



COMMISSION
AGENDA MEMORANDUM
BRIEFING ITEM

Item No.	<u>11b</u>
Date of Meeting	<u>January 12, 2021</u>

DATE: November 18, 2020

TO: Stephen P. Metruck, Executive Director

FROM: Sandra Kilroy, Director, Maritime Environment & Sustainability
Alex Adams, Sr. Env. Program Manager, Maritime Environment & Sustainability

SUBJECT: Briefing on the Final 2020 Northwest Ports Clean Air Strategy and draft Port Implementation Actions

EXECUTIVE SUMMARY

The Port of Seattle (the Port), Northwest Seaport Alliance (NWSA), Port of Tacoma, and Vancouver Fraser Port Authority in British Columbia (collectively, the Northwest Ports) have completed the 2020 renewal of the Northwest Ports Clean Air Strategy (NWPCAS or Strategy). This Strategy renewal builds upon past successes and strong partnerships forged over the last decade and moves forward the commitment of the Northwest Ports to reduce contributions to local air pollution and global climate change, while sustaining and improving their economic vitality and competitiveness. Recognizing the urgency of climate change and the harmful effects of diesel pollution on human health, the Strategy sets a new vision to phase out seaport-related air and greenhouse gas emissions by 2050.

First adopted in 2008, the Strategy was the first of its kind: a multi-jurisdictional, voluntary, international agreement between port authorities to reduce their impacts on air quality and climate change. Since that time, the Northwest Ports updated the Strategy in 2013 and initiated the third iteration to develop a 2020 Strategy in fall of 2018. Extensive inter-port collaboration and engagement with representatives across industry, community groups, governments, federal and state agencies and non-governmental organizations has shaped the 2020 Strategy and created momentum to set a bold vision for a zero-emissions future. The Strategy is structured around six sectors of port activity – oceangoing vessels, cargo-handling equipment, trucks, harbor vessels, rail, and port administration and tenant facilities. The Strategy sets sector-specific joint objectives to transition to zero-emission operations by 2050 and a set of collaborative actions that each Northwest Port commits to implementing in the near-term to advance the vision and objectives. Each Northwest Port will also develop a port-specific implementation plan.

The Port's implementation plan, *Charting the Course to Zero: Port of Seattle's Maritime Climate and Air Action Plan*, identifies strategies and actions within our lines of business and emissions profiles to implement the Northwest Ports Clean Air Strategy and achieve the Port's Century

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Agenda goals. This briefing presents the final 2020 Northwest Ports Clean Air Strategy and previews the actions proposed for the Port's implementation plan. Following this briefing, the final 2020 Strategy will be presented to the NWSA Managing Members in two readings in February and March 2021 for simultaneous adoption by the NWSA and two homeports.

BACKGROUND AND HISTORY

The first of its kind within the port community, the Strategy has achieved significant results over the last twelve years of collaborative action. The 2013 Strategy set targets to reduce the emissions intensity (emissions per ton of cargo) of diesel particulate matter (DPM) and greenhouse gas (GHG) emissions 80 percent and 15 percent, respectively, relative to 2005 emissions intensity levels. The Northwest Ports achieved both targets four years early as of the 2016 Puget Sound Maritime Emissions Inventory. The reductions can be attributed to changes in international, national and provincial regulations, industry action, and port policies and programs to accelerate the turnover of older equipment and use cleaner fuels. During this same period, total emissions of DPM declined 75 percent, while total emissions of GHGs across the four ports combined increased by almost five percent. This increase can be attributed to growth in cargo movement outpacing the reduction of GHG emissions. In addition to these targets, several objectives were set within each of the sectors in the 2013 strategy. Progress towards these objectives continues to be published annually in the NWPCAS Implementation Reports through 2020. In 2018, the Northwest Ports began the process to develop a renewed Strategy to set objectives and actions that look beyond 2020 and recognize the increased urgency to address port-related contributions to climate change and local air pollution.

2020 STRATEGY COMMITMENTS

The 2020 Strategy is structured around a shared vision, guiding principles, objectives for each sector, and collaborative actions the Northwest Ports commit to implementing in the first five years. Each port will also develop a separate implementation plan, which will detail the port-specific actions needed to achieve the joint Strategy.

Vision and Guiding Principles

The renewed Strategy sets a bold new vision: to “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 includes guiding principles that define the Northwest Ports’ commitment and approach to community health, climate urgency, social equity, innovation, evidence-based decision making, focused resources, leadership, accountability, and port competitiveness.

Since Northwest Ports and associated industries currently rely heavily on fossil fuels to deliver critical services and economic benefits, phasing out emissions by midcentury represents an ambitious vision. For Port of Seattle, the Strategy vision goes beyond the Century Agenda target

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of reducing port-influenced emissions (Scope 3) 80 percent from a 2007 baseline by 2050. While challenging to achieve, the vision reflects the latest climate science and recognizes recent research about the harmful effects of diesel pollution on human health. The 2020 Strategy also acknowledges that collaboration across governments, industry, communities, non-governmental organizations, and others within the port network will be critical to achieving the vision.

Joint Objectives

To advance the vision, the Strategy sets joint objectives that the Northwest Ports will work toward in each sector. The joint objectives follow three core themes across all of the sectors:

- (1) Programs that promote efficiency, phase-out of old high-emitting equipment, and use of interim lower-emissions fuels;
- (2) Planning and installation of infrastructure by 2030 to remove constraints for adopting zero-emissions equipment; and,
- (3) Demonstration and adoption of zero-emissions equipment in each sector as soon as possible in advance of 2050.

The following table reproduces the objectives that the Northwest Ports commit to in the 2020 Strategy:

Sector	2020 Strategy Objectives for all Northwest Ports
Oceangoing vessels	Continually increase vessel efficiency and decrease emissions from existing vessels.
	By 2030, install shore power at all major cruise and container berths
	Support international efforts toward phasing out emissions from vessels
Cargo-handling equipment	Continually increase equipment efficiency, replace old equipment, and decrease emissions from existing cargo-handling equipment
	By 2030, sufficient infrastructure is in place to enable transition to zero-emission cargo-handling equipment
	By 2050, zero-emission cargo-handling equipment is adopted
Trucks	Continually increase vehicle efficiency and decrease emissions from existing trucks
	By 2030, sufficient infrastructure is in place to enable the transition to zero-emission trucks
	By 2050, zero-emission trucks are adopted
Harbor Vessels	Continually increase vessel efficiency and decrease emissions from existing vessels
	By 2030, sufficient infrastructure is in place to enable adoption of

	zero-emission harbor vessels
	By 2050, zero-emission harbor vessels are adopted
Rail	Continually increase equipment efficiency and replace old high-emitting engines
	By 2030, sufficient infrastructure is in place to enable adoption of zero-emission on-terminal rail
	By 2050, zero-emission on-terminal rail is adopted
Port Administration and Tenant Facilities	Continually increase efficiency in port authority fleets, facilities, and lighting
	By 2030, port authority passenger fleets are zero-emission vehicles or use renewable fuels
	By 2050, port authorities have adopted zero-emission vehicles, equipment, and vessel fleets
	By 2050, zero-emission buildings and high-efficiency lighting are in place

Shared Near-Term Implementation Actions

To achieve the joint objectives, and leverage the benefits of collaboration, the 2020 Strategy also identifies collaborative actions that the Northwest Ports all commit to implementing within five years:

- (1) Conduct technology and investment studies to track technology readiness and understand costs and investments needed to transition to zero emissions
- (2) Conduct studies to assess and plan for infrastructure needs
- (3) Advocate for public and private investment in the transition to zero emissions
- (4) Engage industry to identify leaders willing to work with ports to advance the strategy
- (5) Facilitate engagement between government and industry on decarbonizing ports and shipping
- (6) Facilitate demonstration and pilot projects of low- and zero-emissions technologies
- (7) Undertake or support air quality studies and prepare comprehensive emissions inventories to improve understanding of port-related emissions and their impact on local air quality
- (8) Engage near-port communities and non-profit sector to advance the 2020 Strategy

The Northwest Ports will take an adaptive management approach to monitoring and reviewing the 2020 Strategy and will report on progress implementing the vision, objectives, collaborative actions, and port-specific implementation actions on an annual basis.

STRATEGY DEVELOPMENT PROCESS

The Port of Seattle worked with the three other Northwest Ports to generate the 2020 Strategy renewal with consultant support from Pinna Consulting, Inc. This second renewal of the

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Strategy was guided by six briefings to the Managing Members Environmental Working Group (December 2018; June 2019; January 2020; June 2020; August 2020; and November 2020) and three briefings to the full Managing Members (July 2018, August 2019, and September 2020). The Port also worked with the other U.S. ports – NWSA and the Port of Tacoma – to engage and solicit input from community members, environmental and health advocacy organizations, industry representatives, and Tribal, federal, state, and local government agencies. To facilitate in-depth discussion, the ports set up a panel representing a cross-section of interest and involvement in maritime-related activity and convened three rounds of engagement over a two-year development process.

- (1) **Summer 2019:** Engagement kick-off to collect feedback on the Strategy’s draft vision, targets and objectives
- (2) **Spring 2020:** With the emergence of COVID-19, a scheduled in-person workshop transitioned to three sector-specific virtual workshops focused on draft conditions for success, objectives and port authority actions
- (3) **Fall 2020:** This third and final round of engagement sought feedback on the full draft of the Strategy and Port of Seattle’s proposed port-specific implementation actions for Port Activity.

In each of these rounds of engagement, the U.S. ports collected feedback through meetings, individual phone calls, written comments, and surveys; and, provided briefings to interested organizations and groups. Strategy development was also informed by ongoing engagement and feedback from internal staff teams representing the Port’s relevant business units and interests. Internal engagement was critical to identify and refine the actions the Port could take to achieve the Strategy vision.

Throughout engagement, U.S. ports heard broad support for the 2020 Strategy’s vision to phase out emissions, and its focus on both criteria air pollutants and greenhouse gas emissions. All parties expressed interest in collaboration and strong agreement on the need for ports to provide context on the state of industry, technology, and the other conditions needed for success, as well as the urgent need to address disproportionate impacts of air pollution on near-port communities. In the second round of engagement, feedback diverged on the proposed timelines for the joint objectives to install infrastructure and transition to zero-emission equipment. Some expressed concern about the cost and readiness of technology and the risk of investing in interim solutions that could quickly become obsolete. Others called for more urgent action and expedited timelines that align more closely with zero-emission commitments in California.

A major change to the 2020 Strategy informed by the second round of engagement was an update to the draft vision, which was originally drafted as, “Phase out emissions from seaport-related activities *as early as possible this century...*”. To recognize the of urgency of the climate crisis emphasized by many, the Northwest Ports added the specificity and increased the level of ambition to phase-out emissions by 2050. The discussion of the vision and emission reduction targets in the Strategy acknowledges that the vision seeks to go further than some ports’

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established targets, and that pathways to phase out fossil fuels remain unknown for some sectors. All feedback received during engagement was thoroughly evaluated by the Northwest Ports and, to the extent possible, used to inform the Strategy or the ports’ Implementation Plans.

STRATEGY IMPLEMENTATION AT PORT OF SEATTLE

In addition to working to implement the shared actions listed above, the Northwest Ports will each develop a port-specific implementation plan that identifies the actions it will take within its own jurisdiction and lines of business to advance the Strategy vision and objectives. The Port’s implementation plan, titled *Charting the Course to Zero: Port of Seattle’s Maritime Climate and Air Action Plan* (MCAAP or the Plan) is our comprehensive plan for how the Port will address climate change and air pollution in its maritime and economic development operations. The Plan identifies strategies and actions the Port can take over the next 10 years to achieve the Port’s Century Agenda GHG target to reduce emissions 50% by 2030 and to position the Port to phase out emissions by midcentury. The MCAAP covers both internal operations and sources of emissions under the Port’s control, including building and campus energy, fleet vehicles and equipment, employee commuting, and solid waste, as well as operations by tenants and the maritime supply chain that is under Port influence but not direct control, such as cruise sailings, grain terminal operations, commercial fishing and recreation marinas. The MCAAP also acknowledges the carbon sequestration opportunity associated with the Port’s habitat and shoreline restoration programs. The Maritime Climate and Air Action Plan will be finalized and presented to commission in early 2021.

The Northwest Ports are not limited in how fast implementation actions are taken and the Port intends to achieve some of the proposed commitments made in the Northwest Ports Clean Air Strategy ahead of schedule. For example, by installing shore power at the Port’s Bell Street Cruise Terminal at Pier 66 by 2023, the Port will meet the Northwest Ports Clean Air Strategy objective to provide shore power at all major cruise and cargo berths by 2030 seven years early.

NWSA is also developing an implementation plan that will include actions to reduce emissions from container cargo terminals in Seattle. The NWSA plans to complete their implementation plan in Summer 2021.

5-Year Direct Cost Estimates for Port of Seattle

The following table estimates the Port’s direct implementation costs for select projects over 5 years (2020-2025). The cost estimates do not include staff time, shared costs between the Port and customers, costs to industry, or potential cost recovery or cost savings opportunities.

Select Port of Seattle NWPCAS Project/Program	5-Yr. Low Estimate	5-Yr. High Estimate	NWPCAS Sector
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Shore power at Pier 66	\$14M	\$17M	Ocean Going Vessels
Replacement of port-owned fleet vehicles	\$8.5M	\$11M	Administration
HVAC upgrades (Pier 66, World Trade Center)	\$6.4M	\$6.4M	Administration
Installing solar panels on port buildings	\$1.2M	\$1.2M	Administration
Lighting upgrades	\$250K	\$500K	Administration
Seattle Waterfront Clean Energy Strategic Plan, early implementation/pilots	\$100K	\$500K	Cross-Sector
Electric vehicle charging infrastructure	\$200K	\$450K	Administration
Energy management software	\$100K	\$400K	Administration
Shore power at Harbor Island Marina E-dock for tugs	\$385K	\$385K	Harbor Vessels
Building energy efficiency tune-ups	\$150K	\$300K	Administration
Seattle Waterfront Clean Energy Strategic Plan completion	\$250K	\$250K	Cross-Sector
Equity and environmental justice, community engagement	\$50K	\$250K	Cross-Sector
Cruise emission inventory and cruise environmental plan	\$35K	\$50K	Ocean Going Vessels
Tenant engagement and green leases	\$25K	\$50K	Cross-Sector
<i>Estimated Total Direct Cost Range</i>	<i>\$32M</i>	<i>\$39M</i>	

ATTACHMENTS TO THIS BRIEFING

- (1) Presentation slides

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

- December 11, 2020 – Briefing memo to NWSA Managing Members on 2020 Northwest Ports Clean Air Strategy development
- September 1, 2020 – Third briefing for the NWSA Managing Members on 2020 Northwest Ports Clean Air Strategy development
- August 6, 2019 – Second briefing for the NWSA Managing Members on 2020 Northwest Ports Clean Air Strategy development
- December 2018; June 2019; January 2020; June 2020; August 2020; and November 2020 – Briefings and Engagement with the NWSA Managing Members Environmental Working Group on 2020 Northwest Ports Clean Air Strategy development
- July 3, 2018 – First briefing for the NWSA Managing Members on 2020 Northwest Ports Clean Air Strategy development

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December 10, 2013 – The Commission adopted the Northwest Ports Clean Air Strategy 2013 Update

January 22, 2008 - The Commission adopted the original Northwest Ports Clean Air Strategy