



**THE NORTHWEST
SEAPORT ALLIANCE**
Gateway to Solutions

**Date of Meeting: 10/03/17
Item No.: 4A_Supp**

Adopt Policy Resolution – Greenhouse Gas Reduction Resolution 2017-02

Second Reading Greenhouse Gas Reduction Resolution

Request adoption of the Greenhouse Gas Reduction Resolution 2017-02.

Resolution will update the Northwest Seaport Alliance's greenhouse gas reduction targets and define the scope and boundary of which emissions sources are included. The Alliance will reduce greenhouse gas emissions within the Puget Sound airshed as follows:

By 2030:

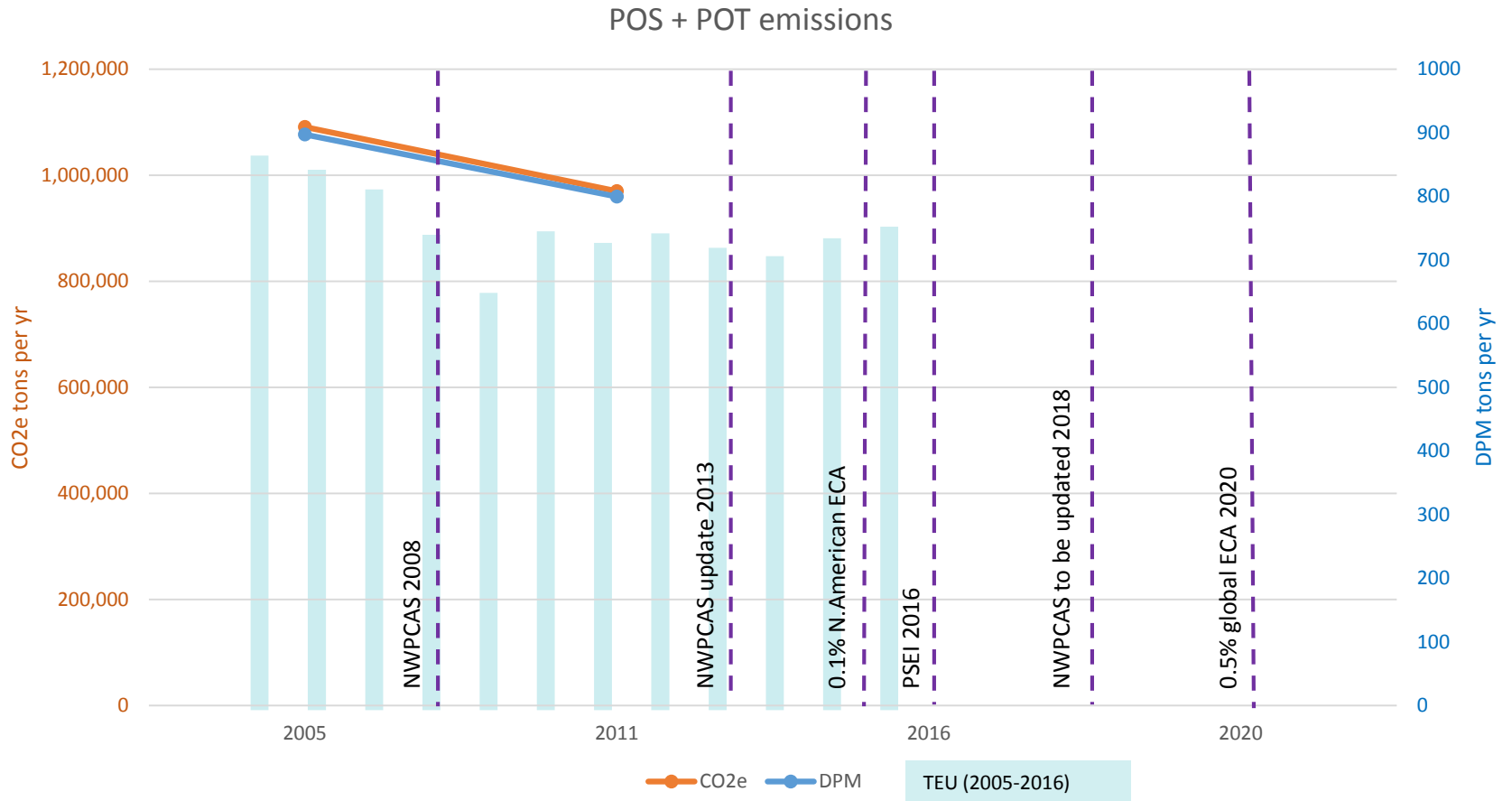
- **50% below 2005 levels (scope 1, 2 & 3 emissions)**

By 2050:

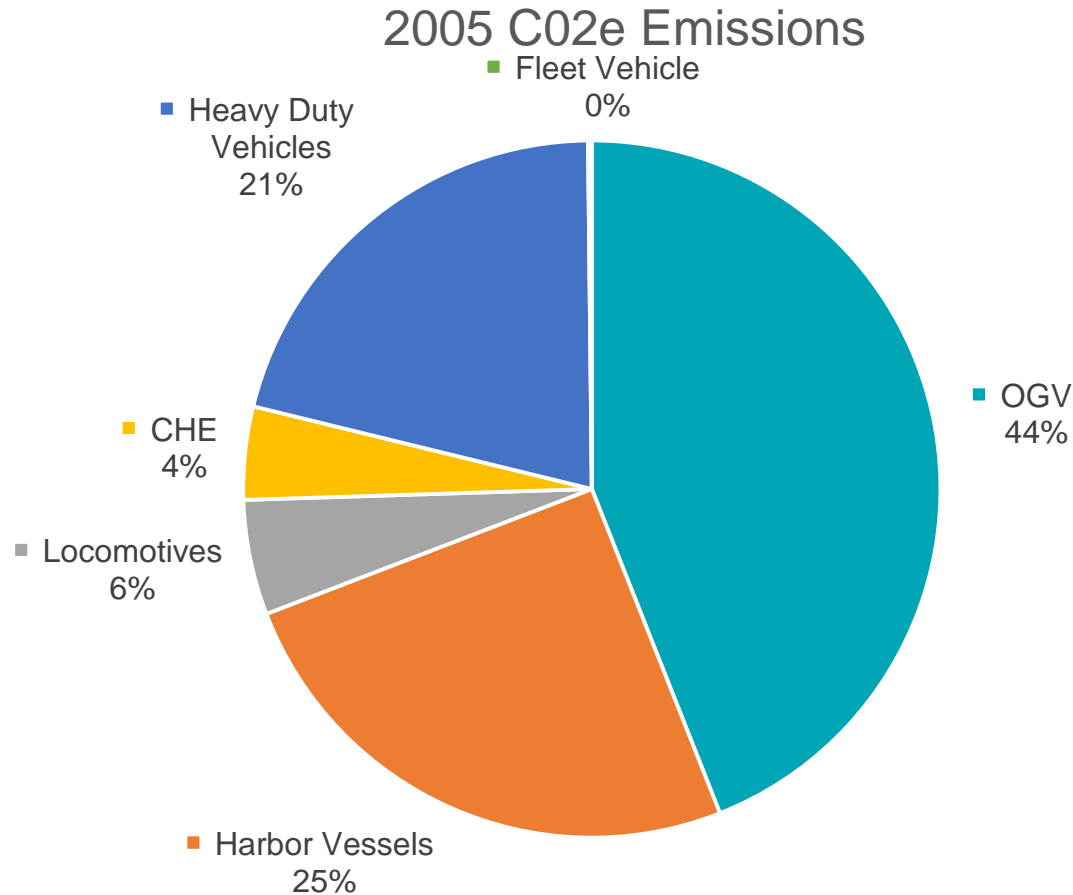
- **Carbon Neutral (scope 1 & 2 emissions)**
- **80% below 2005 levels (scope 3 emissions)**

NWSA Emissions and Initiatives

Greenhouse Gas Reduction Resolution



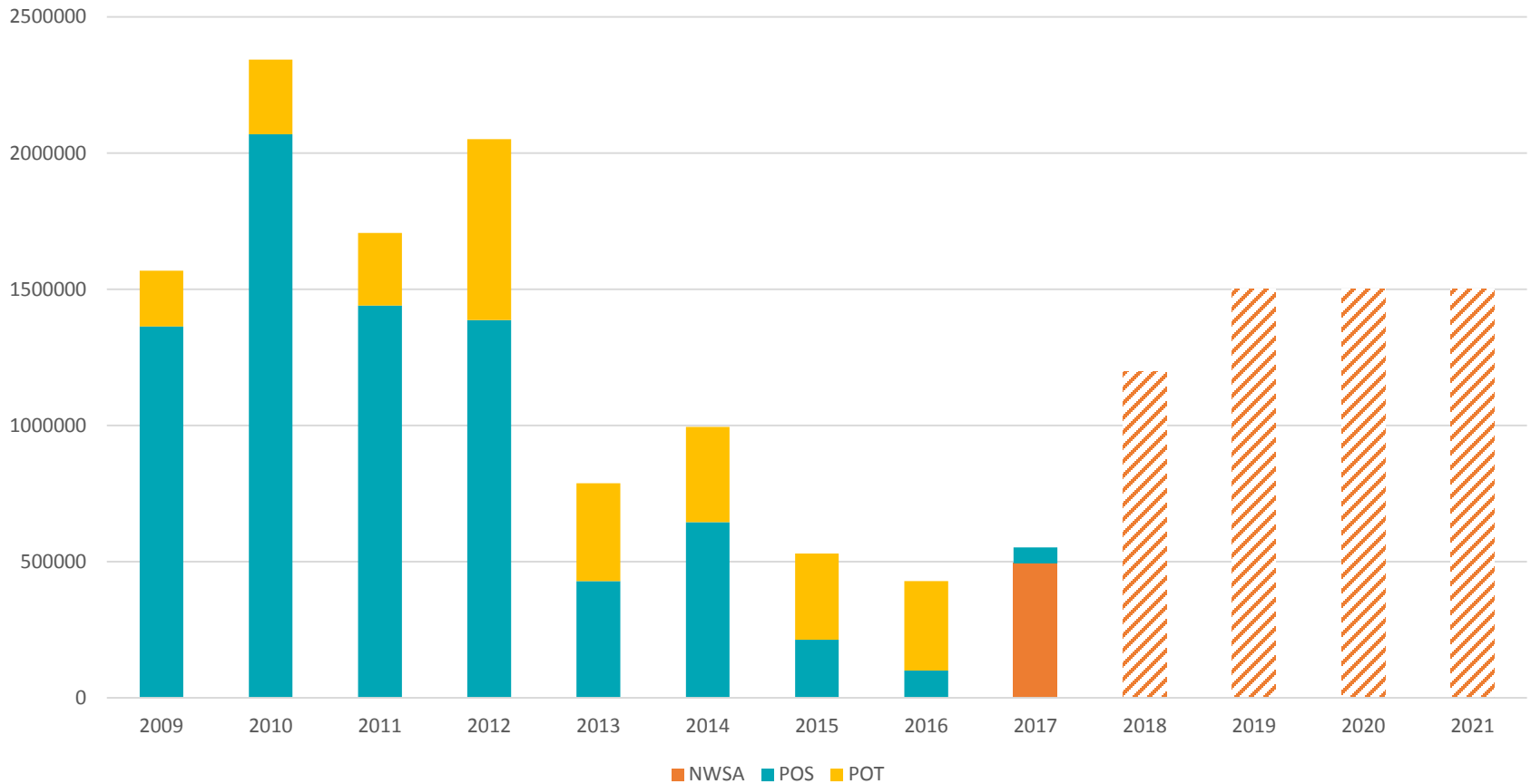
Puget Sound Emissions Inventory Greenhouse Gas Reduction Resolution



- 2005 Puget Sound Maritime Emission Inventory includes some baseline data for Scope 3 emissions
- A comprehensive inventory will help prioritize projects further (e.g. including tenant electricity consumption)
- To achieve the 2030 target of 50% reduction, will need to address vessels, trucks and multiple equipment types



Budget Greenhouse Gas Reduction Resolution



Budget

Greenhouse Gas Reduction Resolution

- **Environmental Sustainability Initiatives**
 - \$500,000 annually
 - 1000 hours of staff time, annually
 - Examples of projects include annual GHG inventory, continuing to fund green energy offsets, terminal outreach programs like Climate Smart, community projects from the EPA EJ Pilot, automation for energy consumption reporting (smart-metering)
- **Northwest Ports Clean Air Strategy**
 - \$1,000,000 annually
 - 1300 hours of staff time, annually
 - Examples of projects include annual progress reporting, 2018 update development process, periodic technology reviews, piloting new technology like electric yard trucks, and developing additional programs to support the goals within the strategy (e.g. incentive programs for more clean ships, cargo handling equipment)
- **Additional capital improvement projects, like lighting upgrades or shorepower, would be capitalized in project costs.**



VW Mitigation Fund Greenhouse Gas Reduction Resolution

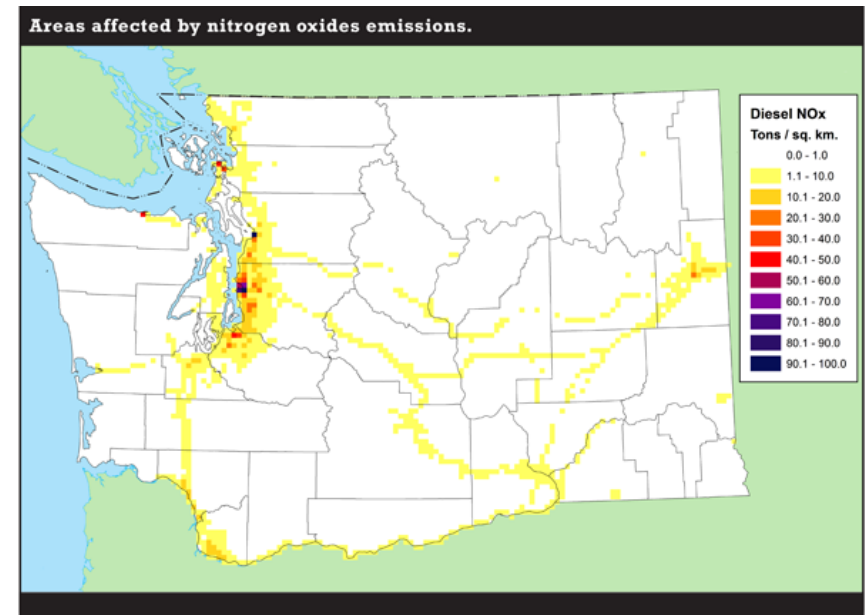
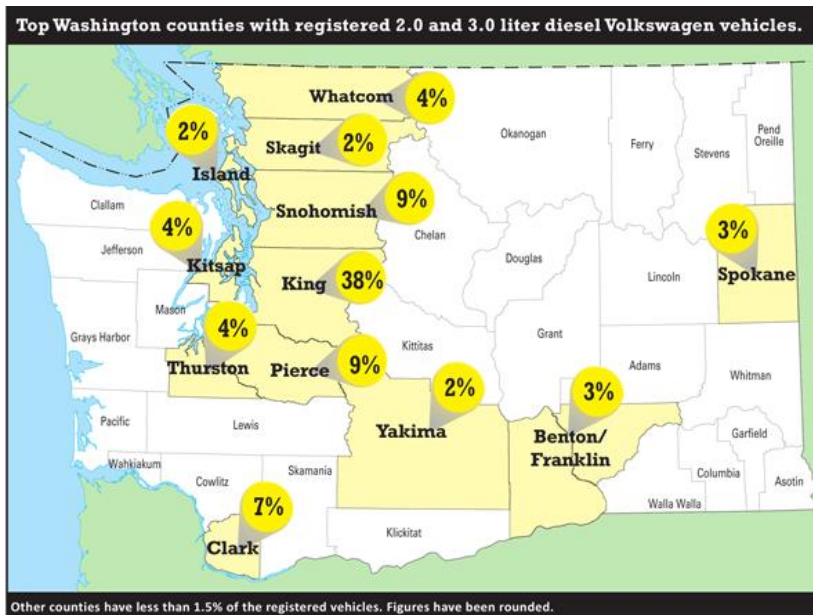
- **Mitigation Trust: Washington to receive \$112.7 million**
- **March 2017 – Wilmington Trust selected as Trustee**
- **Dept of Ecology – State Mitigation Plan (not published as of Sep 2017)**

December 2016	NWSA and POS initial project list submitted to PSCAA
May 2017	Staff participated in DoE survey on priority projects
6 months from TED	Funds available
1 year from TED	Up to 1/3 of funds may be allocated
2 years from TED	Up to 2/3 of funds may be allocated
10 years from TED	Beneficiary must spend all funds within 10 years



VW Mitigation Fund Greenhouse Gas Reduction Resolution

- **Mitigation Trust: Washington to receive \$112.7 million**
- **Priorities:**
 - Achieve the greatest emissions reduction in the most cost-effective manner, and especially those that meet those criteria in highly-populated urban areas
 - Projects that would not otherwise be funded

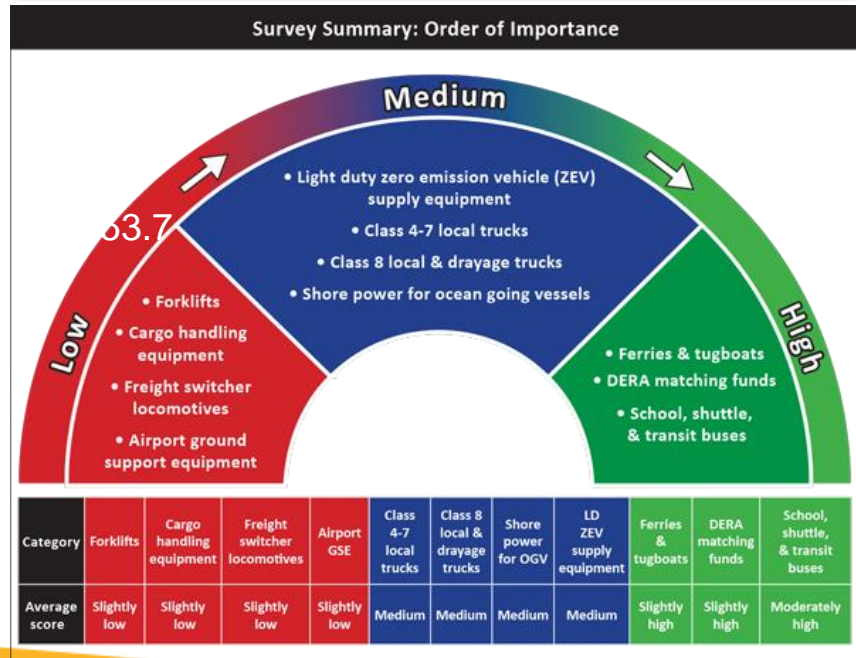


VW Mitigation Fund Greenhouse Gas Reduction Resolution

Eligible Projects:

- Class 8 local freight trucks and port drayage trucks
- Class 4-8 school/shuttle/transit buses
- Freight switcher locomotives
- Ferries/tugboats
- Shorepower for ocean-going vessels
- Class 4-7 local trucks
- Airport ground support equipment
- Forklifts and cargo handling equipment at ports
- Light duty zero emission vehicle supply equipment (limited to 15% of funds)
- Matching funds for projects eligible under the Diesel Emission Reduction Act (DERA)

Survey Participants		
Answer Options	Response Percent	Response Count
Tribe	0.6%	3
Local government	20.5%	108
Private citizen	66.3%	350
Environmental interest group	4.0%	21
Business interest group	5.7%	30
Environmental justice group	0.4%	2
State agency	2.7%	14
	Answered question	528
	Skipped question	36
	Total	564



Second Reading Greenhouse Gas Reduction Resolution

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By 2030:

- **50% below 2005 levels (scope 1, 2 & 3 emissions)**

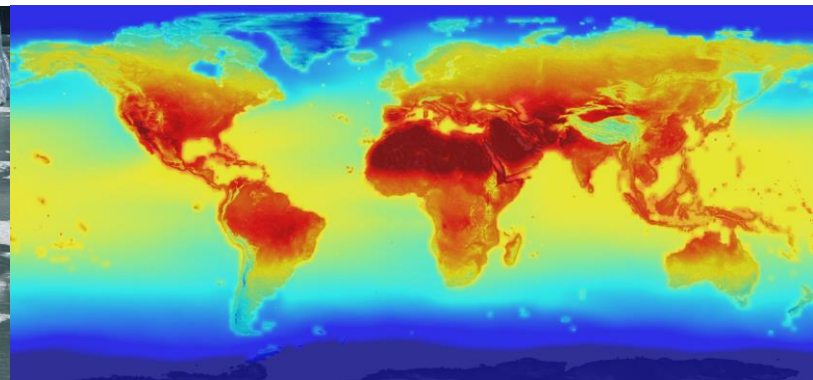
By 2050:

- **Carbon Neutral (scope 1 & 2 emissions)**
- **80% below 2005 levels (scope 3 emissions)**

Background – Why this is important

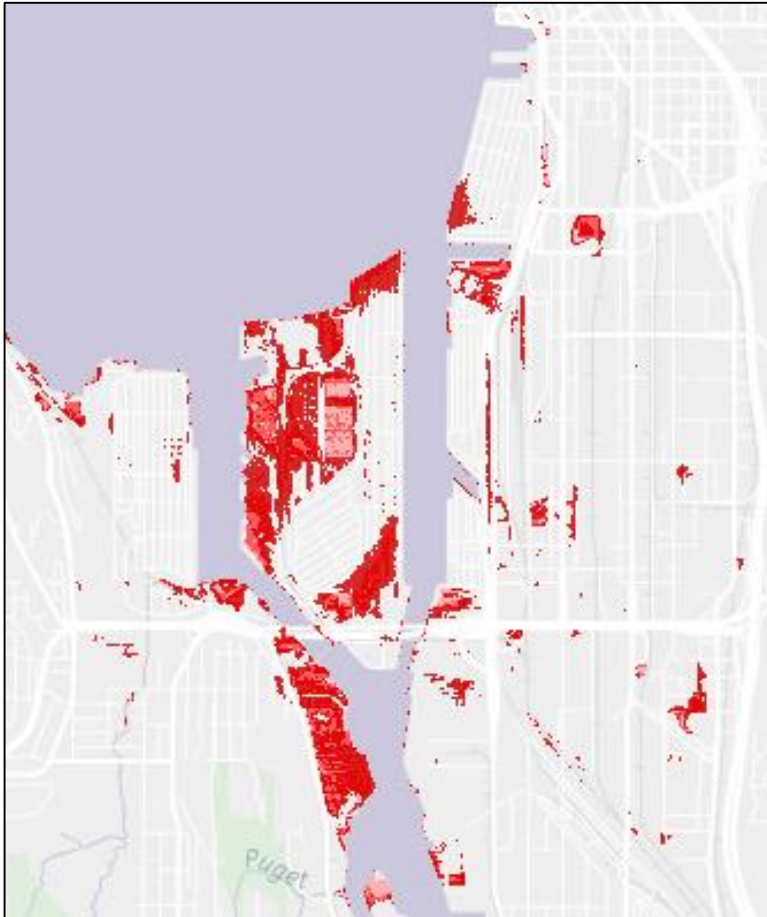
Greenhouse Gas Reduction Resolution

- Scientific consensus is climate change is already happening
- Paris Agreement:
 - Countries aim to keep global temperature rise to below 2 degrees Celsius above pre-industrial levels
 - POT and POS have joined national ‘We Are Still In’ coalition in June 2017
- POT and POS early leaders by adopting GHG reduction goals in Northwest Ports Clean Air Strategy in 2008
- Public opinion – 71% Pierce Co. and 81% King Co. residents think global warming is happening, majority think caused by human activity

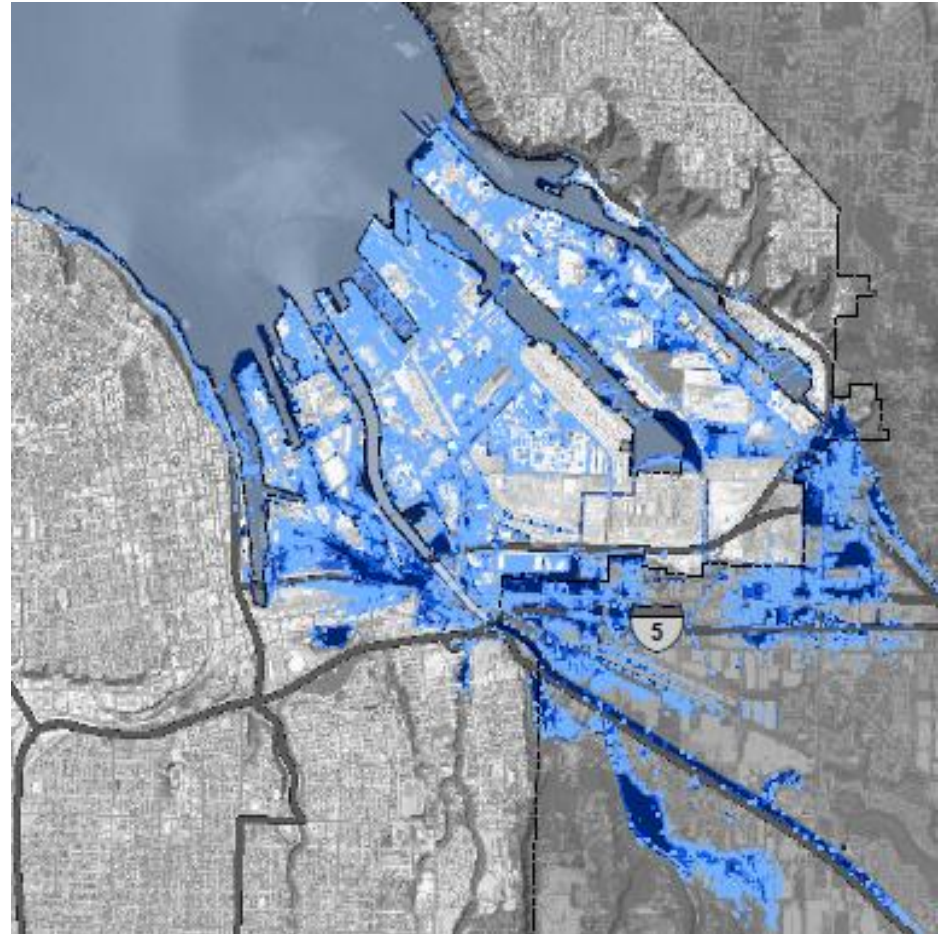


Background – Why this is important

Greenhouse Gas Reduction Resolution



City of Seattle and Climate Impacts Group



2050 High Tide Extremes: Up to 19 inches above today's levels



Recommendation

Greenhouse Gas Reduction Resolution

Staff recommends the Northwest Seaport Alliance adopt new GHG emission reduction targets:

By 2030:

- 50% below 2005 levels (scope 1, 2, & 3 emissions)

By 2050:

- Carbon Neutral (scope 1 & 2 emissions)
- 80% below 2005 levels (scope 3 emissions)



Homeport Context

Greenhouse Gas Reduction Resolution

Adoption of NWSA GHG Reduction Resolution would align NWSA goals with:

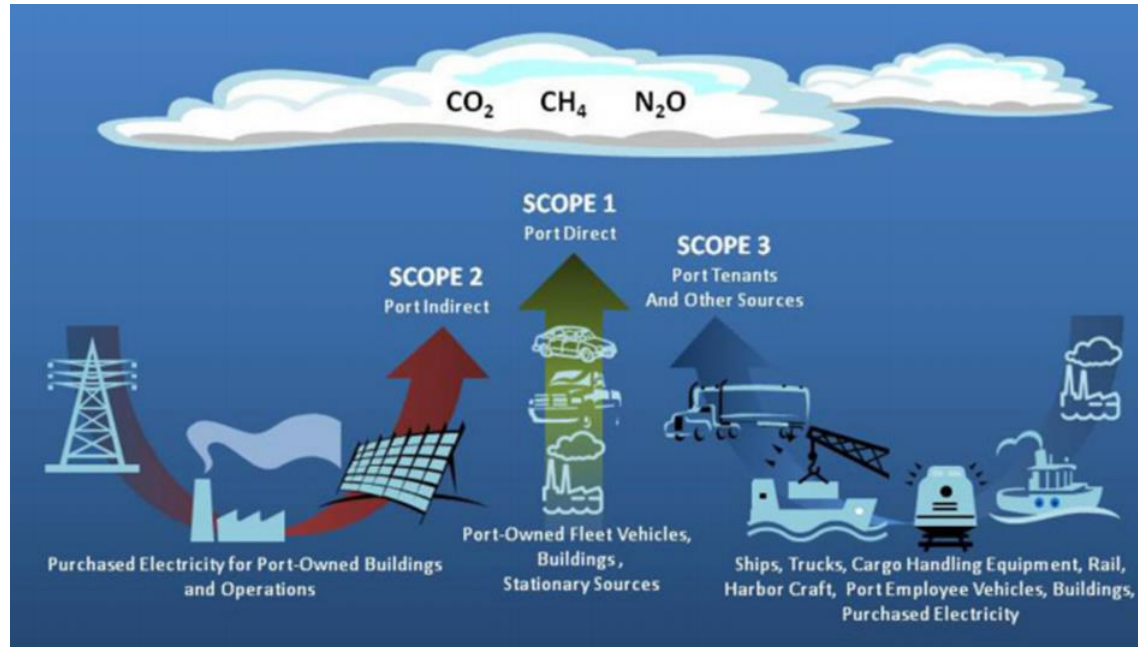
- POS targets adopted in April, 2017 and
- POT targets (awaiting second reading)

Both homeports and the Alliance would be working towards the same aligned targets



Background

Greenhouse Gas Reduction Resolution



Scope	Description
Scope 1 (homeport)	Direct emissions from port operations (e.g. natural gas combustion, fuel for port-owned vehicles and CHE)
Scope 2 (homeport)	Indirect emissions (e.g. purchased electricity, heating & cooling for port-owned buildings)
Scope 3 (NWSA & homeports)	All other sources of emissions within the port's value chain (e.g. tenant/customer electricity and fuel, staff commuting)



Scope 3 Recommendations

Greenhouse Gas Reduction Resolution

Scope 3 Sources	Port's Level of Influence over the Source	Already tracked in Emissions Inventory
Port Owned/Operated Sources		
Mgmt. of waste (transport, disposal, recycle)	High – Direct control	
Port staff business travel	High – Direct control	
Port staff commuting	High – Direct control	
Tenant Owned/Operated Sources		
Tenant electricity use	Medium – Influence through lease/incentives	
Tenant natural gas use	Medium – Influence through lease/incentives	
Tenant commuting	Low – Influence through incentives	
Tenant cargo-handling equipment	Medium – Influence through lease/incentives	X
Ocean-going vessels	Medium – Influence through MTO lease/incentives	X
Harbor craft (e.g. tugboats)	Medium – Influence through incentives	X
Cargo-related locomotives	Low	X
Cargo-related drayage trucks	Medium – Influence through incentives	X



Background - Boundary Greenhouse Gas Reduction Resolution



Recommendation: Puget Sound airshed

- Similar to other Port GHG boundaries
- Avoids double-counting



Global Context

Greenhouse Gas Reduction Resolution

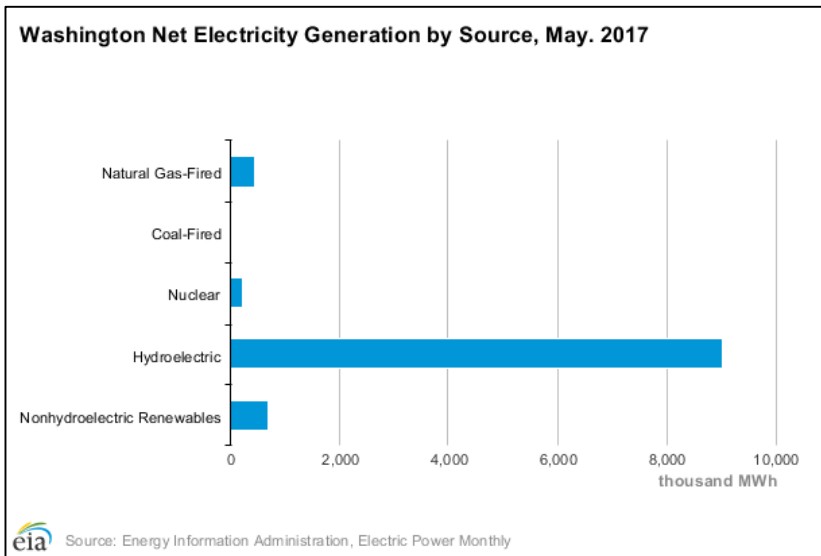
- International shipping accounts for 2.2% of global CO₂ emissions
- EEDI for new ships mandatory from 2013 – more energy-efficient ships
- Larger & more efficient ships being built
- ECA (Emission Control Area) – fuel sulfur limits 200nm off N. American coast, expanding in 2020



Regional Advantages

Greenhouse Gas Reduction Resolution

- Washington State already benefits from predominately hydroelectric electricity supply
- Leading producer of hydroelectric electricity: 30% of U.S. net hydroelectricity generation in 2015
- Geographic proximity to Asian ports



Financial Summary

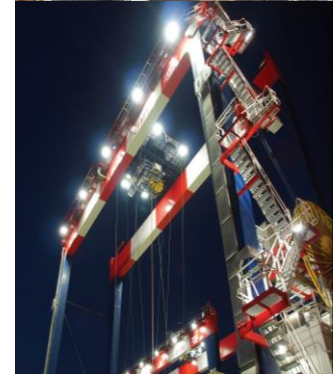
Greenhouse Gas Reduction Resolution

- All costs associated with annual inventories, capacity building and capital improvements:
 - not estimable at this time
 - will follow standard approval & authorization process.
- The 2017-2021 CIP budget includes \$560,000 for Environmental Sustainability Initiatives and \$4.6 million for the Northwest Ports Clean Air Strategy.
- No additional funds are being requested and the goal is to demonstrate overall cost savings through efficiency measures.

Case Studies Comparison

Greenhouse Gas Reduction Resolution

Efficiency Program	Vancouver	New York/New Jersey	Georgia Ports Authority	NWSA
Tenant Training	<ul style="list-style-type: none"> - Introduced voluntary training for port tenants – saved \$670,000/yr (waste reduction and energy efficiency). 	No official program.	<ul style="list-style-type: none"> - No official program. 	<ul style="list-style-type: none"> - Annual stormwater training with tenants. - No comparable energy-efficiency training.
Lighting Upgrades	<ul style="list-style-type: none"> - Upgrade lighting where practicable. - Refitting cranes and RTG 	LED lighting projects in Lincoln Tunnel (\$283,000/yr savings) and Holland Tunnel (\$250,000/yr savings).	<ul style="list-style-type: none"> - Reduced energy & costs by 59% from new lighting for container yard. - Synced with dawn & dusk. 	<ul style="list-style-type: none"> - Upgrade lighting when practicable, alongside other facility upgrades. - Lighting at Earley Business Center upgraded to LED lighting with motion sensors.
Electrifying cargo-handling equipment	<ul style="list-style-type: none"> - Charge tenants fees for operating Tier 1 and older equipment 	<ul style="list-style-type: none"> - Scrapping program for replacing diesel tenant CHE. 	<ul style="list-style-type: none"> - 27 cranes converted from diesel to electric. - Upgraded 45 RTG cranes to electric – plan to have all 169 RTG to electric by 2026. 	<ul style="list-style-type: none"> - 8 new cranes due in South Harbor. - Upgrading diesel straddle carriers to diesel-hybrid. - Tried electric yard truck in 2016.
Tenant Utilities	<p>Energy Action Initiative with BC Hydro – tenants eligible for a Blue Circle Award if participate:</p> <ul style="list-style-type: none"> - Energy Mgmt Assessment and Plan - Set targets and monitor 	<ul style="list-style-type: none"> - Aggregated accounts and held reverse auction. - Installed advanced utility meters. - Reduced utility costs by \$2.2 million/yr. 	<ul style="list-style-type: none"> - No official program. 	<ul style="list-style-type: none"> - Some tenant utilities on same meters as POT operations – no submeters.





Next Steps

Greenhouse Gas Reduction Resolution

- Second reading to POT Commissioners September 21st; Second reading to NWSA Managing Members October 3rd
- Complete a GHG inventory for POT and NWSA by end of 2017, track progress annually.
- Use inventory to develop a “glide path” plan for incrementally reducing emissions

A photograph of construction workers in safety gear, including hard hats and high-visibility vests, walking on a construction site. The image is partially obscured by a large white circular graphic element.

Conclusion

Greenhouse Gas Reduction Resolution

Request adoption of the Greenhouse Gas Reduction Resolution 2017-02.

Resolution will update the Northwest Seaport Alliance's greenhouse gas reduction targets and define the scope and boundary of which emissions sources are included.

Background - Precedents

Greenhouse Gas Reduction Resolution

Institutions	GHG Goals
City of Seattle	Zero net emissions by 2050
City of Tacoma	80% below 1990 levels by 2050
King County	80% below 2007 levels by 2050 (same goal as LA/LB)
Pierce County	Currently n/a
Puget Sound Clean Air Agency (PSCAA)	80% below 1990 levels by 2050
State of Washington	57.5% below 2005 levels by 2050 (scope 1 & 2) 50% below 1990 levels by 2050 (scope 3)
Ports	GHG Goals
Seattle	50% below 2005 levels by 2030 100%-or-more below 2005 levels by 2050
Los Angeles	80% below 1990 levels by 2050; zero emissions CHE by 2030, trucks by 2035
Long Beach	80% below 1990 levels by 2050; zero emissions CHE by 2030, trucks by 2035
NY/NJ	80% below 2006 levels by 2050
Vancouver	No GHG reduction target past 2020
Prince Rupert	No public GHG reduction target
Savannah	No public GHG reduction target

Background – Current Target Greenhouse Gas Reduction Resolution

Puget Sound Maritime Emissions Inventory:

- Puget Sound airshed in collaboration with Washington ports
- Established 2005 baseline data, updated in 2011, 2016 complete by end of year
- Catalogs a range of emissions from equipment & transportation-does not include all sources

Northwest Ports Clean Air Strategy:

- Developed in 2007 between POT, POS and Port Metro Vancouver. NWSA became partner.
- Updated in 2013, updated again in 2018
- Collaborative & voluntary effort to set goals & improve air quality around the ports
- Goals are intensity-based, i.e. relative to volume of cargo moved. Proposed GHG Reduction Resolution recommends absolute targets.

NWPCAS Goal 1	Reduce diesel particulate matter (DPM) emissions per ton of cargo by 75% by 2015 and by 80% by 2020, relative to 2005.
NWPCAS Goal 2	Reduce greenhouse gas emissions (GHG emissions) per ton of cargo by 10% by 2015 and by 15% by 2020, relative to 2005.