Item No: 9C
Date of Meeting: November 2, 2021

THE NORTHWEST SEAPORT ALLIANCE
Gateway to Solutions

First Reading: A Resolution to Adopt the NWSA's 2021-2025 Clean Air Implementation Plan

Presenter: Steve Nicholas, Senior Manager
Air Quality & Sustainable Practices

Action Requested

Request that the Managing Members of The Northwest Seaport Alliance advance the proposed resolution adopting the NWSA's 2021-2025 Clean Air Implementation Plan to a second reading.

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EDITORS' PICK | Aug 9, 2021, 10:31am EDT | 8,323 views

'Code Red For Humanity': Humans Driving 'Unprecedented' Climate Change, U.N. Report Finds

Robert Hart Forbes Staff
Business
I cover breaking news.

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Updated Aug 9, 2021, 10:31am EDT

TOPLINE Global temperatures will likely exceed the 1.5C limit set by the Paris climate agreement within the next 20 ye

The Washington Post
Democracy Dies in Darkness

Monkey Cage • Analysis

The U.N. climate report is dire. So why are there no limits on maritime shipping's carbon emissions?

My research examined the politics behind the dearth of policies.



Paccar Zero-Emission Trucks go to D.C.

All That's Trucking • August 6, 2021 • by Deborah Lockridge •



...tary Jennifer Granholm and National ...sor Gina McCarthy filmed a White House ...ersation video in the cab of a Kenworth

FREIGHTWAVES

Crowley developing first fully electric tugboat in US

Port of San Diego to gain electric tugboat in 2023

Alyssa Sporrer 1 month ago



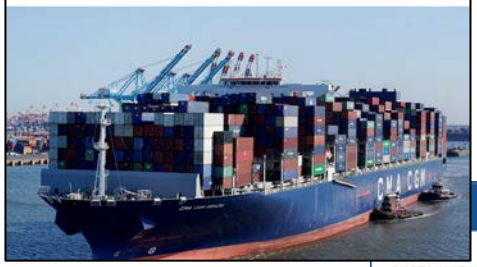
Climate Activists Protest at Amazon and LA Port Calling for Change



Amazon, Ikea and other big companies commit to zero-emission shipping by 2040

Organized by the nonprofit Aspen Institute, the initiative also counts Unilever, Michelin and Patagonia among its signatories

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Washington state now has the nation's most ambitious climate policy

DAVID ROBERTS - 06 MAY 2021



JOC.com
The Journal of Commerce online

Advancing infrastructure bill promises US port funding splurge

Mark Szakonyi, Executive Editor | Aug 03, 2021 12:45PM EDT

US ports and inland waterways are on track to receive at least $11.8 billion in new federal funding over the next five

CNBC

SUSTAINABLE ENERGY

Maersk spends $1.4 billion on ships that can run on 'carbon neutral' methanol

PUBLISHED TUE, AUG 24 2021 11:53 AM EDT

Anmar Frangoul

SHARE

KEY POINTS

- Maersk says vessels will be built by South Korea's Hyundai Heavy Industries and have capacity to carry around 16,000 containers.

Paceco and Mitsui launch near zero emission RTG

Date: March 03, 2021

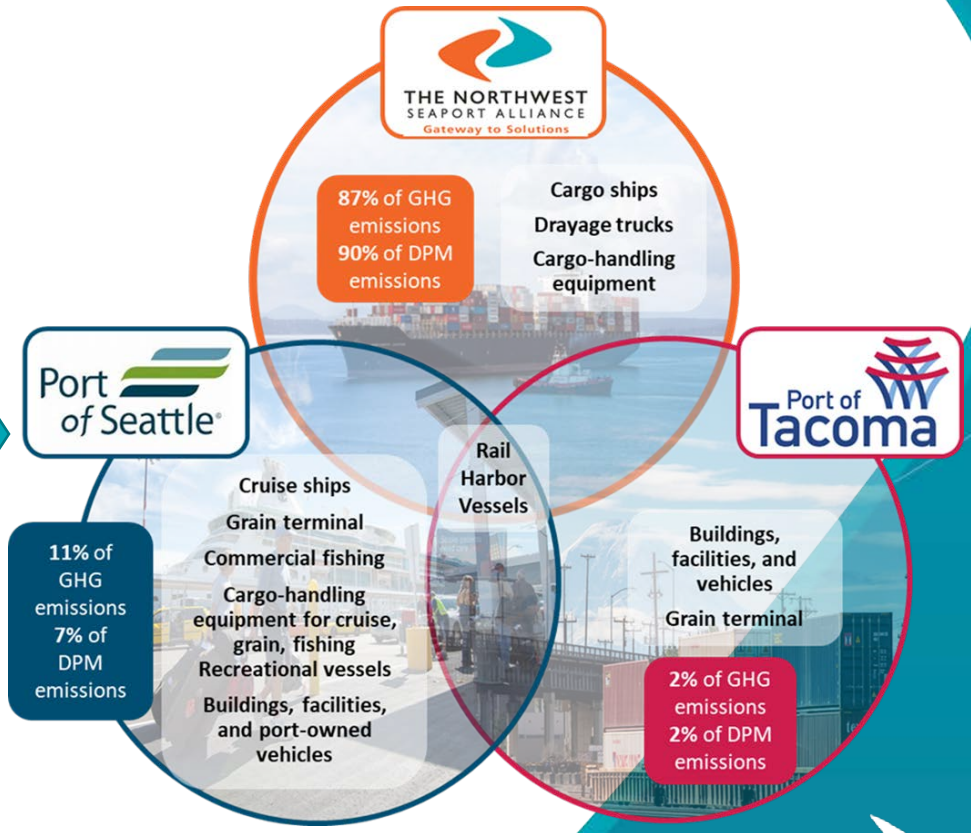


Testing of the zero emission unit is due to be completed by March 2023

Paceco Group and Mitsui E&S Machinery (MES-M) have announced the market release of a near zero emission (NZE) rubber-tyred gantry (RTG) crane as

Port-specific implementation plans





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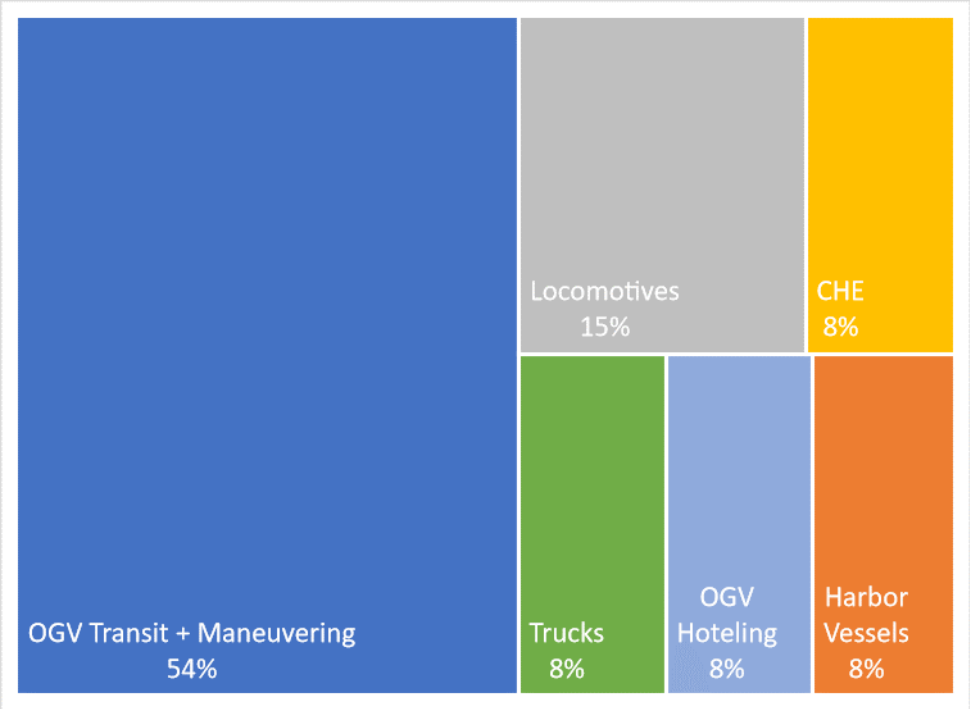
Implementation Plan Adoption Timelines

	October	November	December
The Northwest Seaport Alliance	**10/14**: Briefing for Environmental Working Group	**11/2**: 1st Reading by Managing Members	**12/7**: 2nd Reading
Port of Tacoma		**11/18**: 1st/only reading by Port of Tacoma Commission	
Port of Seattle	**10/26:** 1st Reading by Port of Seattle Commission	**11/16**: 2nd Reading	

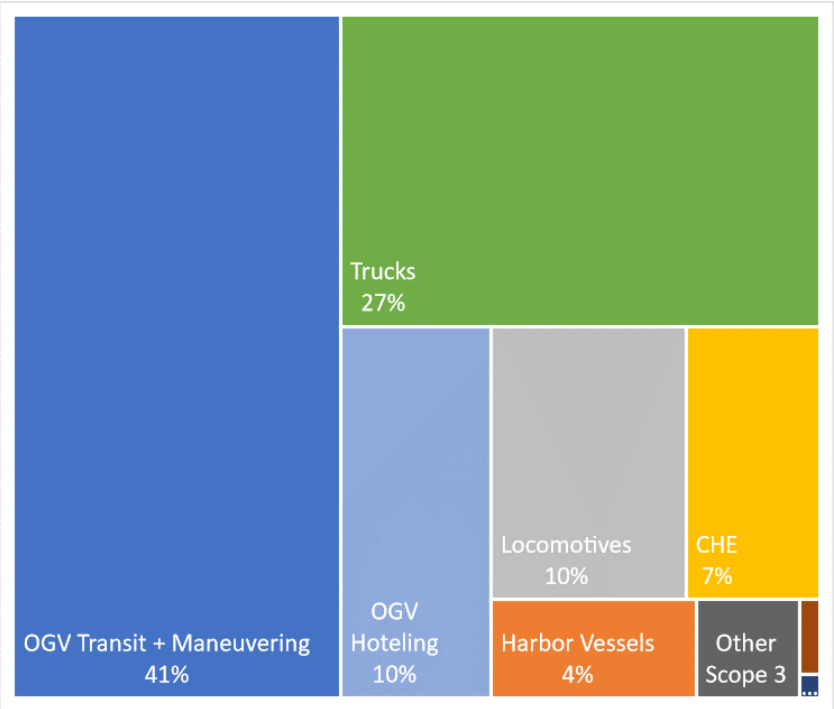
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NWSA Emissions by Source

Diesel Particulate Matter

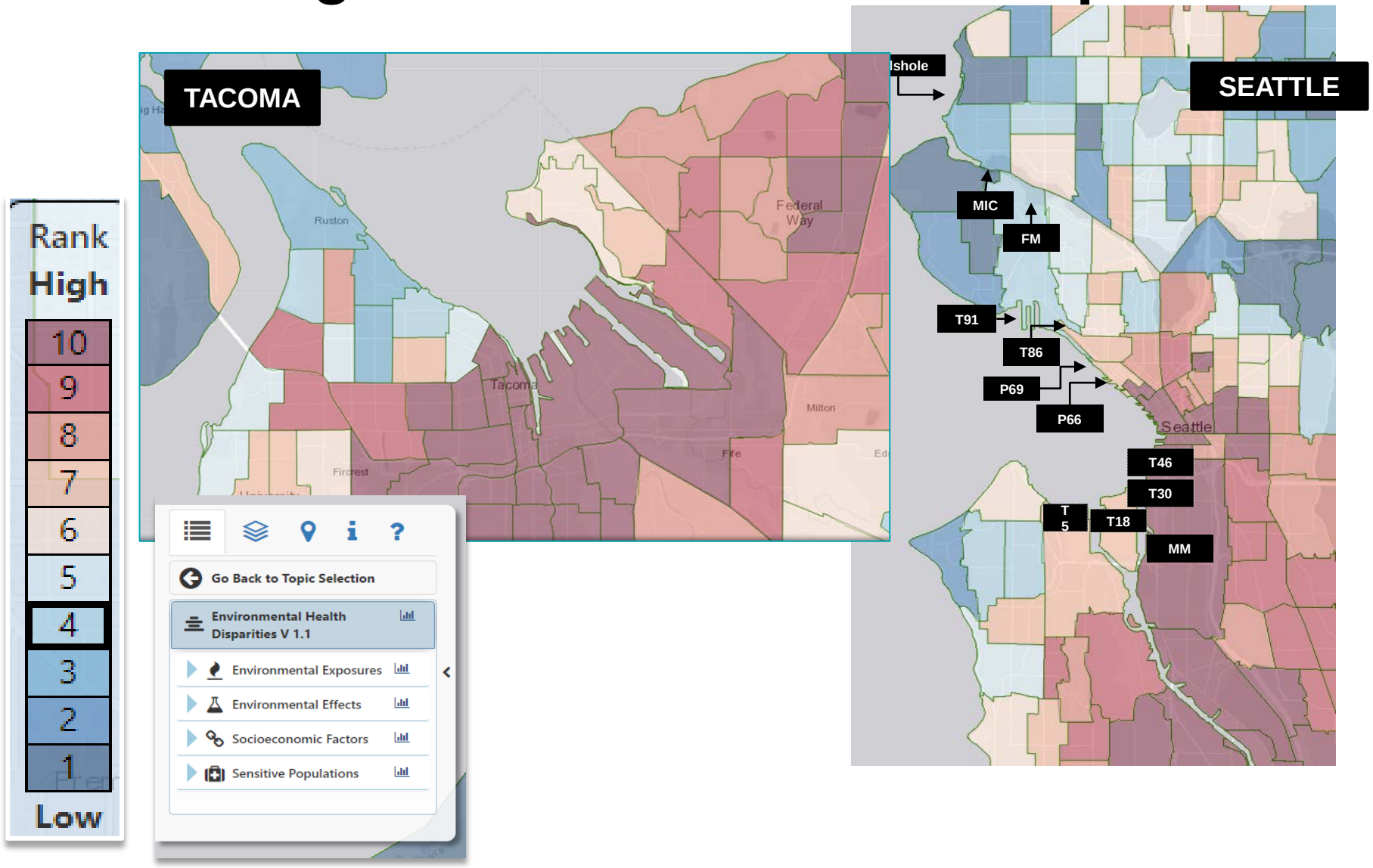


Greenhouse Gases



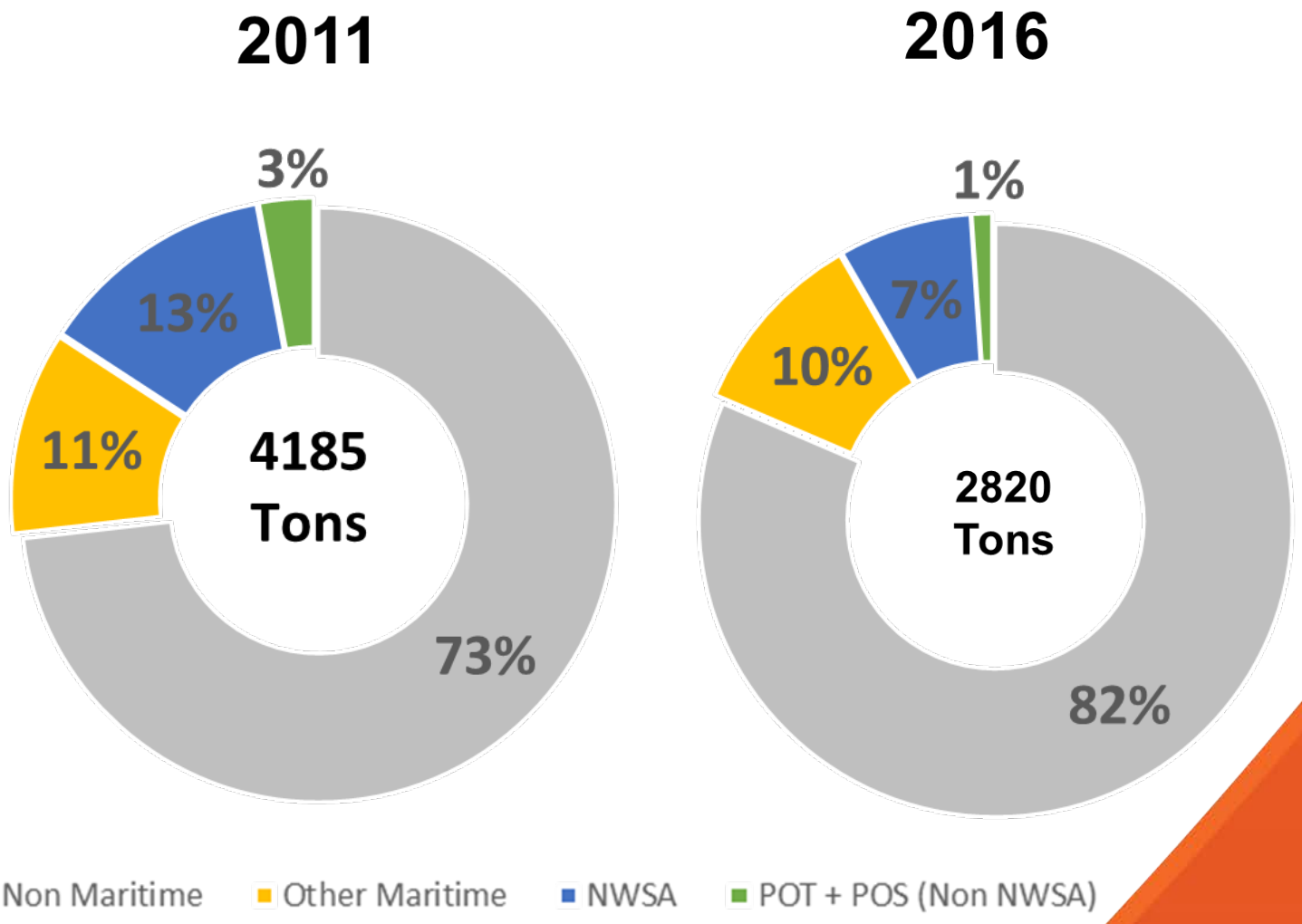
Source: 2016 Puget Sound Maritime Air Emissions Inventory

Addressing environmental health disparities



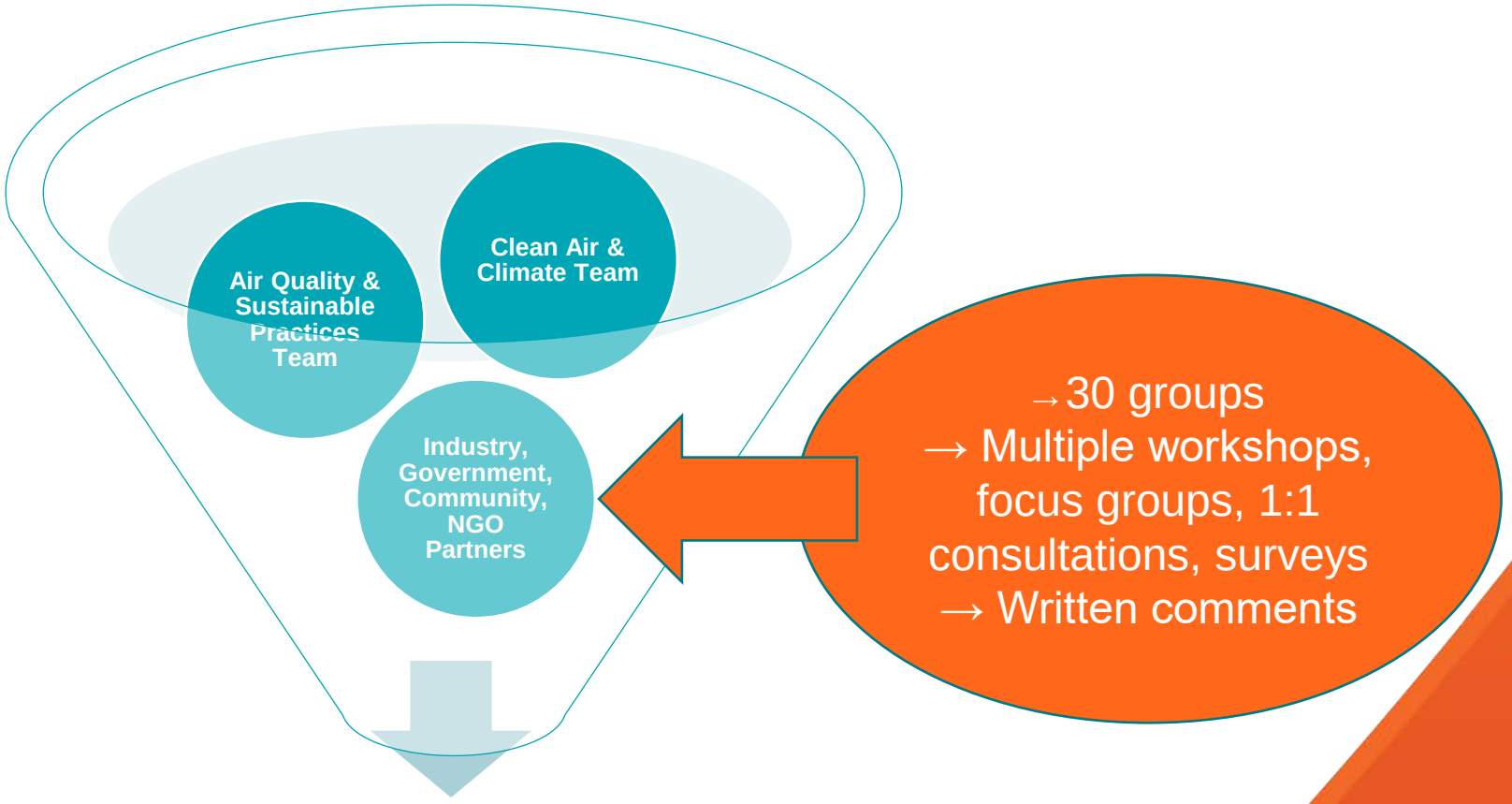
Source: Washington Environmental Health Disparities Map

Diesel (DPM) Emissions: Regional Context



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NWSA Implementation Plan: Process Overview



NWSA Implementation Plan

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External Engagement: Six Themes

1. Strong consensus on the need to achieve zero emission operations by 2050 and to prioritize the clean energy transition
2. Divergent feedback on timelines for achieving zero emissions in some sectors and the need for interim targets
3. Desire for ports to lead-by-example and prioritize climate/clean air investments to address environmental health disparities
4. Desire for more accountability, communication, and transparency in reporting and decision-making
5. Consensus on the importance of reducing emissions from trucks; concerns about cost, feasibility, equity
6. Concern about ocean-going vessels as a major source of emissions and impacts on marine life

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Most significant changes to NWSA Implementation Plan

Interim Targets	• Added reference to NWSA's existing 2030 target: 50% reduction (Resolution 2017-2) • Added support for state-wide 2040 target for 2040: 70% reduction (RCW 70.235.050)
Shore Power Usage	• Added requirement that shore power-capable ships plug in as infrastructure is installed
Accountability Framework	• Strengthened emphasis on 5-year milestones and more clearly articulated reporting regime and adaptive management process
Community Engagement	• Added reference to Duwamish Valley Community Equity Program • Strengthened community engagement actions: ➢ Quarterly community updates in Q1 of 2022 ➢ "Community Guide to Clean Air & Climate Solutions" ➢ Collaborate with community groups to develop ongoing engagement program

Ocean-Going Vessels (OGVs)

Key Actions	Key Milestones
1. Shore power a. Install at T-5 and Husky b. Complete design at T-18 c. Initiate planning/design at WUT, PCT, T-30 d. Modify leases to require usage as systems are installed 2. Study “clean vessel” incentives 3. Strengthen international engagement/advocacy	1. Shore power installed at T-5 (end 2022) & Husky (mid-2023); plug-in by capable ships required 2. Design complete at T-18; updated plans & cost estimates for shore power at WUT, PCT, and T-20 (end 2023) 3. Clean vessel incentive study completed (Q2 2022); program developed (end 2023)



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Drayage Trucks

Key Actions	Key Milestones
1. Continue Clean Truck Program; extend 2007+ requirement to domestic terminals 2. Expand scrap/replace program 3. Encourage renewable diesel, if feasible 4. Begin transition to zero-emission trucking 5. Continue/strengthen trucker outreach and support	1. 50 more pre-2007 trucks scrapped/replaced (end 2023) 2. Clean Truck Program requirement implemented at domestic terminals (end 2025) 3. Regional truck trip/parking analysis completed (end 2022) 4. Puget Sound/WA Zero Emission Truck Collaborative up/running (end 2022) 5. At least one demonstration project with at least 10 ZE drayage trucks is underway (end 2025)



ScRAPS 2

Seaport Truck Scrappage and Replacements for Air in Puget Sound

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Cargo-Handling Equipment (CHE)

Key Actions	Key Milestones
1. Purchase only Tier 4 CHE or better for NWSA; continue lease requirement of Tier 4 or better for new CHE purchases by tenants 2. Complete installation of six zero emission yard tractors at South Intermodal (SIM) Yard 3. Identify and implement additional zero and near-zero emission CHE demonstration projects	1. Electric yard tractor project at SIM Yard completed (Q2 2022) 2. Additional pilot projects completed or initiated, bringing at least 25 pieces of zero and near-zero emission CHE to the gateway (end 2025)



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Harbor Vessels

Key Actions	Key Milestones
1. Support installation of tug shore power for current and future tenants 2. Explore development of EV charging hub in gateway 3. Support government and industry efforts to secure funding, transition to cleaner harbor vessels 4. Advocate for increased funding opportunities	1. At least one hybrid diesel-electric or zero-emission tug in the gateway (end 2025) 2. Feasibility assessment of tug EV charging hub concept complete (end 2023)



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Locomotives

Key Actions	Key Milestones
1. Participate in Puget Sound Clean Air Agency's Western Clean Rail Collaborative 2. Support and encourage the use of renewable fuels 3. Support government and industry efforts to secure grant funding, transition to cleaner locomotives 4. Advocate for federal funding	1. At least one locomotive repower or replacement – diesel to diesel or diesel to cleaner fuel (end 2025)



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NWSA Fleets & Facilities

Key Actions	Key Milestones
1. Complete lighting upgrades at North Intermodal (NIM) Yard and EB-1 Terminal 2. Promote energy efficiency improvements and zero-emission vehicles by marine terminal operators and other tenants/ industry partners	1. Lighting upgrades at NIM Yard and EB-1 Terminal completed (June 2022) 2. At least one additional energy efficiency project by NWSA or tenant completed per year (2022-2025)



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Infrastructure & Technology Advancement

Key Actions	Key Milestones
1. Complete the Seattle Waterfront Clean Energy Strategic Plan and South Harbor Electrification Roadmap 2. Develop a ZE infrastructure plan for the NWSA gateway 3. Continuously assess zero-emission technology readiness 4. Implement zero-emission technology demonstration and pilot projects	1. Seattle Waterfront Clean Energy Strategic Plan completed (end 2022) 2. South Harbor Electrification Roadmap complete (June 2023) 3. Zero-Emission Infrastructure Plan developed (June 2024) 4. Zero-emission technology assessment framework completed (end 2022)



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Industry & Community Engagement

Key Actions	Key Milestones
Industry: 1. Continue to partner with industry partners on grants 2. Collaborate with tenants to develop an ongoing engagement program 3. Complete "Sustainability Partnerships Opportunities Assessment" ***Community:*** 1. Develop ongoing communication mechanism 2. Collaborate with near-port residents and groups to complete community resource guide and develop ongoing engagement program	1. Ongoing tenant/industry engagement and partnership program launched (end 2022) 2. "Sustainability Partnership Opportunities Assessment" completed (June 2022) 3. Quarterly implementation update produced/shared (starting Q1 2022) 4. "Community Guide to Clean Air & Climate Solutions" completed (end 2022) 5. Ongoing community engagement and partnership program developed and launched (end 2022)

Policy, Advocacy & Funding

Key Actions	Key Milestones
1. Strengthen NWSA's international engagement program 2. Strengthen federal engagement program 3. Strengthen state engagement program with a strong focus on key rule-makings (Clean Fuel Standard, WA Climate Commitment Act) 4. Continue to collaborate closely with the Puget Sound Clean Air Agency (PSCAA), cities, and counties on implementation of our respective clean air and climate plans	1. The state Clean Fuel Standard and Climate Commitment Act contain funding mechanisms to support NWPCAS implementation 2. Additional federal, state, and regional funding secured for NWSA clean air and climate investments; filling funding gaps by 2025 and ensuring NWSA meets goal of 50% costs covered by external funding sources 3. Stronger emission standards for international shipping are developed

Estimated Emission Reductions from Key Actions

	Action	GHG Emission Reductions (tons/yr)	% of Sector GHG Emissions	DPM Emission reductions (tons/yr)	% of Sector DPM Emissions
OGVs at Berth	T-5 Shore Power[a]	1,666	2.5%	0.55	4.1%
	Husky Shore Power	3,660	5.5%	1.20	9.0%
Trucks	Scrap and replace 50 pre-2007 trucks	0	0.0%	1.76	13.1%
	Demonstrate 10 zero emission trucks	838	0.5%	0.36	2.7%
Cargo-Handling Equipment	SIM Yard electric terminal tractor project	670	1.5%	0.33	2.4%
	Seattle ZE/NZE CHE demonstration	1,741	4.0%	1.35	10.0%
	Tacoma ZE/NZE CHE Demonstration	743	1.7%	0.99	7.3%
Tugs	Hybrid tug demonstration	351	1.5%	0.12	0.9%
Locomotives	Switching locomotive repower	0	0.0%	0.11	0.4%

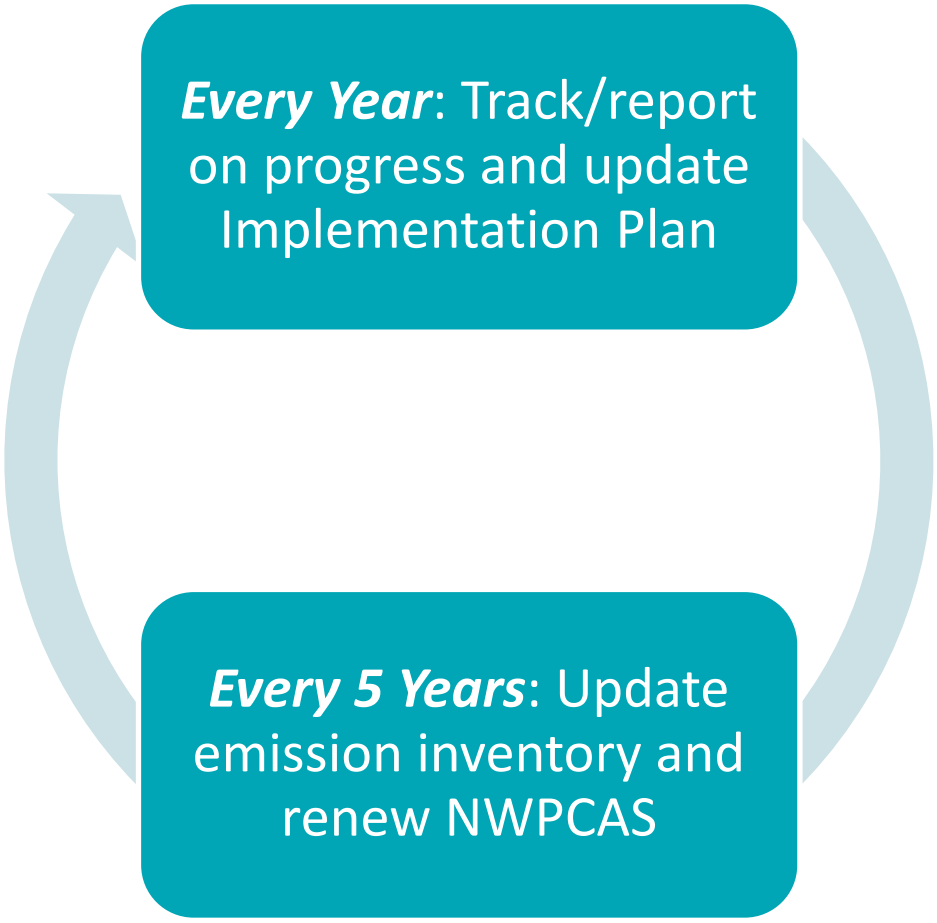
Estimated 5-Year Implementation Costs

Sector	Total Cost	NWSA $$$	Industry $$$ Needed	Industry $$$ Secured	External $$$ Needed	External $$$ Secured	Total Funding Gap
OGVs*	$38.9M	$14.0M	$0	$0	$24.8M	$5.1M	$11.3M
Trucks	$10.8M	$1.1M	$1.7M	$0	$8M	$.85M	$19.8M
CHE	$34.2M	$4.5M	$6.3M	$1.3M	$23M	$.91M	$27.5M
Fleets & Facilities	$3.8M	$1.4M	$0.75M	$0	$1.6M	$.14	$2.3M
Cross-Cutting	$2.1M	$1.6M	$0	$0	$.45M	$.2M	$.2M
TOTAL	**$89.8M**	**$22.6M**	**$8.7M**	**$1.3M**	**$58.4M**	**$7.3M**	**$58.6M**

* Includes approved funding for Husky shore power and assumes 80% grant funding for T-18 project.

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Accountability Framework



Conclusion

Request that the Managing Members of The Northwest Seaport Alliance advance the proposed resolution adopting the NWSA's 2021-2025 Clean Air Implementation Plan to a second reading.