

Northwest Ports Clean Air Strategy (NWPCAS)

2020 NWPCAS: Discussion Document #1: Consultation Summary Notes

Summary of input received

This document summarizes the input received both during the consultation session held on July 18, 2019, and written input received following-up from the session up to September 6, 2019. Specifically, this summary includes:

- In-session notes taken on the flipchart and posters from 17 participants and 11 port representatives
- In-session input written by individuals on handouts that were submitted at the end of the session (12 sheets)
- Post-session input from five representatives, including some who attended the session and some who were unable to attend the session

For details about the session agenda and participants, please see Attachment A. Comments and suggestions from participants are greatly appreciated and, together with input received from Canadian port consultation, will be used to inform the ongoing development of Discussion Document #2. The Ports look forward to the continued input from participants in the development of the new NWPCAS 2020.

Organizational priorities

Participants were asked to provide a list of their organizational priorities that relate to the Northwest Ports Clean Air Strategy. These were also used later in the session when we asked participants to identify whether the draft NWPCAS 2020 Vision and Guiding Principles align with their organizational priorities. Examples of participating organizational priorities include (note the number of participants with similar priorities is included in brackets after each example):

- Improve community health near port activities (6)
- Reduce air pollution (4)
- Reduce GHG emissions, increase resilience (4)
- Environmental justice, equitable solutions (4)
- Leadership to other ports (1)
- Identify and test emerging technologies, fuels, policies (7)
- Innovation, collaboration and creative funding models, public and private (5)
- True community engagement and community voices (1)
- Mitigate economic impacts, especially to truck drivers (2)
- Education about port activities and issues for the community (2)
- Local employment (1)

Vision – Draft comments

Key comments on the Draft Vision:

- Can “phase out” be more specific (i.e. zero by year x)?
 - Clarify short vs. long term
- “Aligning with international responses” is too weak because international response has been insufficient; instead “fulfilling our responsibility to limit GHG emissions in a manner consistent with limiting warming to 1.5°C” (2)
- Add “port-adjacent communities” to the collaboration list (3), and include “equity”
 - The vision should include some mention of equity and port-adjacent communities which should not be wrapped up in the term “stakeholders” as lumping in industry and community does tend to paper over the differences amongst these two constituencies.
 - “...there is also a tendency to not disaggregate data - overall emissions reductions does not necessarily indicate that local communities’ emissions are reduced. There is a need to approach near-Port communities as distinct stakeholders.”
 - “The Ports will collaborate with port-adjacent communities, stakeholders and governments to equitably 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.”
- Strengthen role of ports to support innovation, investment, creative funding models
- Support for commitment to zero emissions, with transition technology
- Support for intent, but would like it to be stronger
- Support for vision and moving toward electrification based on renewables, but feel it needs to move faster
- Need for more urgency to protect community health, for example:
 - “The Ports will collaborate with near-Port communities, stakeholders and governments to phase out emissions from all seaport-related activities as early as possible this century, while immediately supporting equity and cleaner air for local communities, and aligning with the international response to limit global climate change.”

Guiding Principles – Draft

Key comments on the Guiding Principles:

- **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.*
 - Stronger language for focusing investment is needed
 - Would like to see inclusion of consideration of other identified goals/priorities (e.g. community health as a priority – perhaps by stating these guiding principles will be used as evaluation criteria)
- **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.*
 - Should include NOx (which makes Tier 4 final important) (2)
 - Black carbon from rail is a huge issue in my community



- Community engagement as part of community health – people need to be aware and engaged in the situation and process, know ways to better protect themselves.
- Should also include equity concepts, that near-Port communities should be prioritized first because of the burden they carry being so close to seaport-related operations. Public health is also limiting - need to include quality of life concepts because they all tie into cumulative health impacts.
- **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.*
 - Regular inclusion of climate change projection updates.
 - Needs to also incorporate qualitative measures to fully capture impacts and reductions, should disaggregate data for communities most burdened, using equity based practices
- **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.*
 - It is vital that this plan take into account the accelerating pace of climate change, and all of the new science that is coming out documenting the realities of climate change. How will this plan respond to and adjust for things like the Arctic melting much faster than predicted?
 - Need to include the concept that Ports need to protect communities now while we are reducing climate change. If we are so far away from electric trucks, and knowing there will be more trucks and pollution that directly impacts communities, principles document needs to articulate the immediate need to improve community health now.
- **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.*
 - This is a great principle, and I would like to see it stated that the Ports will continue their leadership role, even if the governmental regulations revert to less stringent rules.
- **Accountability:** *The ports will provide clear, transparent and timely progress updates.*
 - Would like to see commitment to better measurement of parameters affecting success, e.g. regular assessment of NOx to see if we are really moving the needle
 - Should also include dialogue and evaluation process - transparency with community
- **Innovation and continuous improvement:**
 - Community impact needs to be measured also- identify those metrics in collaboration with community partners
- **Proposed NEW Guiding Principle: Equity:**
 - Proposed equity statement: “The Ports recognize that port-adjacent communities have borne a disproportionate amount of the pollution related to port activities. Solutions to reduce pollution should prioritize reductions in these [port-adjacent] communities. In addition, any solutions to reduce pollution should be paid by entities most able to pay and not be dependent on members of impacted communities.”
 - Equity and environmental justice is totally missing from this report and conversation
 - Need to state that cost of clean air not being borne by lower income workers/drivers
 - Recognize equity and environmental justice principles as guiding principles

Additional Notes:

Group discussion and additional input:

- Raised question of involving other ports in region, especially now that they are in the inventory
- Need link between actual monitoring and modeled emissions
- Beneficial cargo owners (BCOs) and ocean carriers should bear more of the cost than they have in the past; try to get BCOs and shipping lines in the room as we develop the strategy
- Joshua (Washington State) – offered to assist with research of technology
- Very important that electricity is clean / low emission
- Near-zero technologies are important in some cases where waiting for zero will take many years we should not wait
- Include a map of the supply chain in order to show how everything is connected and clearly identify opportunities for improvements
- Education, port can help community understand technology and the issues; help connect port to everyday life
- Employment, connect jobs to adults from the community

General comments on possible commitments, actions, measures:

- Would like to see milestones established so that progress can be better monitored
- Measures should include how to screen affected communities from DPM i.e. trees, greenwall
- Some commitment to mitigating GHG with natural systems, e.g. increased tree canopy, preserved open spaces, low impact developments
- I would like to see investments in advancing innovative technologies named

Sector: Trucks

End state:

- Highlight efficiency
- Need a systemic review of the market surrounding drayage trucking and whether a larger systemic change is needed for this aspect of the shipping industry
- Good plan
- Drivers themselves need to be empowered to make decisions about their work- Ports need to support drayage transport in a more equitable way. Near-Port communities can benefit from job opportunities surrounding electric trucks, ranging from providing rest services for truckers to electric truck maintenance

Considerations (current barriers / opportunities):

- Need to understand financial gap better – of the whole system of trucks/goods movement as it relates to trucker compensations, working conditions; do not push costs to least able to pay
 - Conduct market survey of all aspects of the drayage industry so that any solution is based on the best understanding of the financial situation facing trucking dispatch companies and individual drivers. With that understanding, a timeline of reaching the end state should be adopted.
 - The fact that the truck drivers themselves do not have the means to make this conversion should also be a consideration, and plan should be in place to assist the truck drivers in making the switch. This is an equity issue.
- “Cost competitive” is a tough reason for things not to get changed over. Are the costs of climate change being factored in when discussing "cost competitiveness"?
- Do not shift GHGs (or trade) elsewhere
- Important to ensure interim technologies are working
- Only 2 truck lifecycles (15+ years) by 2050 – plan ahead to anticipate tech investment
- Need to plan to meet timelines even in economic recession
- The investments and skills development needed to create that economy around electric trucks in near-Port communities needs to be planned for with communities and truckers now, to ensure maximum benefit. This should be done in a way that is fair and leads to increased benefits for near-Port communities, who bear the brunt of pollution impacts by Port operations.

Interim state:

- Installing electric infrastructure: Better to put the investment in now for electric charging infrastructure than be behind the times in the very near future. The faster you supply the electric charging infrastructure, the more accessible it is for everyone else to upgrade their equipment.
- Protect communities during interim (i.e., asthma prevention, green wallsetc)
- Identify parking stations/charging/regulations to remove parking and idling in neighborhoods
- Digitization to increase efficiency
- Be careful about “near zero” investment, which may avoid / delay electrification investment
- As technology is getting developed, Ports need to act immediately to protect communities from pollution impacts caused by diesel engine trucks. As new terminal operations open and more diesel powered trucks run through communities, we can't wait until we have the technology in place to take action- we must use existing technologies as well as better policy/equitable engagement best practices. As a result of the existing impacts, which diesel powered trucks



contribute to the Interim State must include strategies to protect communities most impacted. Investments like green walls that filter air pollution along truck routes and other streets frequented by trucks (in Georgetown, for example: Ellis, Corson, E. Marginal Way) are potential solutions, as are trees and other green stormwater infrastructure.

Comments pertaining to next steps:

- State timeframes and expectations
- Provide clarity on what areas the Ports can require/compel reductions or where only voluntary actions from industry can be undertaken. In addition, we should be provided examples of clean truck programs in other states/countries.
- Have some actual number goals here in terms of purchasing electric or hybrid equipment, newer diesel trucks, and converting to lower emission fuels for longer trips.
- State timeframe and investment

Sector: Cargo-Handling Equipment

End state:

- Efficient terminals – minimizing equipment needed
- Resiliency
- Good plan
- In an End State, near-Port communities can benefit from job opportunities surrounding electric cargo-handling equipment, such as maintenance. The investments and skills development needed should be planned for with communities and companies, to ensure maximum benefit. This should be done in a way that is fair and leads to increased benefits for near-Port communities, who bear the brunt of pollution impacts by Port operations.

Considerations (current barriers / opportunities):

- Incorporate growing ship sizes into planning
- Equipment displacement – potential to replace multiple equipment with one
- Need to understand performance limits of technology
- Currently testing electric top picks – 2 consecutive shifts
- Safety and infrastructure challenges for hydrogen
- Clean fuel requirements could open opportunity for investment in clean fuels/electric
- Share investment beyond industry

Interim state:

- Analyze opportunities for efficiency:
 - Terminal re-configuration/efficiency improvements/reducing handling time/movement
 - Right-sizing/maximize utilization of fleet
- Technology:
 - Hybrid RTGs (85% reduction in fuel)
 - Testing hydrogen
 - California seconds (T4s/hybrids)
- Funding:
 - Identify investment, R&D support, funding mechanism
 - Collaboration on grant opportunities - government/ports/industry
 - Sharing incentives/R&D practices/demo projects with Vancouver
- New terminal design / ready for electrification (T5 and T46). Are these terminals getting the latest technology and being built in such a way that when everything goes fully electric, they are ready and do not need additional retrofitting?
- Planning for redundancy/resiliency
- Standardization across ports
- While we are waiting for the technology, Ports should proactively plan now, build relationships with near-Port communities, and make investments in infrastructure needed to support mutually benefit. The Strategy should go beyond technological investments- better, more equitable policy and engagement best practices are needed just as much.

Comments pertaining to next steps:

- A timeline of reaching the end state should be developed
- Opportunity for communication of materials with port communities



- Could the NWSA special order electric cargo handling equipment to assist with the rapid evolution of this technology and help bring it to a further state of commercialization? How else can the NWSA assist in the development of this technology? This seems like the perfect opportunity to incorporate the principles of leadership and innovation.
- Please provide information on who owns and operates this equipment (mentioned in documents that private companies but unclear what sort of relationship with Ports and/or terminal operators), how/if the Port can compel adoption of new equipment and where else in the world this equipment has been implemented.

Sector: Ocean Going Vessels

End state:

- Add sail – wind power

Considerations (current barriers / opportunities):

- Maersk 10% with sail (design conditions 2028 – investment 2030)
- Patchwork of regulation
- Ship routes – matching ships with ports through IMO Green Shipping
- Need to understand real projected timelines for technology

Interim state:

- Digitization – commitment to adopt technology
- IMO pressure to require “West Coast” to require shore power
- Increase dramatically Tier 3 ships and those on shore power
- Install as much shore power access as possible
- Alternative control technologies (ACTs; bonnet, STRs) to reduce community impacts
 - Wet loop scrubbers – exhaust gas cleaner not good
- Do we have bridge time for LNG? Hydrogen?
- Real time emission reporting – build into vessels – ports to use

Comments pertaining to next steps:

- Include mechanism for international engagement
 - Top down – green ports collaborative push to IMO; Pacific West coast collaborative
- Enforcement piece is huge. Blue Trident Alliance
- Clarify which pollutant – Air/Climate
- A timeline of reaching the end state should be developed
- How can the NWSA participate in furthering the investment and research being done to address this need for zero emission fuels for use in vessels transiting the ocean?
- Please provide an understanding about what is preventing wide scale use of shore power currently. Also, what power the Ports have to compel adoption of shore power. Port should measure air emissions of vessels while docked.

Sector: Harbor Vessels

End state:

- Electric tugs
- Electric + hybrid – heavy loads for tugs
- Electric short sea shipping

Considerations (current barriers / opportunities):

- Full electric – Ferries, Ship Assist tug, long-haul tugs
- Different vessel types require different solutions – cascading tech influence
- A lot of myths need to debunk them / better understand

Interim state:

- Digitization – just in time movement
- Support for electric hybrid (2), coupled with investment in zero emissions options
- Standardization – charging/refueling coast-wide
- Support the commercial availability of zero emission tugs by funding their development
- While we are waiting for the technology, Ports should proactively plan now, build relationships with near-Port communities, and make investments in infrastructure needed to support mutually benefit. The Strategy should go beyond technological investments- better, more equitable policy and engagement best practices are needed just as much. Include community-driven solutions
- Build relationships between near-Port communities and harbor vessel industries, identify touch points and areas for partnerships. In Duwamish Valley, barges and tugs are present along the river, so there could be mutual benefit on topics like local hire, maritime workforce development, climate change resilience, and emissions reduction strategies.

Comments pertaining to next steps:

- A timeline of reaching the end state should be developed. From materials provided it is unclear what the barriers are to more wide spread adoption of new technology.

Sector: Rail

End state:

- No comments

Considerations (current barriers / opportunities):

- Switchers may shift to other locations at maintenance cycles
- LNG + hydrogen safety concerns
- Competitiveness with CN/CP
- Market (BCO) drives this opportunity
- BNSF battery electric pilot happening in LA
- Turnover not happening
- Right size (switchers often old)
- Railcar movers T4 & electric
- Increased train traffic impacts the community, not just through air pollution but also noise. Need for creative policy and relationship building to ensure quality of life in addition to air emissions. Efficient operations are important and can have a benefit to protect the community, but is also at risk of increasing negative impacts the community if not planned appropriately. Ongoing relationships and dialogue with community is needed to identify ways that changes to operations consider community impact.

Interim state:

- Ports lobbying for/ working with the rail companies to push for cross-continent changes to start
- T4 engines to get AQ improvements, and lower than T4 for repowers
- Genset technologies
- Railcar movers all electric – specific switching applications e.g. Midwest – R&D / pilot
- Learn from California
- Renewable diesel
- While we are waiting for the technology, Ports should proactively plan now, build relationships with near-Port communities, and make investments in infrastructure needed to support mutual benefit. The Strategy should go beyond technological investments- better, more equitable policy and engagement best practices are needed just as much. Include community-driven solutions.
- The Interim State must include strategies to protect communities most impacted and engage them in the solutions, like community science. Investments like green walls that filter air pollution along transportation corridors frequented by trains are critical, as are trees and other green stormwater infrastructure.

Sector: Port Administration and Tenant Facilities

End state:

- Rooftop solar where cost effective (but not at cost of other better projects)
- Consider/build in resiliency – energy storage, critical infrastructure, peak shaving
- Define “net-zero energy buildings”
- Good

Considerations (current barriers / opportunities):

- How should ports view offsets?
- Power for reefer containers/cranes
- Leverage city/state requirements and grant opportunities

Interim state:

- Cost/benefit analysis for renewables
- Natural assets – shade trees, daylighting
- Facility access and modes of travel to/from
- Lighting controls for terminals, LEDs and rebates
- Grants/loans for high ROI projects, state ESCO contracts
- Fleets: right sizing, alt fuels/charging, utility coordination
- Sounds good
- Continue to invest in electric vehicles, place green walls on Port administration offices as strategic for air pollution filtration. While we are waiting for the technology, Ports should proactively plan now, build relationships with near-Port communities, and make investments in infrastructure needed to support mutual benefit. The Strategy should go beyond technological investments- better, more equitable policy and engagement best practices are needed just as much.
- The Interim State must include strategies to protect communities most impacted. Investments like green walls that filter air pollution are critical, as are trees and other green stormwater infrastructure. Include community driven solutions.

Attachment A: Workshop Details

Location: Seattle-Tacoma International Airport, Sea-Tac Conference Center – Beijing Room

Date: Thursday, July 18, 2019

Time: 9:00am – noon

Agenda:

9:00	Welcome
9:10	Agenda and introductions
9:15	Primer, Context and NWPCAS progress to date
9:45	NWPCAS 2020 Renewal: Vision and guiding principles
10:15	Break
10:30	NWPCAS 2020 Renewal: Technology shifts in the truck sector
11:00	NWPCAS 2020 Renewal: Technology shifts in shipping and cargo-handling equipment
11:30	NWPCAS 2020 Renewal: Technology shifts in harbor vessels, rail, administration sectors
11:50	Next steps and closing

Attendees:

Jim Parvey, City of Tacoma	Eric Wright, Washington Trucking Association
Andrea Pratt, City of Seattle	Charles Costanza, American Waterways Operators
Kelly Garber, SSA Marine	James Rasmussen, Duwamish River Cleanup Coalition, TAO
Amanda Marruffo, BNSF	Season Oltmann, American Lung Association
Sarah Frederick, US EPA	Beth Carper, Puget Sound Clean Air Agency
Joshua Berger, State of WA	Andrew Schiffer, Port Community Action Team
Ron Stuart, State of WA, Ecology	Chris Wolfe, Environmental Defense Fund/ Friends of San Juans
Leah Missik, Climate Solutions	Keil Drescher, Tacoma Public Utilities
David Mendoza, Front and Centered	Nick Demerice, Northwest Seaport Alliance
Christina Billingsley, Port of Seattle	Jason Jordan, Northwest Seaport Alliance /Port of Tacoma
Sandra Kilroy, Port of Seattle	Jeff Brubach, Northwest Seaport Alliance
Marie Ellingson, Port of Seattle	Graham VanderSchelden, Northwest Seaport Alliance
Mick Shultz, Port of Seattle	Nicola Graham, Northwest Seaport Alliance
Alex Adams, Port of Seattle	Janice Gedlund, Cogent Environmental, Port of Seattle

Session facilitated by: Cariad Garratt and Gillian Aubie Vines, Pinna Sustainability Inc.