Charting the Course to Zero: *Port of Seattle's Maritime Climate and Air Action Plan*

Community Quick Reference Guide
November 2021 Final Draft

This Community Quick Reference Guide was created to provide a brief summary of *Charting the Course to Zero: Port of Seattle's Maritime Climate and Air Action Plan* (MCAAP) and highlight sections that may be of interest to members of Seattle's near-port communities.

Port of Seattle Commission adopted the MCAAP on November 16, 2021. The final version incorporated feedback from near-port communities, government, and industry. A summary of the engagement process, feedback received, and how feedback informed the plan is available on our website.

Explore the Final Plan

- Charting the Course to Zero: Port of Seattle's Maritime Climate and Air Action Plan (full document, webpage)

How to Stay Involved

The Port is committed to ongoing engagement on the MCAAP even after the plan is adopted to identify emission reduction projects, align with community priorities, and report on progress.

- **Send an email to join the Clean Air mailing list or ask a question: cleanair@portseattle.org**

And stay tuned for more opportunities to provide input.

About the Port of Seattle's Maritime Climate and Air Action Plan

The MCAAP is a comprehensive plan to address climate change and air pollution from maritime sources. It charts the course to achieve the Port's Century Agenda greenhouse gas (GHG) reduction targets and implement the 2020 Northwest Ports Clean Air Strategy (2020 Strategy) vision to phase out emissions from seaport-related sources by 2050.

The MCAAP was created to address the urgency of the climate crisis and to reduce maritime-related emissions in near-port communities in Seattle that are disproportionately impacted by

air pollution. As the Port of Seattle works toward the long-term 2020 Strategy vision, the MCAAP identifies strategies and actions the Port will implement by 2030 to reduce air pollutant and GHG emissions from port maritime sources.

What sources of emissions are covered in the MCAAP?

The MCAAP covers GHG emission sources related to **Port Maritime Administration** operations by Port of Seattle's Maritime and Economic Development Divisions. These include emissions from the energy used in Port of Seattle's buildings, fuel used in fleet vehicles and equipment, and emissions associated with employee commuting and solid waste transportation and disposal. The Plan also covers diesel particulate matter (DPM) and GHG emissions sources from Port of Seattle's **Maritime Activities**. These sources include ocean-going vessels like cruise ships and grain ships, cargo-handling equipment, harbor vessels, such as tug boats, recreational vessels, and the Port's commercial fishing fleet, trucks serving the cruise industry and fishing fleets (container trucks are included in the Northwest Seaport Alliance's (NWSA) Implementation Plan), and rail locomotives serving the Port's grain terminal.

In addition to emission reduction opportunities, the Plan also includes actions to restore shoreline and habitat for its the future carbon sequestration potential.

Table 1. Port of Seattle's maritime emissions sources covered by the MCAAP

Port Maritime Administration GHG Emissions Sources	Maritime Activity GHG and DPM Emissions Sources
• **Building and Campus Energy:** Electricity and natural gas used in 80 buildings across 10 major campuses in Seattle • **Fleet Vehicles and Equipment:** Fuel consumed by 400+ maritime fleet vehicle and equipment assets • **Employee Commuting:** Port employees commuting to maritime properties. • **Solid Waste:** Transport and disposal of solid waste generated at the Port's maritime properties	• **Oceangoing vessels:** Cruise, grain ships • **Harbor vessels:** tugboats, commercial fishing, and recreational vessels • **Cargo-handling equipment:** equipment used to lift and move goods to and from storage areas, ships, trucks, and railcars • **Trucks:** Cruise buses and shuttle vans and trucks that support cruise and commercial fishing operations • **Rail:** Switcher (used on terminal) and line-haul (used off terminal) locomotives serving grain operations

NOTE: The NWSA developed a complementary implementation plan that addresses all emissions from Seattle and Tacoma's marine cargo terminal operations, including marine cargo ships and container trucks.

The MCAAP does not address GHG or DPM emissions associated with Seattle-Tacoma International Airport (SEA) administration, airlines, tenants, or ground transportation. SEA creates its own separate plans and inventories to track and address these sources (learn more in the Sustainable Airport Master Plan). The MCAAP also excludes emissions from marine cargo terminal operations managed by the NWSA. As a partner on the Northwest Ports Clean Air Strategy, NWSA developed a complementary plan with actions to reduce emissions from these

sources. Like Port of Seattle, NWSA commits to ongoing engagement to identify, develop and equitably implement strategies to reduce climate and air pollution.

How will Port of Seattle reduce maritime emissions?

Strategies to Reduce Emissions

The MCAAP identifies a set of ambitious and timely strategies and actions to be taken by 2030 for both Port Maritime Administration and Maritime Activity sectors to decrease GHG and air pollutant emissions. Strategies and actions align across the following themes:

- Transition from fossil-based energy to zero-emission energy in Port maritime administration and facilitate the transition for maritime industries
- Continually reduce energy use and emissions in the interim to proactively address the impacts of climate change and air quality on community health
- Involve communities in decision-making and take an equity approach to climate and air emissions reductions
- Advance policy, funding, and technology development for climate and clean air action through partnerships
- Leverage habitat restoration projects to sequester carbon, among other benefits.

Port Maritime Administration

The MCAAP identifies 24 strategies across five sectors to reduce GHG emissions from Port Maritime Administration sources.

Highlights of Port Maritime Administration GHG Emission Reduction Strategies:

Sector	Strategy Examples
Building and Campus Energy	Eliminate fossil natural gas for heating and cooling in Port-owned buildings by 2030
Fleet Vehicles and Equipment	Deploy electric vehicle charging and transition light-duty fleets to electric or renewable fuels by 2030
Employee Commuting	Encourage telework to reduce employee commuting emissions
Solid Waste	Minimize solid waste generation
Habitat Restoration and Carbon Sequestration	Complete Smith Cove Blue Carbon Benefits Study, continue to restore shoreline habitat

Maritime Activity

The MCAAP identifies 19 strategies across the five Maritime Activity sectors that align with the 2020 Northwest Ports Clean Air Strategy objectives:

1. Continually improve efficiency and reduce emissions
2. Provide infrastructure needed to support zero-emission equipment by 2030

3. Demonstrate and adopt zero-emission equipment by 2050

Highlights of Maritime Activity GHG and DPM Emission Reduction Strategies:

Sector	Strategy Examples
Cross-Sector	• Facilitate cross-industry clean energy planning through the Seattle Waterfront Clean Energy Strategy • 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 and collaborate with community, industry, and government
Waterside: Oceangoing vessels and harbor vessels	**Shore power:** • Install shore power at the Bell Street Cruise Terminal at Pier 66 by 2023 • 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 International Association of Ports and Harbors (IAPH) at-berth cruise reporting • Evaluate emissions benefits of slow steaming with the Quiet Sound program **National and International Engagement:** • Develop a national and international engagement strategy to advocate for strengthened standards, sustainable fuels, and the transition to zero-emission ocean-going vessels, specifically cruise ships. • Evaluate and align with international decarbonization initiatives. • Identify partnerships for policy alignment and amplification, including with industry and other ports. • Conduct a maritime zero carbon energy source assessment to evaluate the status of supply and delivery options, off-takers, policy and economic drivers, Port roles and other considerations to advance deployment of energy sources to replace fossil fuels for cruise ships and other vessels in the Pacific Northwest. **Demonstration:** • Demonstrate zero-emission outboard engines in Port-owned vessel fleets and communicate results
Landside: Cargo-Handling	**Industry engagement:**

Equipment, Cruise/Fishing Trucks and Buses, On-Terminal Rail	• 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.

Commitment to continued engagement with near-port communities

While the MCAAP charts the course toward zero emissions at Port of Seattle, many decision points remain intentionally open-ended regarding the Port's actions and priorities. Engagement with near-port communities impacted by maritime emissions, maritime industries, government agencies, Tribal nations, and others will be critical to identify, develop, prioritize and implement projects that can improve air quality, protect community health, and stop climate change. The Port is committed to working with near-port communities on an ongoing basis to identify community-based projects and investment priorities and to helping lead an equitable transition to a carbon-free port. This commitment is stated in the "cross-sector" strategies on page 65 (PDF reader page 90) and elsewhere throughout the MCAAP (see table 4).

XC4

Engage with community, industry, and government. The 2020 Strategy and the Port's implementation actions were informed by a multi-year engagement process that sought input from community, industry, government, and non-government representatives. Ongoing collaboration across the Port network is essential to achieve the Strategy vision and the Port's GHG reduction goals. The Port will continue engaging partners in the implementation of the actions identified for each sector. The Port will collaborate to conduct pilot projects, pursue funding, share progress and to use community and industry input to prioritize actions that reduce air pollution in regions that need it most.

Ongoing

Actions

- ✦ Continue to engage the Duwamish Valley Community to define climate and air quality priorities, measures, and strategies for reducing emissions from Port operations and develop materials to increase understanding of Port emission sources, strategies, programs, and engagement opportunities

- ✦ Publicly communicate sustainability measures (e.g., shore power use, equipment replacements, efficiency measures), and implementation progress annually via Port channels

- ✦ Support workforce development and training for vessel and equipment operators and mechanics in Washington to operate and maintain zero-emission maritime equipment

- ✦ Encourage start-up businesses in Port-related industries to partner with the Port's Maritime Innovation Center to focus on reducing emissions from the maritime sector

- ✦ Continuously improve regional air quality information, including evaluating options to inventory maritime emissions at the Port annually, quantify lifecycle emissions, and improve equity indicators to measure and inform implementation

- ✦ Prioritize WMBE and community-based businesses in contracting

- ✦ Support youth engagement, training, professional development, and connection to maritime careers through the Maritime High School, Port internship opportunities, and other youth engagement programs

MCAAP sections related to Seattle's near-port communities

The following table identifies sections of the MCAAP related to Seattle's near-port communities.

Table 4. MCAAP Review Guide to Sections Related to Seattle's Near-Port Communities

Section Title	Subsection Title	Document Page Numbers	PDF Page Numbers	Brief Description
Section 1: Introduction	Why we need this plan: climate change, air quality, and the Port of Seattle	4-7	23 -26	This section covers the Port's commitment to combatting global climate change and reducing maritime related air pollution. It discusses environmental health disparities in near-port

Section Title	Subsection Title	Document Page Numbers	PDF Page Numbers	Brief Description
				communities, including the Duwamish Valley
Section 1: Introduction	Vision and Guiding Principles	7-8	26-27	An overview of the vision and guiding principles of the MCAAP, which are the same as the 2020 Northwest Ports Clean Air Strategy. These include climate urgency, community health, social equity, and accountability.
Section 1: Introduction	Strategic Alignment	9-11	28-30	This section acknowledges alignment of the emission reduction priorities of other relevant entities, such as the International Maritime Organization, the state of Washington, and local communities. It identifies the Duwamish Valley Clean Air Program Action Plan and Resolution No. 3767: the Duwamish Valley Community Benefits Commitment as key areas of strategic alignment.
Section 1: Introduction	Development of the Maritime Climate and Air Action Plan	12-13	31-32	Overview of how the MCAAP was developed and informed by engagement.
Section 3: Strategies to Reduce Impacts: Port Maritime Administration	Entire section	29-61	48 - 84	This section details strategies to address GHG emissions from Port Maritime Administration sources including building and campus energy, fleet vehicles and equipment, employee commuting, and solid waste.
Section 4: Strategies to Reduce Impacts: Maritime Activity	Entire Section	62 - 80	85 - 107	This section details strategies to reduce GHG and diesel particulate matter (DPM) emissions from Maritime Activity sources, which include ocean-going vessels, harbor vessels, cargo-handling equipment, trucks, and rail.
Section 4: Cross-Sector Maritime Activity	XC4: Engage with community, industry, and government	65	90	The Port of Seattle has identified an overarching cross-sector strategy to continue engagement with community, industry, and government entities. Several actions

Section Title	Subsection Title	Document Page Numbers	PDF Page Numbers	Brief Description
				are identified, including supporting workforce development, improving information about air quality, prioritizing women and minority businesses in contracting, and engaging youth.
Section 5: Implementation	Engagement on Implementing the Plan: Community engagement and partnership	82	109	This section outlines the Port's commitment to ongoing community engagement throughout implementation. This includes regular updates on implementation progress, supporting the completion of a Clean Air And Climate Community Resource Guide, and collaborating with near-port residents and community members to develop an partnership for on-going engagement in 2022.
Section 5: Implementation	Prioritizing Actions for Implementation: Equity Index	84	111	This section describes how the Port will use the Equity Index mapping tool to ensure a n equity approach to implementation and prioritize action in areas that experience adverse exposure to environmental hazards and health disparities.
Section 5: Implementation	Accountability Framework	88	115	This section describes how the Port will remain accountable to the commitments and actions within the MCAAP, including reporting on performance metrics, and taking an adaptive management approach to implementation. The adaptive management approach includes an annual review of progress, actions, and timelines, and full update to the Northwest Ports Clean Air Strategy and implementation plans every five years.
Appendix A: Performance Metrics	Entire Section	A1-A4	117-120	This appendix documents the performance metrics the Port of Seattle will use to report on progress. Metrics are identified for each sector.

For More Information

Check out information on the Port of Seattle website:

- [Charting the Course to Zero: Port of Seattle's Maritime Climate and Air Action Plan](#)
- [Northwest Ports Clean Air Strategy Implementation: Get Involved](#)
- [The Northwest Ports Clean Air Strategy](#)
- [Measuring Greenhouse Gas Emissions at Port of Seattle](#)
- [The Puget Sound Maritime Air Emissions Inventory](#)

Please contact cleanair@portseattle.org with questions or to request to join the Northwest Ports Clean Air Strategy mailing list for the Seattle Harbor.

Please contact NWPCAS-comments@portoftacoma.com to request to join the Northwest Ports Clean Air Strategy mailing list of the Tacoma Harbor.

If you have questions about NWSA's Northwest Ports Clean Air Strategy Implementation Plan, please contact Steve Nicholas: [snicholas@nwseaportalliance.com.](mailto:snicholas@nwseaportalliance.com)