

**THE NORTHWEST SEAPORT ALLIANCE**  
**MEMORANDUM**

**MANAGING MEMBERS**  
**STAFF BRIEFING**

**Item No.** 6B  
**Date of Meeting** August 6, 2019

**DATE:** June 19, 2019

**TO:** Managing Members

**FROM:** John Wolfe, CEO

**Sponsors:** Jason Jordan, Director, Environmental and Planning Services

Sandra Kilroy, Director, Maritime Environment and Sustainability,  
Port of Seattle

**Project Managers:** Graham VanderSchelden, Environmental Project Manager I

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**SUBJECT:** Northwest Ports Clean Air Strategy Update

**A. SYNOPSIS**

Through robust consultation with governments and stakeholders, the NWSA, Port of Seattle, Port of Tacoma, and Port of Vancouver, B.C. are in the process of developing a new Northwest Ports Clean Air Strategy, which will set a new direction for air quality and climate related programs at the four port entities. This project began in fall of 2018 and on July 18<sup>th</sup>, 2019 staff kicked off the first of three rounds of stakeholder engagement. The purpose of this memo is to provide Managing Members visibility on the ports' engagement plan, and vision, guiding principles and high-level sector content is being shared with and reviewed by Port stakeholders this summer.

**B. BACKGROUND**

In 2005, the Ports of Seattle, Tacoma, and Vancouver B.C., along with partner agencies including the U.S. EPA, Puget Sound Clean Air Agency, Washington State Department of Ecology, and Environment Canada recognized the value of voluntary action and an urgency to reduce air emissions from maritime activities in the Puget Sound and Salish Sea. The ports and their agency partners set course to assess the magnitude of emissions from maritime sources and create strategies to reduce these emissions. The first Puget Sound Maritime Air

Emissions Inventory (PSEI)<sup>1</sup> was completed in early 2007, providing foundational data to guide development of the first Northwest Ports Clean Air Strategy (NWPCAS), a five-year strategy which was adopted by the three ports in 2008. NWSA adopted the NWPCAS upon its formation in 2015. The NWPCAS 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. The PSEI was updated by the ports, along with government and industry partners in 2011, informing an update to the NWPCAS in 2013. The 2013 NWPCAS update included quantitative targets for emission reduction within the Puget Sound – Georgia Basin airshed, a notable advancement from the 2008 strategy. These emission targets were normalized to cargo throughput to account for growth and variability in activity (emissions intensity). The ports have committed to track progress towards the following targets through 2020.

- Reduce diesel particulate matter (DPM) emissions per ton of cargo moved by 80% by 2020 relative to 2005 levels.
- Reduce greenhouse gas (GHG) emissions per ton of cargo moved by 15% by 2020 relative to 2005 levels.

As of the 2016 PSEI, the NWSA has met the targets 4 years early, reducing GHG emission intensity by 19% and DPM emission intensity by 80% since 2005. The Port of Tacoma's emission trends have shown similar trajectories. Normalizing emissions to cargo throughput for Port of Seattle's operations does not adequately correct for activity, since emissions from cruise are much greater than from grain cargo operations. Even so, Port of Seattle's emissions intensities decreased by 79% and 8% for DPM and GHGs respectively, while Port of Seattle's absolute (non-normalized) emissions decreased by 82% and 20% for DPM and GHGs respectively. The substantial progress made by NWSA, Port of Seattle, and Port of Tacoma are largely attributable to the industry's implementation of cleaner fuels, cleaner engines, and efficiency measures, driven by international and domestic policies as well as Port programs, such as the Clean Truck Program. Achievement of the NWPCAS goals is a demonstration of the ports and partners' commitment to reduce impacts on air quality and climate, a valuable outcome of this work.

The NWPCAS sets direction and helps staff prioritize emission reduction projects. While U.S. ports have already adopted ambitious climate targets, the NWPCAS compliments those commitments by providing a suite of strategies and techniques for achieving these targets and seeks to coordinate and align these efforts across the major ports in the region. The state of technology, as well as regional and international policy and priorities related to air quality and climate issues has changed substantially since the last update in 2013. The new 2020 NWPCAS is an opportunity for ports to align emission reduction strategies with current policy—including the ports' response to the Paris Climate Accord—to align with current technology trends, increase stakeholder involvement, increase visibility and clarity around how emission reduction projects are prioritized, and improve flexibility in achieving performance-based targets.

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<sup>1</sup> Puget Sound Maritime Air Emissions Inventory (PSEI). <https://pugetsoundmaritimeairforum.org/inventory-results/>

## **C. PROJECT DESCRIPTION AND PROGRESS**

The 2013 NWPCAS is at the end of its 5-year implementation period and in fall of 2018, the ports engaged a consultant to support the development of a new NWPCAS, which will span the next 5 years and beyond. The new NWPCAS is an opportunity to review past successes and challenges, develop a new strategic direction (i.e. vision and guiding principles), create a new strategy framework including as appropriate, goals, targets, and metrics, and improved progress-reporting-procedures. Stakeholder engagement is also now an integral part of the strategy update and will be critical in creating an implementable strategy that represents community, government, and industry interests. Stakeholder engagement will be conducted during each phase of the strategy development process.

Commissioners Meyer and Felleman are the designated Commission representatives for the NWPCAS update project and will be consulted and involved at each step of the process. Staff briefed Commissioners Meyer and Felleman in December 2018 and June 2019, and there will be a number of additional opportunities for commission involvement throughout the stakeholder outreach process. All 10 Managing Members will be briefed at the end of each project phase, starting with phase 2 (this briefing).

### *Phase 1 – Setting the Stage (Completed: August – October 2018)*

The first phase of the project was an opportunity to reflect on the first 10 years of NWPCAS implementation, and to identify the important successes and challenges, and to research likely changes in industry expected over the next 5-10 years and beyond. This included reviewing progress towards both emission targets and sector specific activity-based targets and identifying relevant changes and policy, technology, and industry trends in place now, or to be implemented soon. During phase 1, targeted interviews were performed with stakeholders that had participated in the development and/or implementation of the NWPCAS over the past 10 years to solicit feedback on successes, challenges, and possible future directions.

The significant outcomes of phase 1 were establishing the context for the new NWPCAS, telling the story of the past 10 years, and creating a starting place for discussion of the new strategic direction between the ports.

### *Phase 2 – Establishing the Vision (Ongoing: November 2018 – August 2019)*

The second phase of the development for the new NWPCAS establishes a new strategic direction. Throughout winter 2018 and spring 2019, the ports and partners worked together to craft a draft vision statement, guiding principles, and a set of “technology shifts” that explore the technological advances that will be necessary to achieve the vision. Unlike previous iterations of the strategy, the newly developed vision statement reaches beyond the traditional 5 and 10-year time horizons and represents a new focus on longer term actions for the NWPCAS.

Presently, stakeholder engagement on phase 2 is wrapping up and will be completed by the end of August 2019. On July 18, the U.S. ports held a stakeholder committee workshop, soliciting feedback on the strategic direction elements developed in stage 2. Staff have also reached out to stakeholders not in attendance at the workshop to understand their perspectives on the direction for the new NWPCAS and feedback on the content developed

to date. Simultaneously, Port of Vancouver is completing their own stakeholder outreach on the Canadian side of the border. At the end of August, staff from the U.S ports and Vancouver will combine all feedback collected and use it to inform the next round of strategy development—Discussion Document #2.

*Phase 3 – Defining the Strategy (August 2019 – December 2019)*

During the third phase of the strategy development, ports will craft a plan for achieving the updated vision and reducing emissions in the interim. Interim planning will include strategies for reducing emissions over the next 5 to 10 years to support and enable achieving the long-term vision. In this phase ports will identify and discuss specific goals, objectives, and actions that will drive emission reductions as well as reporting methods and metrics for measuring, documenting, and communicating progress. As part of phase 3, the ports will generate a second discussion document, which builds upon the first and perform another round of outreach to ensure stakeholder perspectives were accurately reflected. Staff will brief Managing Members once the second discussion document is completed.

*Phase 4 – Preparing the Draft Strategy (January 2020 – March 2020)*

The ports will develop a draft NWPCAS from the preliminary plan developed in phase 3 that incorporates feedback from previous rounds of engagement. The product of phase 4 will be a complete draft strategy including all recommended emission reduction strategies and the reporting framework. A final round of stakeholder outreach will be completed to solicit feedback on the draft strategy. Staff will brief Managing Members on the contents of the draft strategy.

*Phase 5 – Final Strategy and Managing Member Approval (April 2020 – June 2020)*

After incorporating feedback on the draft strategy, the ports will develop a final NWPCAS to be presented to Managing Members for discussion and adoption.

## **D. STAKEHOLDER OUTREACH PLAN**

Throughout the NWPCAS update, the ports will provide stakeholders many opportunities to participate in the development of the new strategy by providing input at each step of the process defined above. The first round of official outreach, where ports will solicit feedback on the draft vision, guiding principles, and technology shifts, is planned for summer 2019. Ports also plan to offer optional briefing opportunities for stakeholders, to ensure that all have the depth of knowledge required to fully understand port operations, the history of the NWPCAS, and related issues.

Stakeholders may provide input by:

- Sitting on the **NWPCAS Stakeholder Committee**. This Committee of invited subject-matter experts is composed of approximately 15-20 representatives from key stakeholder

- groups. Committee members will attend three in-person workshops and provide feedback on three strategy drafts.
- Engaging with the ports as a **stakeholder reviewer**. Stakeholder reviewers will be invited to provide feedback without attending the stakeholder committee meetings.
  - Subscribing to the NWPCAS mailing list and/or visiting the website to receive periodic updates on the project and to participate in public surveys.
  - Attend public **NWSA Managing Member Meetings**.
  - **Emailing or calling** Northwest Seaport Alliance or Port of Seattle NWPCAS contacts.

*Stakeholder list:*

Representatives of the following stakeholders have agreed or have been invited to sit on the NWPCAS Stakeholder Committee.

- American Lung Association
- American Waterways Operators
- Burlington Northern Santa Fe Railroad/Union Pacific
- City of Seattle
- City of Tacoma
- Cruise Lines International of America
- Climate Solutions
- Citizens for a Health Bay
- Duwamish River Cleanup Coalition
- Environmental Defense Fund
- Front and Centered
- Husky Terminal and Stevedoring
- International Longshore and Warehouse Union
- Pacific Merchant Shipping Association
- Port Community Action Team
- SSA Marine
- Urban League of Tacoma
- Washington Trucking Association
- NE Tacoma
- Tribal Governments
- Seattle City Light
- Tacoma Power

Representatives of these groups/organizations have been invited to participate as a Stakeholder Reviewer.

- King County
- American Association of Blacks in Energy
- Neighborhood Advisory Council
- Pierce County
- Tacoma Rail

- Pierce County Terminal
- Washington United Terminal
- TOTE Terminal

During each round of outreach, the U.S. Ports will distribute a discussion document to each stakeholder group which details the progress to date and the key strategy elements on which the ports will solicit feedback. A stakeholder committee workshop will be held to facilitate discussion with all committee representatives. Written feedback will be accepted from stakeholder reviewers, with the option to provide feedback to port staff in-person, by email or over the phone. Staff will also seek additional feedback from stakeholder committee members after the workshop. Progress updates, documents, and targeted surveys will be shared on the NWPCAS website as appropriate. This process will be repeated in phases 2, 3, and 4 of the NWPCAS update project. Port of Vancouver will be conducting their own stakeholder engagement process in parallel with U.S. Ports. After each round of engagement, feedback from U.S. and Canadian stakeholders will be used to guide the next phase of strategy development.

*Timeline of Events for the Remainder of 2019*

**July 2:** Written Briefing on NWPCAS Update Phase 2 distributed to Managing Members

**July 18:** Stakeholder Committee Workshop #1

**August 6:** Brief Managing Members at the August public meeting

**August 7:** Launch NWPCAS website

**Fall/Winter 2019:** Discussion Draft 2 Outreach

**E. DRAFT STRATEGY ELEMENTS DEVELOPED**

During phase 2 of the strategy development, the ports created a vision, guiding principles, and a set of sector-based technology shifts that explore what it would take to achieve the vision. These elements are presented in the attached discussion document which also includes background, context, and scope of the new NWPCAS. The discussion document will be shared with stakeholders to communicate our thoughts and solicit their feedback.

*Draft Vision*

***“The Ports will collaborate with stakeholders and governments to phase out emissions from seaport-related activities as early as possible this century, supporting cleaner air for local communities and aligning with the international response to limit global climate change.”***

The vision for the new strategy acknowledges both the urgency to address global climate change and local air quality issues as well as the challenges associated with a lack of commercially available zero emission technology in most sectors of port, shipping, and

logistics business. Furthermore, the vision seeks alignment with the different political and regulatory landscapes in B.C., Canada, Washington, and the U.S. Significant planning and development of infrastructure to support new technology will be required if ports and shipping operations are to minimize their impacts on air quality and climate—actions that will likely happen over a timespan greater than 5-10 years. Establishing this longer-term vision allows the NWPCAS to look beyond the next 5 to 10 years and place emphasis on near and mid-term actions that enabling future emission reductions.

Commissioners Meyer and Felleman are the designated Commission representatives for the NWPCAS update and were provided a briefing in early June prior to the completion of the first discussion draft. During this June briefing, staff received feedback from Commissioners Meyer and Felleman on the draft vision, among other elements. When staff presented these changes to our partners at Port of Vancouver, they were unable to accept all of the changes to the vision statement in the short time period before the beginning of stakeholder engagement without robust discussion between ports, as some of the proposed changes altered the level of their port's commitment. Staff respect their position and have moved forward, while incorporating the changes both sides could agree on. The remaining suggestions will be carried forward and incorporated along with stakeholder feedback before the second round of engagement.

The draft vision incorporating Commissioners Felleman and Meyer's suggestions is below:

*"The ports will **advance regional and international** responses to limit global climate change and support cleaner air for our communities by collaborating with **governments and stakeholders** to phase out emissions as early as possible this century"*

The suggestions that the three parties could not come to an agreement on at this time were:

- Change "international" to "regional and international".
- Change "aligning" to "advancing"
- Reorder the vision statement to lead with advancing response to climate change and supporting cleaner air

#### *Draft Guiding Principles*

The following principles will guide the efforts undertaken by participating ports in relation to the scope of this strategy. The principles serve the dual purpose of guiding how participating ports work together, and how each port will work independently toward achieving the strategy's vision.

- **Collaboration:** The ports will work closely with governments, Tribes, First Nations, industry and local communities to understand constraints, identify opportunities and facilitate investment.
- **Urgency:** The ports recognize the urgency of action to limit global climate change and improve community health and will seek early achievement of the vision.
- **Community health:** The ports recognize the importance of reducing port-related air pollutants that affect public health and will prioritize opportunities that reduce diesel particulate matter emissions and directly improve air quality in local communities.

- **Advocacy and leadership:** The ports will take a leadership role to align, facilitate and advocate across all levels of government and international organizations to support policy and actions that achieve the vision.
- **Accountability:** The ports will provide clear, transparent and timely progress updates.
- **Innovation and continuous improvement:** The ports will identify and advance innovative technologies, policies and practices that demonstrate continuous improvement.
- **Focused resources:** Resources will be focused in the areas where the port authorities are likely to have most success and highest potential impact, recognizing the limitations of our operational control and influence.
- **Sustainability:** The ports will employ triple-bottom line lenses of social, environmental and economic/financial performance to evaluate and prioritize strategies.
- **Evidence-based decisions:** The ports will continually strive to improve the science and technical practices used to better understand emission sources and impacts and use this information to inform decisions.

#### *Draft Sector-Based Technology Shifts*

The ports outlined preliminary concepts and ideas to phase out emissions and achieve interim emission reductions in each of six sectors. With input from stakeholders, the interim and end state technologies will help the ports and partners devise strategies to achieve the vision over the short, medium and longer terms. Significant innovation coupled with an evolution of government policies will be needed to ensure that these technologies become cost competitive with conventional fuels, enabling their widespread adoption. These technology shift ideas are meant as a starting place for discussion, not as strategies that will necessarily be adopted as part of the NWPCAS. Many other topics and ideas will likely be discussed during the development of the strategy in phases 3-5, either as part of the sector conversations or as standalone items such as electrical distribution infrastructure, IT measures for improving gateway efficiency, international engagement, land use, and community projects.

Below are what ports believe to be preliminary “interim states” and “end states” for each sector. The technology shifts to achieve the vision will be reviewed and developed with input from stakeholders.



#### **Cargo-handling equipment**

**Interim State:** Clean diesel engines, improved efficiency, lower emission fuels, electric/hybrid electric power as available

**End State:** Renewable electricity (battery and/or hydrogen fuel cells, grid electricity)

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#### **Trucks**

**Interim State:** Clean diesel engines, vehicle/operational efficiency, lower emission fuels electric/hybrid electric power as available

**End State:** Renewable electricity (battery and/or hydrogen fuel cells)

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#### **Ocean-going vessels**

**Interim State:** Shore power, efficient vessel operations/design, a shift toward lower emission fuels (liquefied natural gas, renewable natural gas, methanol, ammonia, hydrogen, hybrid electric or fuel cells)

**End State:** Emissions from vessels underway will be phased out through technologies that remain nascent and undefined

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**Harbor vessels**

**Interim State:** Cleaner diesel engines (engine replacements retrofits), more efficient operations/design, lower emission fuels, and upgrades, including hybrid electric power

**End State:** Clean electric shore power at berth and idle and electric propulsion powered by battery electric or hydrogen fuel cells underway

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**Rail**

**Interim State:** More efficient operations, cleaner diesel engines, retrofit emission control technology, low carbon fuels or lower emission fossil fuels

**End State:** Efficient operations, electrification (e.g. catenary, hydrogen fuel cells)

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**Port administration and tenant facilities**

**Interim State:** Building retrofits, control upgrades, and LED lighting. Fleets convert to full or hybrid-electric, remaining fuels are renewable or low emission

**End State:** Net-zero energy buildings, renewable energy, zero emission fleets, zero emission employee commuting, business travel, and solid waste disposal

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**F. NEXT STEPS**

The ports have solicited feedback from stakeholders and have held the first stakeholder committee workshop on the first round of materials. U.S. ports and Port of Vancouver staff will share and collate their stakeholder feedback throughout the month of August and use it to inform the development of strategies and objectives in phase 3. The next Discussion Document and opportunity for stakeholder input is expected in Fall/Winter 2019.

**G. ATTACHMENTS TO THIS REQUEST**

- Discussion Draft 1
- Stakeholder Outreach Plan

**H. PREVIOUS ACTIONS OR BRIEFINGS**

- July 3, 2018: Dual Vote NWSA/POT/POS: Northwest Ports Clean Air Strategy ILA – Vancouver Fraser Port Authority