

# Charting the Course to Zero: 2020 Northwest Ports Clean Air Strategy and Port of Seattle's Climate and Air Action Plan

Port of Seattle Commission  
Meeting  
January 12, 2021

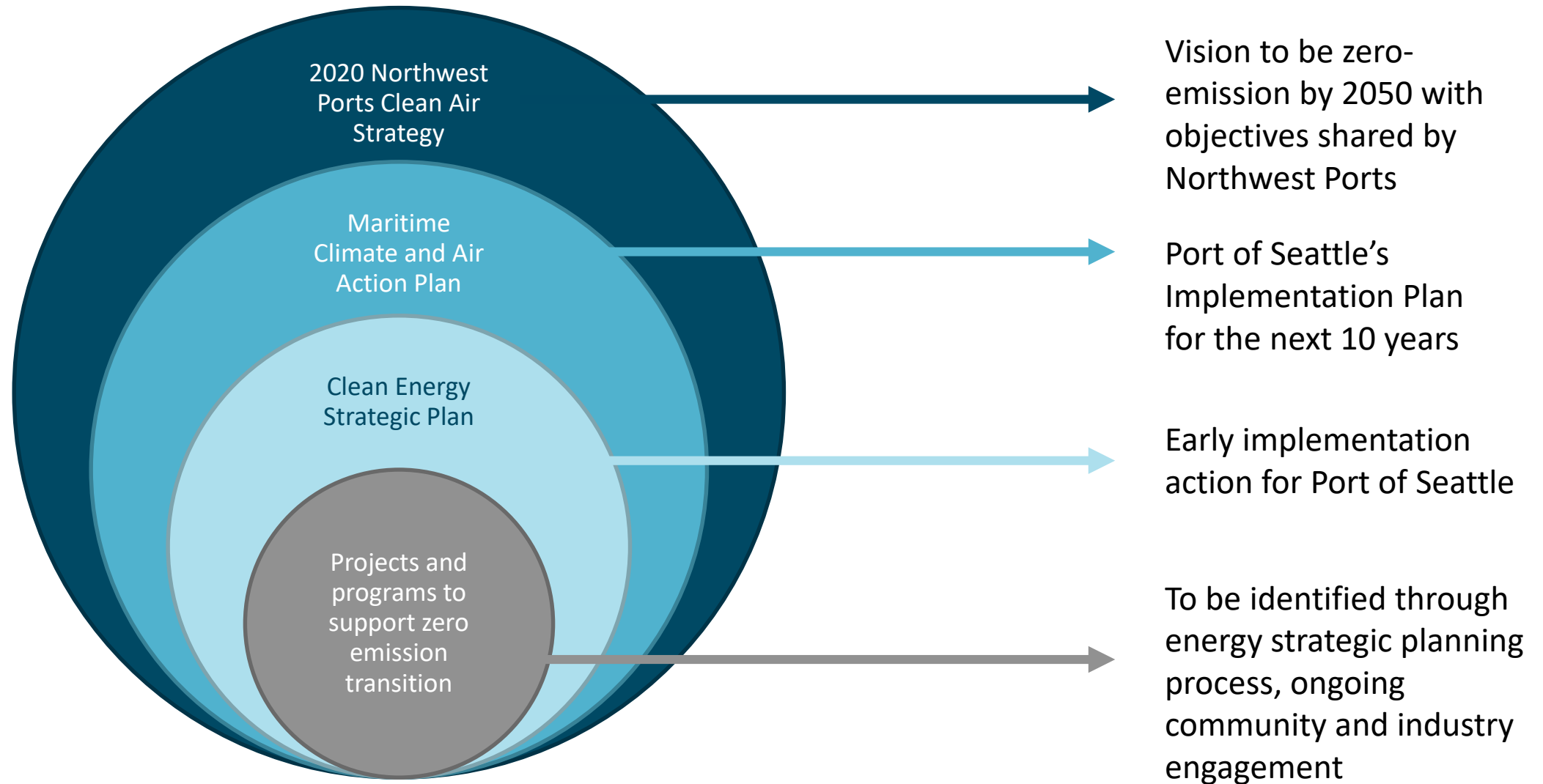


# Briefing Objectives

- Present the final 2020 Northwest Ports Clean Air Strategy (NWPCAS)
- Preview Port of Seattle's proposed implementation plan, *Charting the Course to Zero: Port of Seattle's Maritime Climate and Air Action Plan (MCAAP)*
- Demonstrate ongoing commitment to community engagement and equitable outcomes throughout implementation



# The Port is taking a comprehensive approach to maritime climate and clean air action



# Timeline for 2020 NWPCAS adoption and early implementation

## **February-March 2021:**

- The final **2020 NWPCAS** will be presented to the Northwest Seaport Alliance Managing Members in two readings in February and March, and adopted through a dual action by the homeports and one resolution; Port of Vancouver on similar schedule

## **April 2021:**

- Present final **Maritime Climate and Air Action Plan** to Port of Seattle Commission, Port of Seattle's implementation plan for the 2020 NWPCAS
- Begin implementation; report annually on progress

## **2022:**

- Complete the **Seattle Waterfront Clean Energy Strategic Plan**

# 25+ perspectives shaped the 2020 Strategy

- 3 Engagement workshops: summer 2019, spring 2020, fall 2020
- Participants:

Industry	Government	Community and Non-Profit
<ul style="list-style-type: none"> <li>• American Waterways Operators</li> <li>• BNSF Railway</li> <li>• ColumbiaH2</li> <li>• Harbor Truckers Association</li> <li>• Husky Terminal</li> <li>• International Longshore and Warehouse Union</li> <li>• Pacific Merchant Shipping Association</li> <li>• Washington United Terminals</li> <li>• Shippers Transport Express</li> <li>• RoadOne</li> <li>• SSA Marine</li> <li>• Washington Trucking Association</li> </ul>	<ul style="list-style-type: none"> <li>• City of Seattle</li> <li>• Puget Sound Clean Air Agency</li> <li>• Seattle City Light</li> <li>• Tacoma Power</li> <li>• U.S. Environmental Protection Agency</li> <li>• Washington Dept. of Commerce</li> <li>• Washington Dept. of Ecology</li> <li>• Washington Dept. of Transportation</li> </ul>	<ul style="list-style-type: none"> <li>• Citizens for a Healthy Bay</li> <li>• Climate Solutions</li> <li>• Duwamish River Clean Up Coalition</li> <li>• Environmental Coalition of South Seattle</li> <li>• Environmental Defense Fund</li> <li>• Front &amp; Centered</li> <li>• Port Community Action Team</li> </ul>

- 9 sets of written comments received, conducted 1:1 meetings, briefings

# Engagement led to a bold new vision for 2050

Broad support for vision to phase out emissions and interest in collaboration

Technology-neutral approach to zero-emission transition

Divergent feedback on timelines: the need for urgent action vs. concern with cost and readiness of zero-emission technology



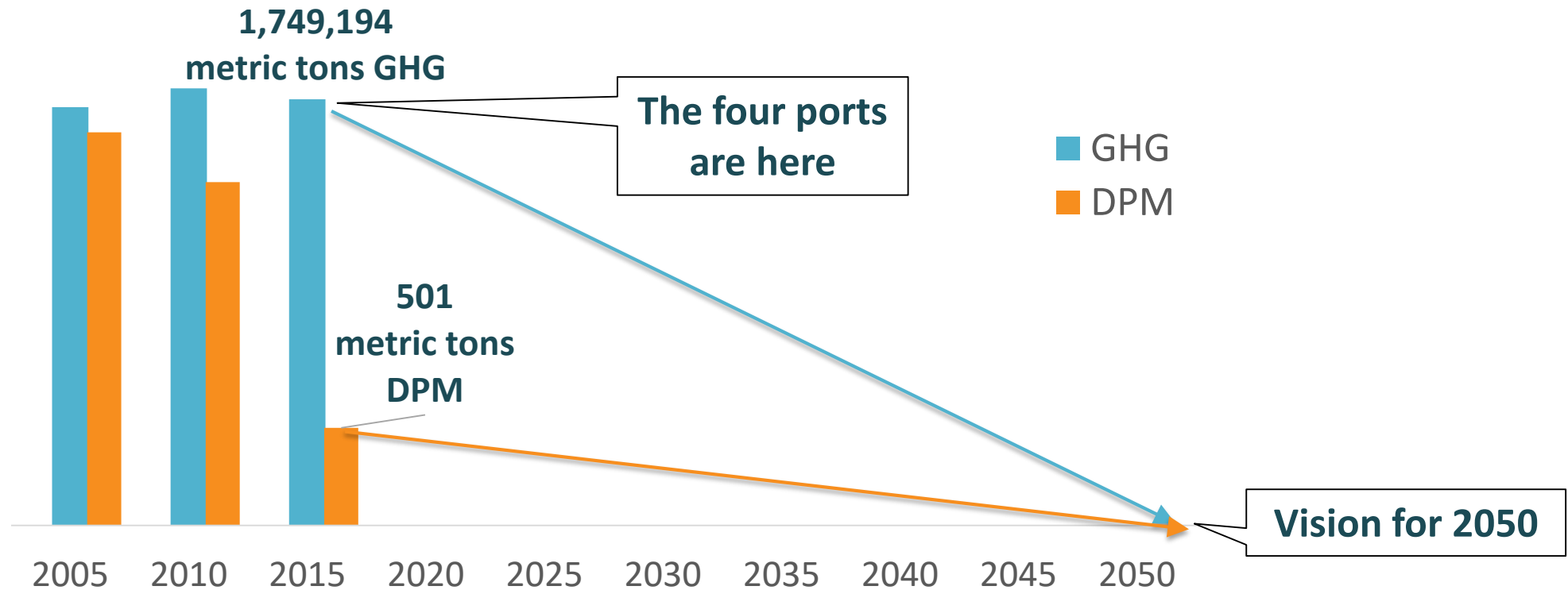
Vision must be measurable and consistent with latest climate science

Clarify role of ports

Maintain strong engagement through implementation

# New vision recognizes urgency, aligns with latest climate science

*Phase out emissions from seaport-related activities by 2050, supporting cleaner air for our local communities and fulfilling our shared responsibility to help limit global temperature rise to 1.5°C.*





# The Strategy sets joint objectives to achieve zero-emissions by 2050



## 2020

- Implement programs that promote equipment efficiency, phase out old high-emitting equipment, and support lower emission interim fuels (*ongoing*)
- Continually increase efficiency in port authority fleets, facilities, and lighting (*ongoing*)



## 2030

- **By 2030**, install shore power at all major cruise and container berths
- **By 2030**, sufficient infrastructure is in place to enable transition to zero-emission cargo-handling equipment, trucks, harbor vessels, and on-terminal rail
- **By 2030**, port authority passenger fleets are zero-emissions vehicles or use renewable fuels



## 2050

- **By 2050**, adopt zero-emission cargo-handling equipment, harbor vessels trucks, and on-terminal rail
- **By 2050**, port authorities have adopted zero-emissions vehicles, equipment, and vessel fleets
- **By 2050**, zero-emission buildings and high-efficiency lighting are in place

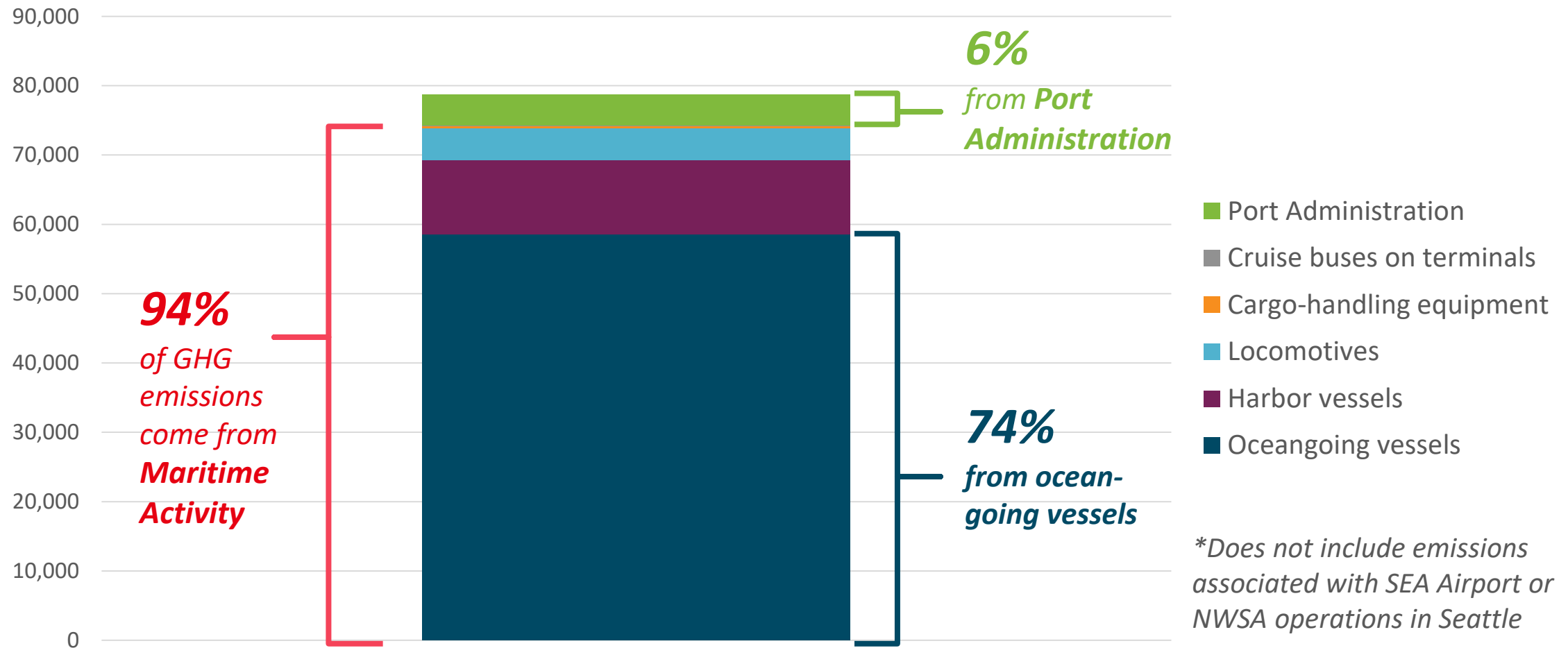
Support international efforts toward phasing out emissions from ocean-going vessels (ongoing)



# 94% of the Port's climate emissions come from maritime activity

## 2019 Port of Seattle Maritime GHG Emissions

Total: 78,793 metric tons CO<sub>2</sub>\*



# Charting the Course to Zero: 2020 Strategy Implementation at Port of Seattle

## Cross-Sector Strategies:

- Facilitate cross-industry planning through Seattle Waterfront Clean Energy Strategic Plan
- Update green lease terms and incorporate into all new and renewed landside leases
- Advocate for local, state, and federal policy and funding that supports climate action
- Engage with community, industry, and government



Implementation will prioritize transparency and sustainable, cost-effective, and equitable outcomes

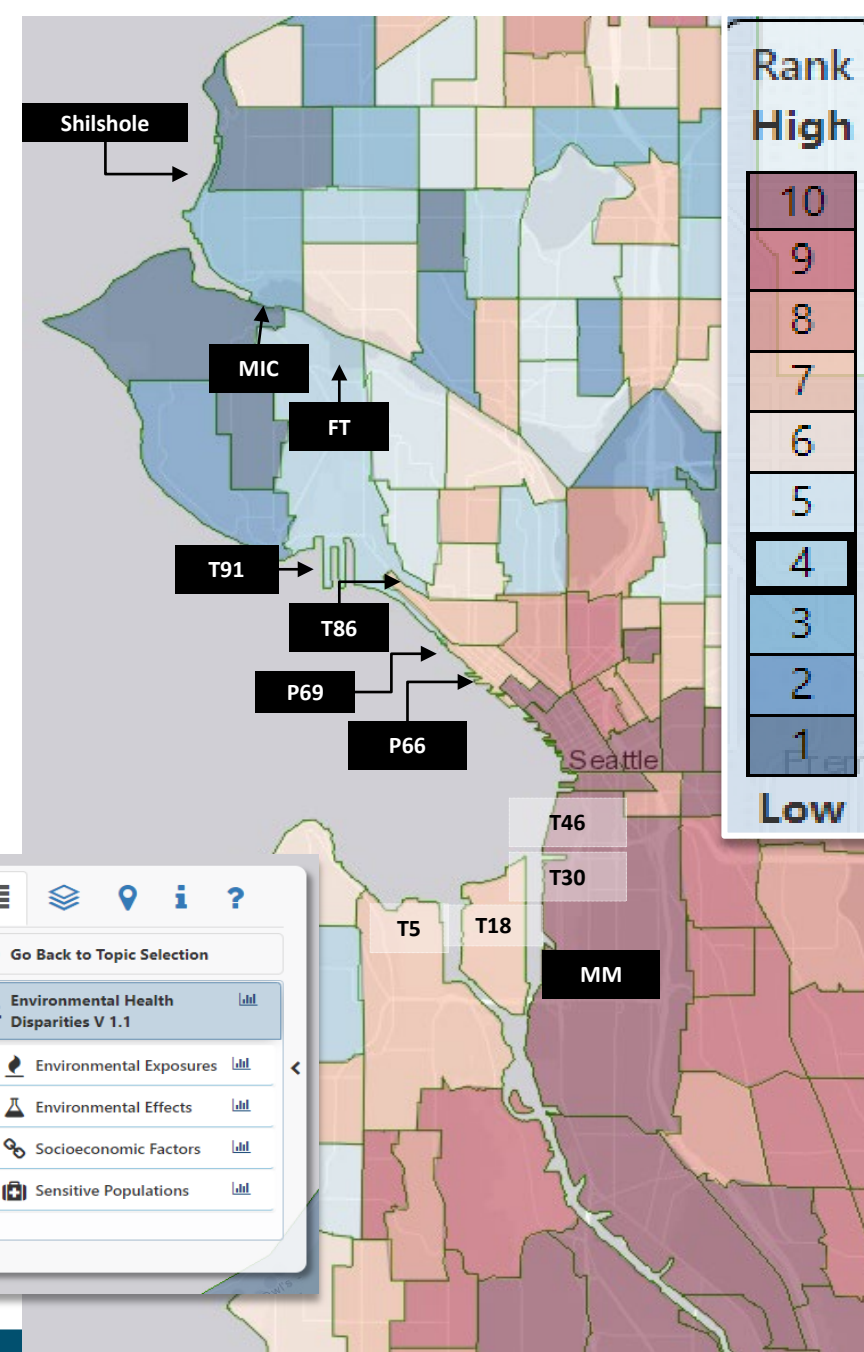
### Tools to prioritize implementation:

- Sustainable Evaluation Framework
- Cost-benefit analyses
- Port of Seattle's Equity Index
- Continuous improvement of emissions data
- Ongoing engagement and collaboration throughout implementation

**Washington  
Environmental Health  
Disparities Map**  
*Compares communities  
across the state for  
environmental health  
disparities*

Go Back to Topic Selection

- Environmental Health Disparities V 1.1
- Environmental Exposures
- Environmental Effects
- Socioeconomic Factors
- Sensitive Populations





# Waterside Strategies: focus on shore power, research, and demonstration

*Ocean-Going Vessels and Harbor Vessels (tugs, fishing, commercial, recreational vessels)*

## Shore power:

- Install shore power at Pier 66 by 2023, achieving NWPCAS objective early
- Reach 100% shore power-equipped calls and 100% connection rate by 2030

## Research:

- Complete Port of Seattle-specific cruise ship emission research and a cruise environmental strategy
- Participate in development of IAPH at-berth cruise reporting
- Evaluate emissions benefits of slow steaming with the Quiet Sound program

## Demonstration:

- Work with governments, industry, and NGOs to support development and demonstration of a zero-emission ocean-going vessel and harbor vessel by 2030
- Demonstrate zero-emission outboard engines in Port-owned vessel fleets and communicate results



# **Landside Strategies:** focus on engagement, research, demonstration, advocacy

*Cargo-Handling Equipment, Cruise/Fishing Trucks and Buses, On-Terminal Rail*

## **Industry engagement:**

- Engage Port tenants to begin planning and designing infrastructure to support zero-emission cargo-handling equipment and on-terminal rail
- Engage commercial fishing and cruise trucking industry to discuss truck fleet needs and opportunities for alternative fuels or zero-emission technology
- Work with Port tenants to accelerate replacement of unregulated switcher locomotives for near or zero-emission alternatives

## **Research:**

- Evaluate environmental incentive programs to accelerate Port tenant and customer cargo-handling equipment upgrades or low carbon fuel use
- Research and develop strategies to reduce emissions from passenger ground transportation serving cruise terminals

## **Demonstration:**

- Collaborate with terminal operators and fishing operations to assess the feasibility and demonstrate zero emissions equipment, trucks, and buses

## **Advocacy:**

- Explore opportunities to advocate for regulatory changes that reduce emissions from Class I Railroads.

## Port Administration Strategies: focus on reducing energy and fuel use, shifting from fossil energy, leveraging carbon sequestration opportunities

- Eliminate fossil natural gas in port-managed properties by 2030
- Transition port-owned fleet vehicles to electric vehicles or renewable fuel by 2030
- Encourage use of flexible work arrangements
- Maximize diversion of recyclable and organic material and minimize solid waste generation
- Complete Smith Cove Blue Carbon Benefits Study and continue to restore shoreline habitat



# Focused resources are needed for successful implementation

POS NWPCAS Project/Program	5-Yr Low Estimate	5-Yr High Estimate	NWPCAS Sector
Shore Power at P66	\$14M	\$17M	OGV
Fleet Replacement	\$8.5M	\$11M	Admin
HVAC Upgrades (P66, World Trade Cent.)	\$6.4M	\$6.4M	Admin
Building Solar Panels	\$1.2M	\$1.2M	Admin
Lighting Upgrades	\$250K	\$500K	Admin
Clean Energy Plan Early Implementation/Pilots	\$100K	\$500K	Cross-cutting
EV Charging Infrastructure	\$200K	\$450K	Admin
Energy Management Software	\$100K	\$400K	Admin
Shore Power at HIM E-dock for tugs	\$385K	\$385K	Harbor Craft
Building Tune-Ups	\$150K	\$300K	Admin
Complete Clean Energy Plan	\$250K	\$250K	Cross-cutting
Community Engagement	\$50K	\$250K	Cross-cutting
Cruise Emission Inventory and Environmental Plan	\$35K	\$50K	OGV
Tenant Engagement and Green Lease Development	\$25K	\$50K	Cross-cutting
<b>Estimated Total Direct Cost Range</b>	<b>\$32M</b>	<b>\$39M</b>	

*Estimates do not include staff time, shared costs between the Port and customers, or industry-only costs*