

Decarbonizing Seaport Activities: Vision, Targets, Key Initiatives

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Joint Study Session: Port of Tacoma & Pierce County

Pierce County Chambers – 930 Tacoma Ave S, 10th Floor, Tacoma, WA 98402

September 5, 2023



Port of Tacoma & NWSA: leaders within a growing global “maritime decarbonization” movement...



Paccar Zero-Emission Trucks go to D.C.

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




Energy Secretary Jennifer Granholm and National Climate Advisor Gina McCarthy filmed a White House Weekly Conversation video in the cab of a Kenworth

Crowley developing first fully electric tugboat in US

Port of San Diego to gain electric tugboat in 2023

Alyssa Sporrer 1 month ago



Clean up, and pay up: Shipping industry confronts climate action demands

International Maritime Organization meeting aims to speed up emissions cuts amid calls for a carbon tax.



In 2018, the IMO introduced a target to at least halve shipping emissions by 2050 | Spencer Platt/Getty Images



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

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KEY POINTS

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

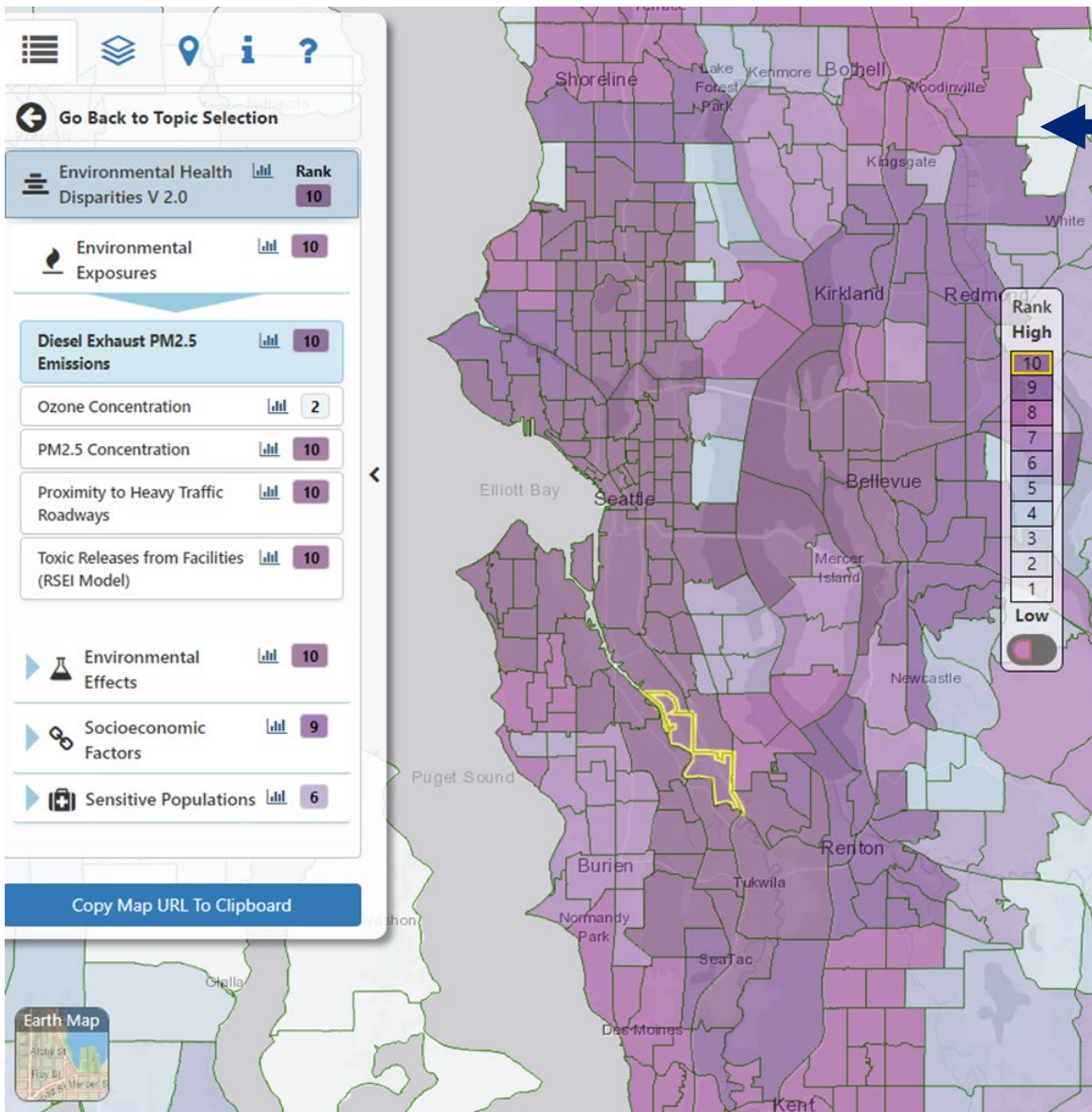
Our vision: zero-emissions by 2050 or sooner



“Phase out emissions from seaport activities by 2050 to...”

- Improve local air quality
- Reduce local environmental health disparities
- Do our part vis-à-vis global climate disruption

Advancing environmental and climate justice



WA Department of Health
“Environmental Health
Disparities Map”

WA Department of Ecology
map of “overburdened
communities”



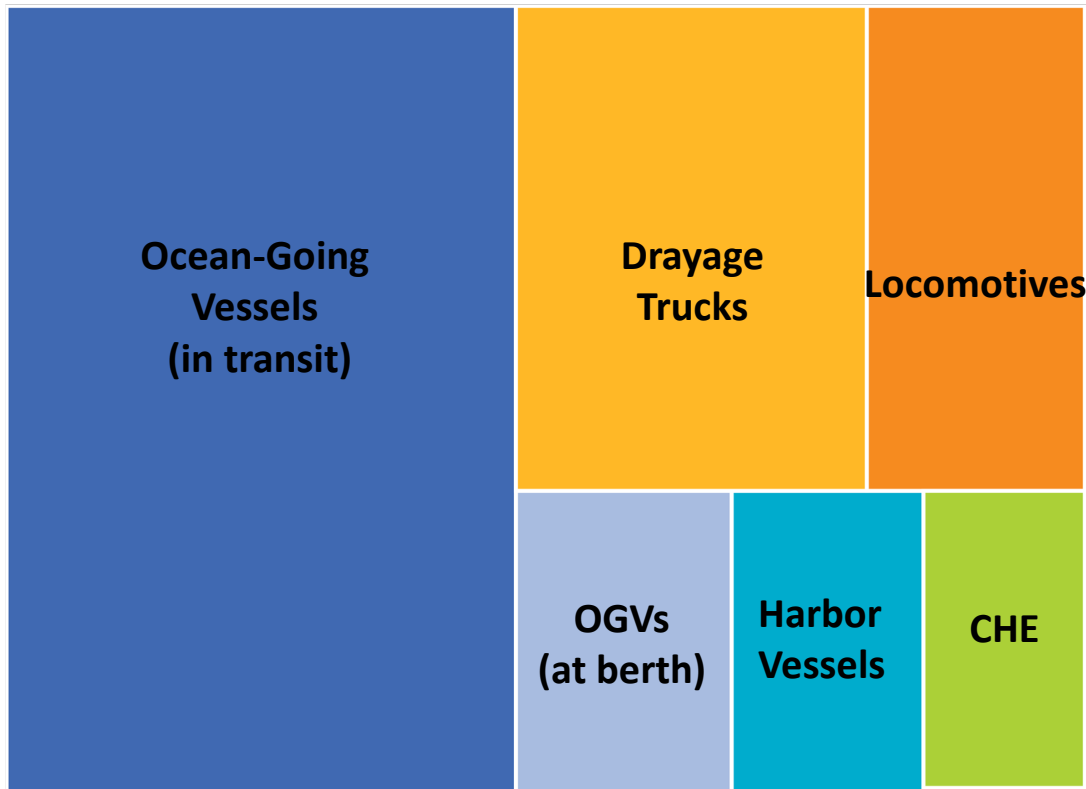
Our GHG reduction targets

	Scope 1 & 2	Scope 3
Port of Tacoma/NWSA	Net-zero emissions by 2040 (2005 baseline)	Zero emissions by 2050
Pierce County	“Reduce community-wide emissions 45% by 2030” (2015 baseline)	
City of Tacoma	Net-zero emissions by 2050	

Sources of seaport emissions

Diesel Particulate Matter (DPM) Sources

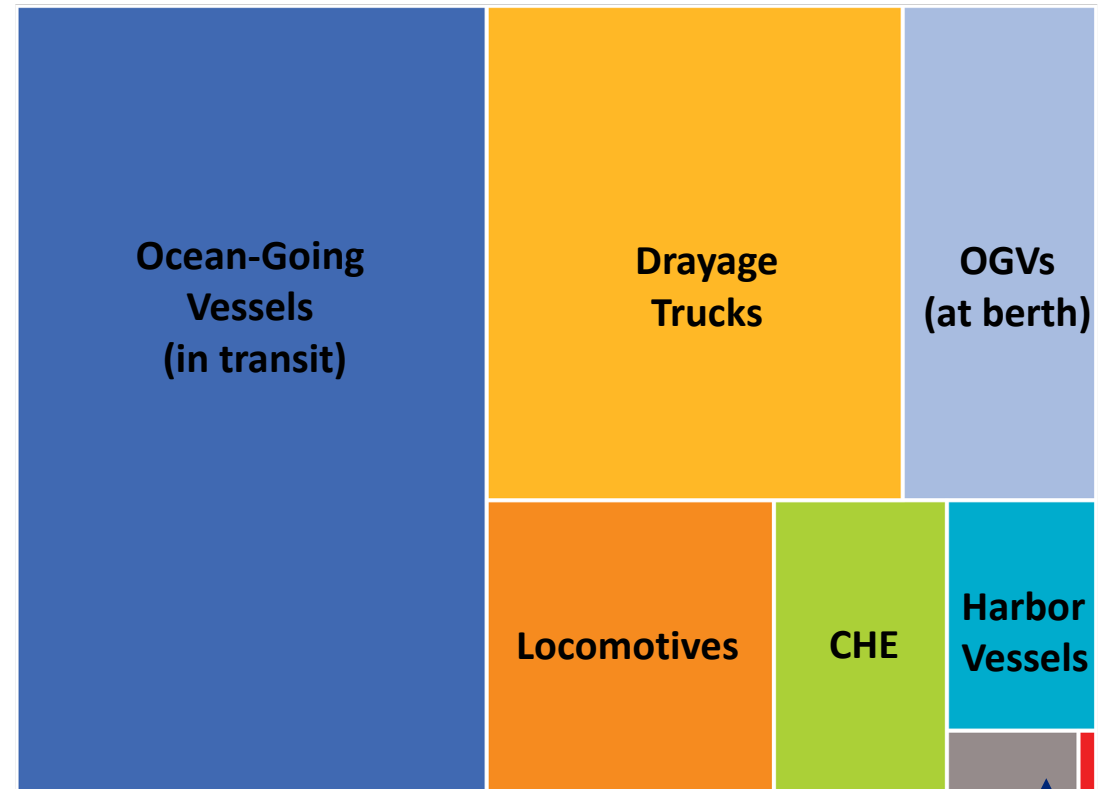
NWSA + Port of Seattle + Port of Tacoma



Total Emissions: 235 tons

Greenhouse Gas Sources

NWSA + Port of Seattle + Port of Tacoma

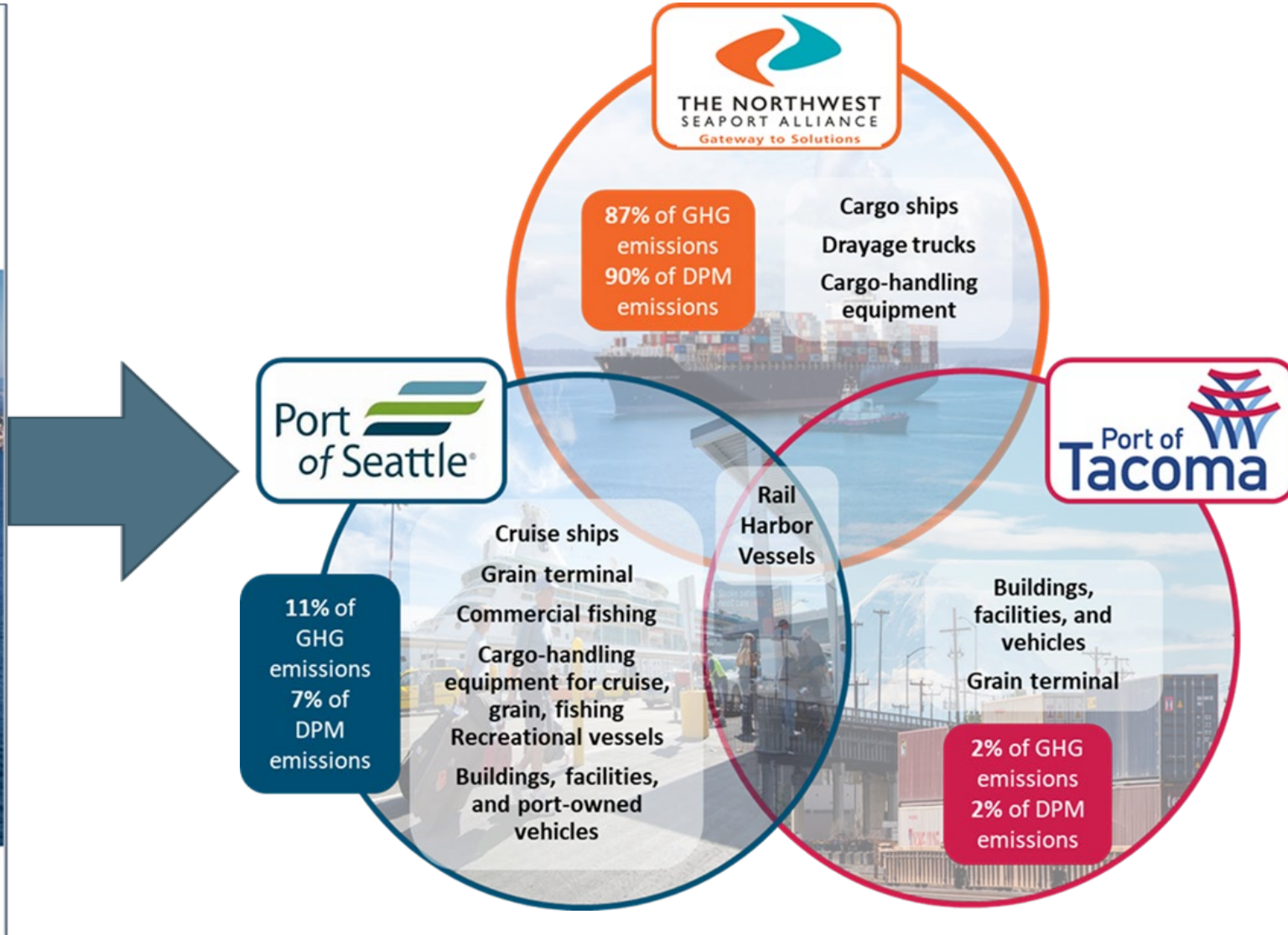


Total Emissions: 738,007 tons CO₂e

Port & tenant
fleets/facilities

Source: 2016 Puget Sound Maritime Air Emissions Inventory

Sources of emissions across three port entities



Source-Specific Initiatives



At-Berth

- Goal: Install shore power at all major international container terminals by 2030
- 2 done; 2 underway; 4 more to go

In Transit

- Engagement in International Association of Ports & Harbors (IAPH)
- Advocacy @ International Maritime Organization (IMO)
- “Early adopter” participation in “green corridors” movement



Busan, Pacific Northwest Seaports Partner on Decarbonization

November 7, 2022



(Photo: The Northwest Seaport Alliance)

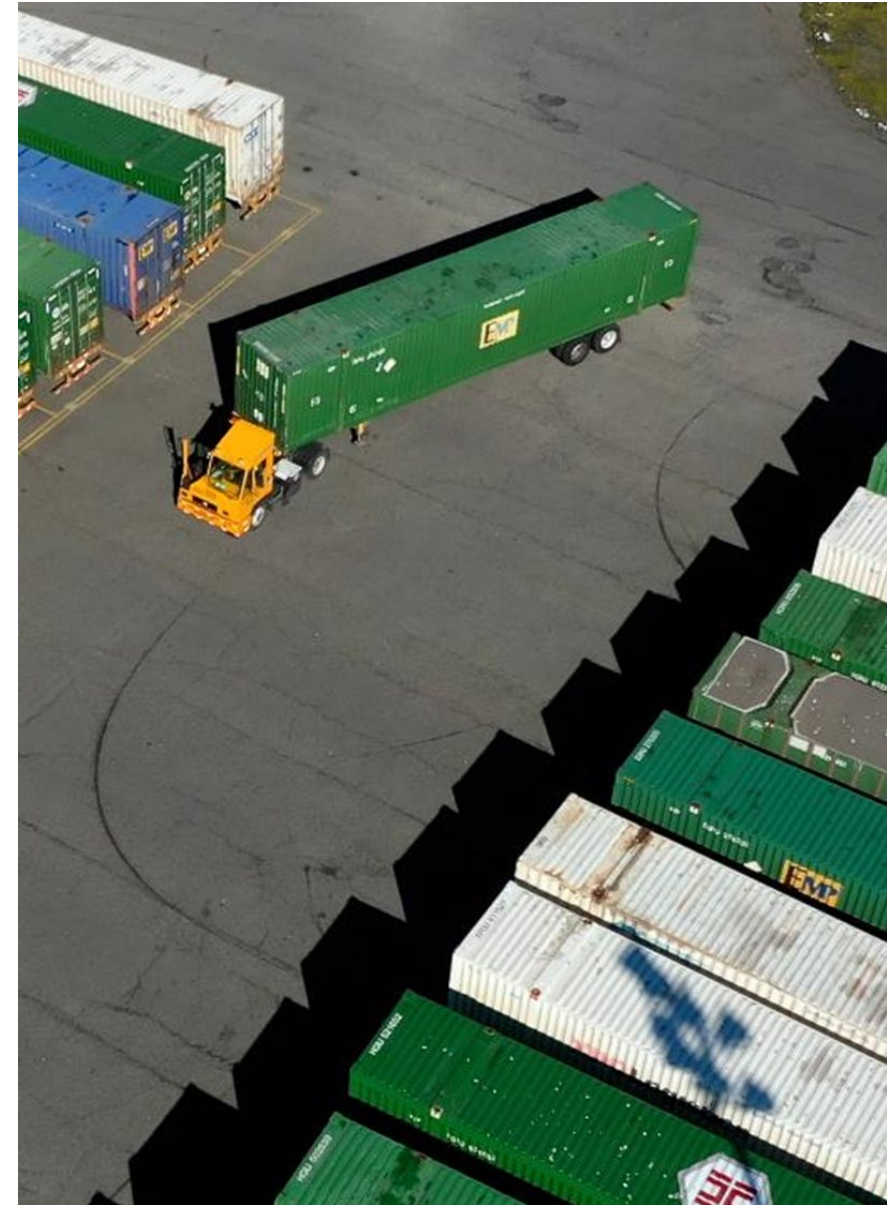
The Northwest Seaport Alliance announced its newest decarbonization effort as part of the Green Shipping Challenge at the 27th Conference of the Parties (COP 27) to the United Nations Framework Convention on Climate Change held in the Egyptian city of Sharm el-Sheikh.

The Northwest Seaport Alliance (NWSA), the marine cargo partnership between the Port of Tacoma and the Port of Seattle, announced its partnership with the Republic of Korea, the Busan Port Authority, and the United States Government to study the feasibility of creating a green cargo shipping corridor between the NWSA and the Busan Port Authority's cargo gateways.

The Green Shipping Challenge is a new initiative by the United States and Norway to highlight global actions and concrete steps being taken to decarbonize the international

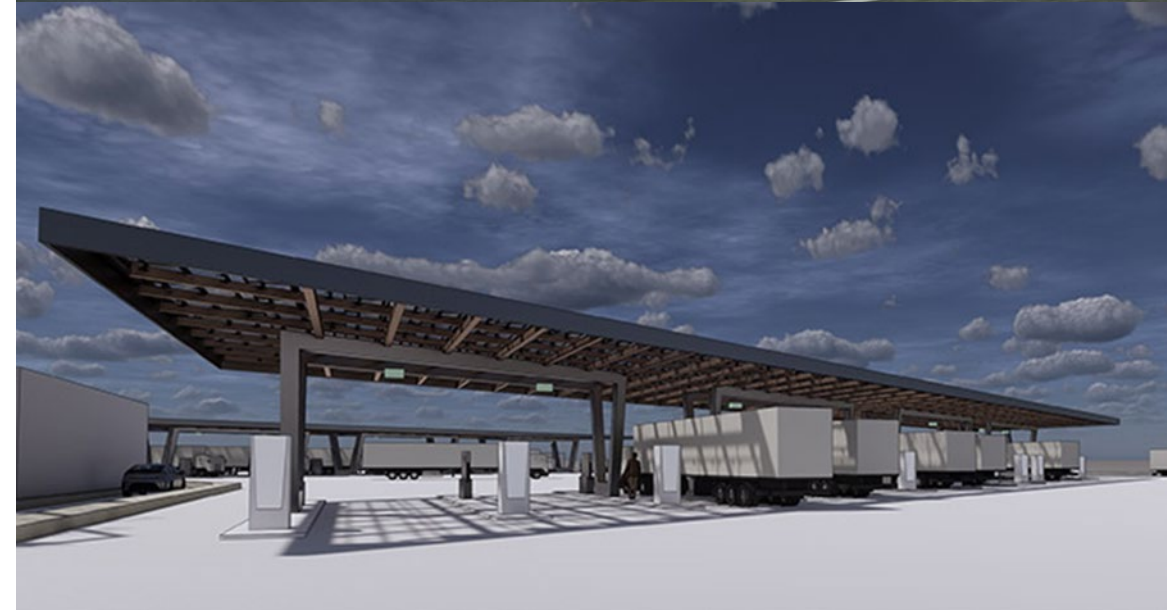
Clean CHE Program

- First Deployment going great!
 - Six electric yard trucks at the South Intermodal Yard @ Port of Tacoma
- Teeing up additional deployments for imminent funding opportunities
- New “Clean CHE Incentive Program”
 - Mix of NWSA and state funding so far



Clean Trucks Program

- Further reduce emissions from existing diesel “fleet”
 - Expanding “Clean Truck Rule”
 - Active scrap/replace incentive program
- Facilitate a just and equitable transition to zero-emission trucks
 - Zero-Emission Drayage Demonstration(s)
 - Decarbonizing Drayage Roadmap
 - Puget Sound Zero-Emission Truck Collaborative



Longer-Term Strategic Initiatives



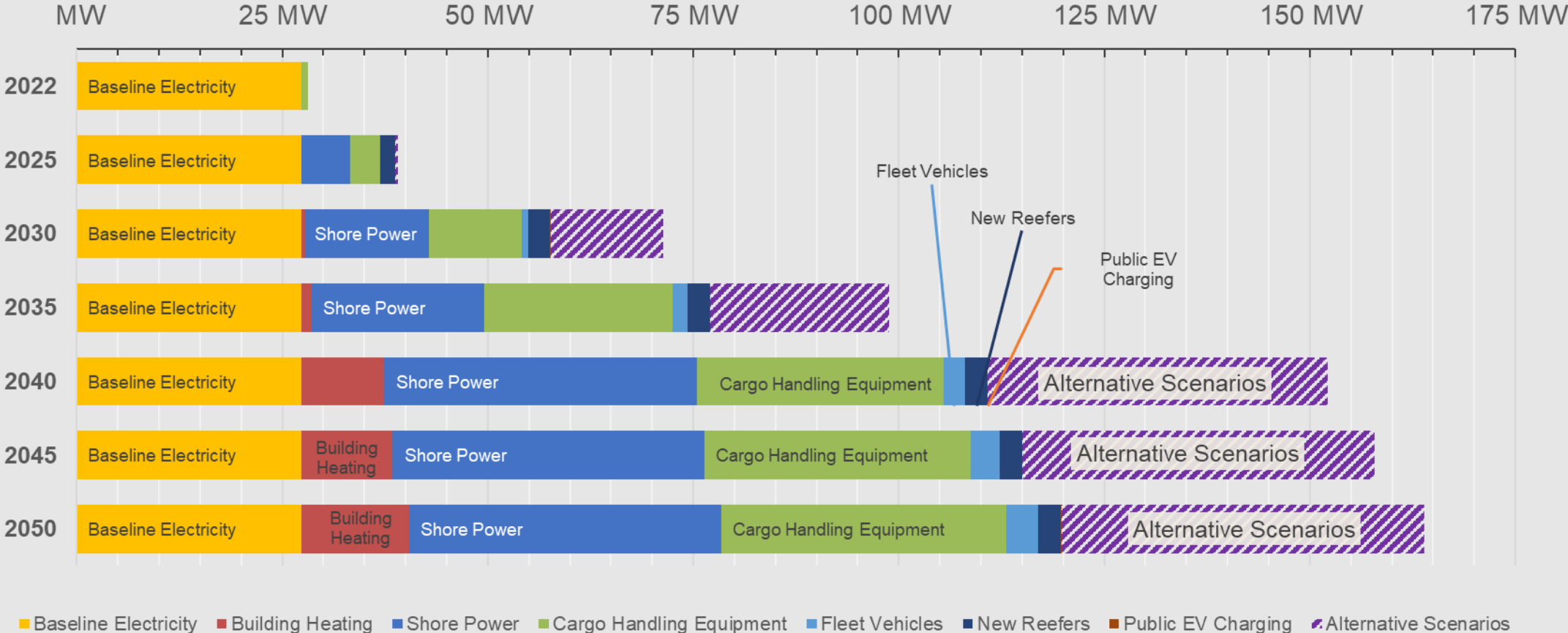
- Energy planning studies in both harbors nearing completion
- Participating actively in PNW Regional Clean Hydrogen Hub
- US – Korea Green Corridor Pre-Feasibility Study nearing completion



A sneak peak into the challenge we'll face...



Projected Port-Wide Coincident Peak Electrical Demand by End Use



US-South Korea Green Corridor Study: snapshot



CLEAN AIR QUARTERLY

ISSUE 4 | MARCH 2023

PORT OF SEATTLE || THE NORTHWEST SEAPORT ALLIANCE || PORT OF TACOMA

LET'S CONNECT!

Welcome to the Ports Clean Air Quarterly, the newsletter for port-related clean air and climate activities. Each newsletter showcases projects and milestones across our gateway features a partner who is making a difference in our region, and highlights upcoming opportunities for community engagement, such as bus tours, commission meetings, or webinars.

This edition is our Year in Review, highlighting sustainability successes from 2022. The Port of Tacoma, Port of Seattle, and the Northwest Seaport Alliance (NWSA) have made major strides towards our climate goals and so we look back on the work that made these achievements possible. We also look forward to all that remains to meet our clean air goals, and look forward to working with all of you to achieve them.

Onward and upward into 2023!

YEAR IN REVIEW

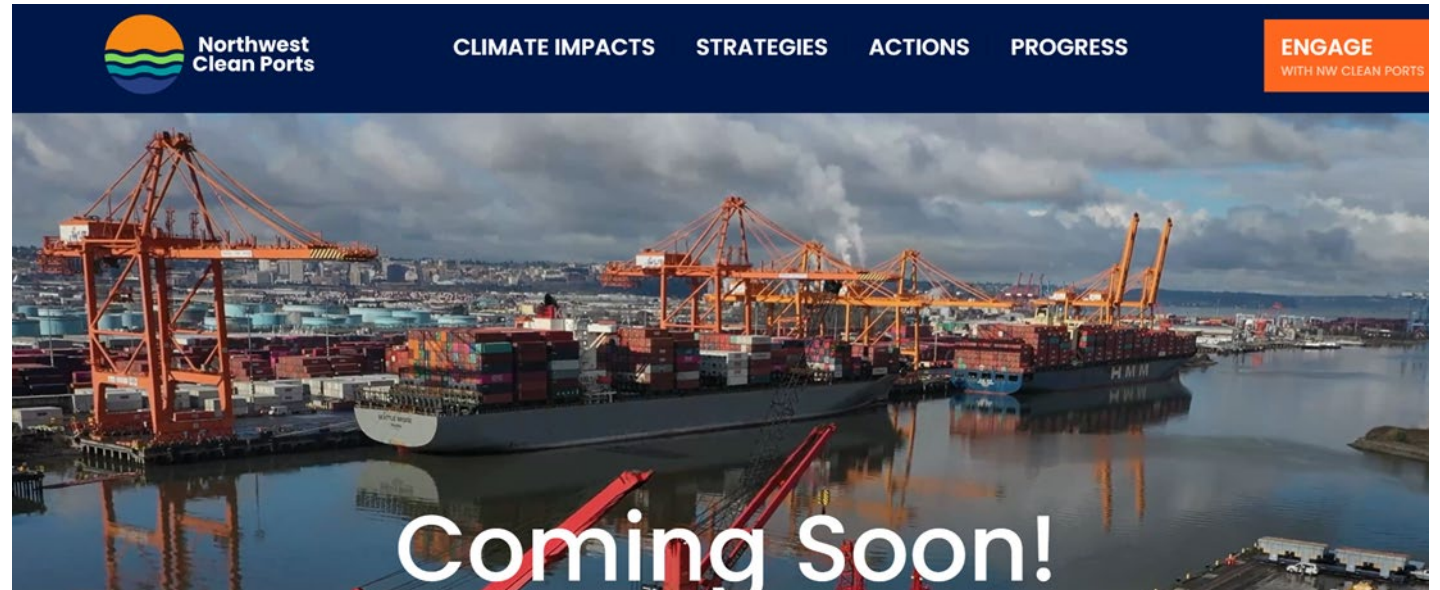


Aerial photo of the Tacoma location and the Port of Tacoma with Mt. Rainier in the distance.

2022 was a busy year for the Ports' maritime environmental initiatives and as we look toward all we will achieve in 2023, we want to share the brightest and best of what we have accomplished. One of these achievements was that the NWSA instituted its first clean air-focused newsletter (You're reading it right now!) which provides a behind-the-scenes look at the work that goes into the deceptively complex tasks of "reaching zero emissions" and "improving air quality."

Many of these projects have been explored in more detail in past issues of this newsletter; if you'd like to learn more, visit nwseaportalliance.com/newsroom to view our publication archive.

- Ports Clean Air Quarterly
- NW Clean Ports web portal (coming soon!)
- On-going community engagement programs in both harbors (under development)



Alignment with Sustainability 2030



Sustainability 2030 Actions	Related Port of Tacoma/NWSA Actions
<p>Energy & Built Environment EBE-1 (new buildings); EBE-2 (existing buildings); EBE-4 (access to renewable energy)</p>	<ul style="list-style-type: none"> • Building energy management program under development
<p>Transportation T-3: Support efforts to advance electrification at Port of Tacoma and NW Seaport Alliance</p>	<ul style="list-style-type: none"> • Clean Vessels, Clean Trucks, Clean CHE programs • “Clean Energy Hub” activities
<p>Education & Outreach EO-1 (Sustainability Collaborative); EO-2 (climate education); EO-3 (community engagement); EO-7 (green workforce development)</p>	<ul style="list-style-type: none"> • Port/NWSA participating in the Collaborative • Community Communications & Engagement programs • Workforce Development efforts (including coordination with City’s Green Economy Strategy)
<p>Growing Community Impacts GCC-3 (climate impacts planning)</p>	<ul style="list-style-type: none"> • Vulnerability Assessment & Response Framework (VARF)
<p>County Buildings & Fleets CBF-1 (building electrification); CBF-4 (lighting efficiency); CBF-5/6 (fleet electrification/charging)</p>	<ul style="list-style-type: none"> • Sustainable Fleet Management Plan • Sustainable & Resilient Buildings & Infrastructure Framework • Numerous lighting upgrades completed or planned
<p>Education & Equitable Practices</p>	<ul style="list-style-type: none"> • Port Diversity, Equity, & Inclusion program under development



Thank You

Questions & Discussion



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