

- Option: MY 2007 PM Emission Equivalency
- Considerations:
  - Legal: Would want agreement from PSCAA regarding whether truck emissions are equivalent to 2007 MY emission.
  - Operational: PSCAA would need to determine if suitable technologies for MY 1994-2006 trucks exist that achieve equivalent PM reductions
  - Financial: Costs of equivalent technologies currently unknown

# Draft Recommendations

## Clean Truck Program - Funding

- Option: No Port funding
- Considerations:
  - Operational: Requires private investment, allows Port to invest in other emission reduction programs
  - Truckers: Lack of funding assistance to truckers could cause delay in implementation and challenges for truckers

# Draft Recommendations

## Clean Truck Program - Funding

- Option: ScRAPs 2.0
- Considerations:
  - Operational: Need to determine amount of scrap incentive so that truckers can purchase replacement trucks that meet MY 2007 PM emission standards
  - Truckers: Depending on Port funding commitment, may not be able to address needs of the core fleet

# Draft Recommendations

## Clean Truck Program - Funding

- Option: Pilot projects
- Considerations:
  - Operational: Would assist with deployment of new truck technologies, would not address size of core fleet. Possibility that the technology does not work as expected
  - Truckers: Possible inequities on which truckers receive pilot project assistance

# Draft Recommendations

## Clean Truck Program - Summary

- Programmatic options:
  - No change to goals
  - Accelerate Long-Term Truck Goal to 2015
  - MY 2007 PM Emission Equivalency
- Funding options:
  - No Port funding
  - ScRAPS 2.0
  - Pilot projects

# Draft Recommendations Ocean-Going Vessels

- Shorepower installation at P69 or Cargo terminal.
  - Considerations:
    - Operational: If cargo terminal, which terminal and do we have a user?
    - Financial: Greater initial investment.
- In 2013, align ABC Fuels requirements with 2012 or 2015 ECA standards
- Consider new incentive program to replace ABC fuels in 2015 (e.g., for fuel efficient vessels)



# Draft Recommendations Cargo-Handling Equipment

- Hybrid or Electric RTG
- Hybrid or Electric Yard Trucks
- Active pursuit of idle reduction retrofits
  - Considerations:
    - Operational: MTO support needed
    - Financial: What achieves greatest emission reduction?

# Stakeholder Communications/Outreach

- Puget Sound Maritime Air Emissions Inventory open houses
  - Tacoma: April 14<sup>th</sup>, 2011
  - Seattle: June 28<sup>th</sup>, 2011
  - 2012 Upcoming, as results become available
- Port of Seattle Clean Air/Truck Programs Outreach
  - Port of Seattle specific outreach around our Clean Truck and Clean Air Program acceleration options
- Northwest Ports Clean Air Strategy
  - Industry stakeholder outreach
  - Strategy long-term performance measure implementation plans

# Next Steps

- Continue to evaluate options to accelerate clean air program, present final recommendations to Commission in mid-2012
- Northwest Ports Clean Air Strategy update in 2012
- 2011 Puget Sound Maritime Air Emissions Inventory complete in mid-2012