NORTHWEST PORTS
CLEAN AIR STRATEGY

Workshop #1: Defining the strategic direction – Agenda

Attendees:	Representatives of the NWPCAS Ports and Partners Team
Location:	Bellingham Cruise Terminal, Conference Room B 355 Harris Ave, Bellingham WA
Date:	September 17, 2018
Time:	11 am – 3 pm (lunch provided)
Remote participation:	Join online to see the screen: https://meetings.webex.com/collabs/meetings/join?uuid=M0VA8FMZ6GTJSPUH404QC653A2-1DKQT Join by teleconference line: 1-415-655-0001; Conference ID: 193 421 326

Meeting Objectives

- Reflect on successes and challenges from the first 10 years
- Discuss the strategy's purpose and scope relative to other initiatives underway
- Review and revise the vision and objectives for the next 5 to 10 years (or more)
- Discuss alternative frameworks for the NWPCAS

Meeting Schedule

Time	Topic
10:45am	Arrival
11:00am	Welcome – Introductions, agenda, objectives
11:15am	Context / setting the stage
11:45am	What is the opportunity for the NWPCAS?
12:30pm	Lunch and informal discussion
1:00pm	Where do we want to be? Reflect and revise vision and goals
1:30pm	Strategic direction – Discuss our approach for collaboration through NWPCAS
2:15pm	Wrap up and next steps
2:30pm	NWPCAS 2017 Implementation Report – First Draft Review
3:00pm	Adjourn

Workshop #1: Defining the strategic direction – Summary notes

11:15am – 11:45am: Review context and set the stage

Reviewed progress to date 2008-2017: Pinna provided a summary of the key accomplishments from the first 10 years of implementation, as well as a summary of the progress towards the two overarching goals for diesel particulate matter and greenhouse gas emissions.

Highlights of current policy and regulatory landscape: Pinna provided a summary of current port, government and industry policies, targets and regulations in place that are relevant to consider during the strategy update.

11:45am – 12:30pm: Define the opportunity for the next strategy

Participant reflections on successes and challenges from 2008-2017: Prior to the workshop, interviews were held with each organization and a summary of successes and challenges were captured (black text in the table below). During the workshop, these were reviewed and additional input was recorded (blue text). The intention is continue building on the successes, while addressing the challenges for the strategy update.

Successes	Challenges
• Justified and drove environmental programs at ports and supports ongoing emission inventory updates • Led to valuable collaboration among ports and agencies • Raised awareness of port air programs • Opened up funding opportunities for engine replacements, upgrades and other pilot projects (primarily in US) • Served as a stakeholder engagement tool during annual reporting & reviews • Provided flexibility to meet shared airshed goals in different manners • Increased accountability • Led to actual air improvements • Provided a measuring stick of progress relative to nearby ports • Transferred lessons between ports re: technologies and programs • Demonstrated longer term commitment to community	• Set unrealistic or ambiguous numeric targets that lacked sufficient context • Included an ambiguous mix of voluntary and mandatory targets • Insufficient attention to level of funding needed to achieve some of the targets identified • Did not tie directly to port business plans • Cumbersome annual reporting • Lacked closer ties to health impacts • Lacked clear communication with stakeholders distinguishing the strategy, inventories, and roles of agencies involved • Insufficient attention to each port's regulatory/policy/operating/funding context • Measures lacked direct ties to emission reductions

11:45am – 12:30pm: Define the opportunity for the next strategy cont'd…

Defining our collective purpose: Based on pre-workshop interviews, preliminary opportunities were identified (see black text below). During the workshop, participants built on the initial list to identify the most promising opportunities for the strategy going forward (blue text below):

- Align with established government and industry targets (note government targets are different for Canada and US)
    - Translate these to the port context, and articulate each sector's role in achieving the broader targets
- Continue to hold each other accountable
- Strengthen link to emission reductions
- Create a valuable communication tool
- Demonstrate leadership through port operations
- Continue raising the environmental bar – maintaining an elevated, but "level playing field" for environmental requirements in light of being economically competitive
- Demonstrate significant leadership internationally and align advocacy across other jurisdictions where relevant (e.g. align shipping incentives with sister ports)
- Improve link between emission inventories, progress, and planned initiatives
- Align data collection efforts (e.g. where shared customers fulfill data requests)
- Align infrastructure investments, especially with shared customers
- Proactively consider investment needs and, where possible, seek joint funding

In addition to discussing areas where the Ports can continue to collaborate under the strategy, the participants also identified areas best addressed within each Port:

- Acknowledging the types of technologies that are suitable in different contexts will vary, and the regulatory, funding and policy contexts will also vary, each Port should determine the most appropriate strategies, programs and technologies for their contexts.
- The strategy may demonstrate the options, but ultimately ports need the flexibility to prioritize how they will reach the collective goal(s).
- As a result of varying contexts (bullet #1), Ports may also develop separate targets specific to their contexts.

11:45am – 12:30pm: Define the opportunity for the next strategy cont'd…

Reflecting on scope – are changes needed? The black text below outlines the current scope to be maintained, and the blue text highlights potential changes to the scope based on participant input:

- Focus on DPM and GHG emissions
- Maintain focus on four partner ports, but consider opportunities to open up the process to other ports after the strategic direction is established
- Maintain same geographic boundary as defined in emission inventories of participating ports, consider "coast-wide"
- Provide a longer timeframe than 5 years for overarching goals
    - Align with longer term government and industry targets
    - Think in terms of zero emissions, and steps to get there
    - Flexibility to link with varying business planning timeframes
- Consider additional pollutants:
    - Black carbon. Needs higher profile as it affects both air quality and climate change. It is now included in all emission inventories.
    - Ozone-forming pollutants (NOx + VOCs). NOx from marine / non-road sources will become a larger part of the pie as NOx from on-road sources decrease (due to new vehicle standards). Important to consider correlation to VOCs, especially in VOC-limited areas, such as near port lands in MV.
- Include all trade-related activities, not just those related to movement of containers (e.g. cruise, bulk, break bulk and more).

During the discussion, it was clarified that fugitive emissions will not be incorporated into the scope, as these are very port-specific and best dealt with at the individual port level.

1:00pm – 1:30pm: Where do we want to be?

Reflecting on the vision, goals and objectives: Participants identified important elements to include in the updated strategy vision, goals and objectives as follows:

- Articulate the **end state**
  - Focus on reduced overall emissions
  - Heading to zero emissions, be bold
  - Stronger focus on climate, but acknowledge importance of clean air (other pollutants); consider name change for strategy
- Develop **context-based goal statements** that recognize the ports' role in achieving broader emission targets (e.g. 2°C limit)
  - Goals drive investment – need to be carefully thought through
  - Acknowledge and align with established government and industry targets
- Acknowledge **importance of technology and financial gap** to adopt new technology
  - Conduct financial analysis to support targets and articulate what $ it will take
  - Consider a metric for funding or investment levels
  - Work with stakeholders
  - Catalyze funding to adopt new technologies, support pilot projects
  - Issue a challenge to industry to develop / apply new technologies
- Maintain **flexibility**
- Create a **meaningful message** for the community
  - Highlight **shared benefits** – community and industry

1:30pm – 2:15pm: How do we collaborate?

Reflecting on successes, challenges, opportunities and vision, how can we best collaborate moving forward? Participants identified important elements to define the approach for the strategy update as follows:

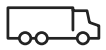
- Continue to report joint progress toward common goals
  - Can these be quantitative?
  - Consider how to include different numeric targets at the port-level, while maintaining accountability
- Avoid sector targets
- Incorporate an iterative review process (plan → do → check → act cycle)
  - Still working towards longer term goals
  - Regular check points, possible working group model
- Create consistent communications – ensure all ports and partners communicate the same goals and messages
  - Streamline annual reporting
  - Framework to jointly report progress toward target(s) most relevant to each port

Defining roles for port authorities relative to government and industry: Participants discussed the importance of delineating the ports' roles in achieving long-term desired outcomes for clean air and climate change. Through this discussion, it was important to identify roles for government and industry, and how the ports play a role interfacing between these two. The input is summarized in the following table:

Government	Port	Industry
• Funding • Policy reform • Regulation change • Technical support • Advocacy to other levels of government	• Advocacy to government • Investment in infrastructure • Support for implementation • Technology advancement through pilot projects • Track and communicate progress • Facilitate collaboration?	• Identify opportunities • Innovate • Share lessons learned • Communicate challenges • Provide data to track progress • Define co-benefits to leverage?
• Coordinated messaging • Transparency?		
	• Feasibility • Co-create goals • Map pathway	

Ports and Partners: accomplishments during the first 10 years (2008 – 2017)

The following table provides a brief summary of initiatives related to the NWPCAS, but is not comprehensive.

Sector	Key initiatives
Overall	• DPM emissions: -77% per cargo moved (2005-15/16); goal is -80% by 2020 • GHG emissions: -7% per cargo moved (2005-15/16); goal is -15% by 2020
OGV 	• Installation of shore power: NWSA TOTE, VFPA and POS cruise terminals, VFPA Centerm and Deltaport • LNG bunkering study to prepare for LNG ships calling 2020-2025 • Discounted fees for participation in programs: EcoAction, ABC Fuels, Green Gateway Partners • Totem Ocean Trailer Express LNG ships and LNG fueling
Harbor 	• Auxiliary engine replacements with grants, supported by Ecology and EPA through PSCAA • Engine repowers, supported by Ecology and EPA through PSCAA • Installation of 2 shore power terminals and retrofit of 3 tugs for shore power capability, Partner support • Discounted fees for participation in programs: Green Marine and VFPA's EcoAction
Rail 	• 2 unregulated locomotive engines repowered since 2013 (Tacoma Rail), supported by Partners • Installation of Automatic Engine Start Stop technology, funded by Partners • Fees for Tier 0 and Tier 1 equipment under VFPA's Non-road diesel emissions program
CHE 	• Idle-reduction retrofits installed on numerous equipment, supported by Ecology through PSCAA • DPFs and DOCs installed on numerous equipment, supported by Ecology and EPA through PSCAA • Fees for Tier 0 and Tier 1 equipment under VFPA's Non-road diesel emissions program • Feasibility study of conversion of RTG to CNG/LNG • Pilot to evaluate Active Start Stop technology on yard trucks
Trucks 	• VFPA Truck Licensing System: new trucks to be <8 years old; existing trucks >10 years must install ERM • NWSA Clean Truck Program: all trucks serving port must have 2007 or newer engine, or certified ERM • Incentives to replace old trucks under POS / NWSA ScRAPS (~400) and ScRAPS 2 (~325) • Pilot project to reduce truck congestion with real-time truck wait and queuing information • Conversion of drayage trucks to CNG at POS
Admin 	• VFPA Carbon neutral in operations since 2010 • POS solar panel installations on several port properties • Energy conservation programs and facility audits • Green Fleet planning, Commuter trip reduction programs, Waste reduction programs

Key policy and regulatory context

Ports

Seattle, Tacoma, NWSA	Scope 1 & 2: Carbon neutral by 2050 Scope 3: -80% GHG by 2050 from 2005/7 Resolution to adopt GHG targets in keeping with the Paris Climate Accord
Vancouver	Vision: To be the most sustainable port in the world

Government targets

Canada	-30% GHG by 2030 from 2005
WA	-50% GHG by 2050 from 1990
BC	-80% GHG by 2050 from 2007
Local	-80% GHG by 2050 from 2007

Government strategies

Pan Canadian Framework on Clean Growth and Climate Change
Maritime Blue Strategy; Results Washington Diesel Particulate Matter Emission Reduction Strategy, 2006
Clean Growth Future – in development 2018/2019
100% Renewable energy by 2050

Fuel standards and carbon tax – in place

IMO sulfur standard	Inside ECA: 0.1% m/m by 2015
WA renewable fuel standard	2% diesel and gasoline
BC renewable fuel standard	4% diesel and 5% gasoline, 2010
BC Carbon tax	$35 per tonne carbon tax

Fuel standards and carbon tax – future

Globally: 0.5% m/m by 2020
5% diesel under consultation
10% by 2020; propose to increase to 15% by 2030
$50 per tonne per year in 2021

Example industry targets

Maersk	-30% GHG by 2020 from 2010; Reported reaching -29% GHG in 2017 (total reduction)
CMA CGM	-50% GHG per container 2005 to 2015 achieved; -30% GHG per container by 2025 from 2015
Walmart	First retailer with a plan approved by the Science Based Targets initiative, in alignment with Paris Climate Accord Reduce emissions in global value chain by one billion metric tons by 2030

Key policy and regulatory context, by sector

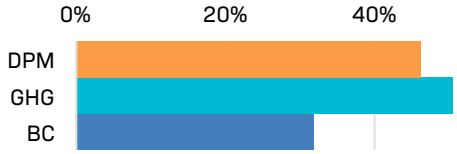
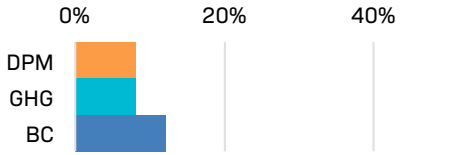
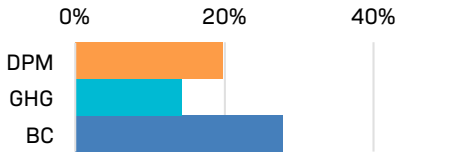
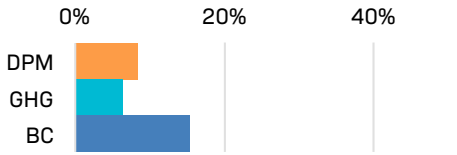
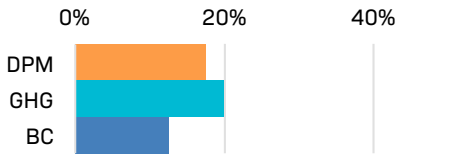
Sector	Sector portion of total emissions (2015/16 EIs combined)*	Policies and regulations of note
OGV		• IMO target: -50% GHG by 2050 from 2008 • IMO EEDI new ships: 30%+ efficient by ~2030 from ~2005 • ECA: Category 1 new engines Tier 3 in 2016 (-80% NOx relative to T1) • *ECA: process to determine next requirements underway*
Harbor		• US EPA: Category 1 and 2 new and remanufactured engines - Tier 3 and Tier 4 (>600kW), MY 2014-2017 • Canada: US EPA for new Category 2 engines in 2016
Rail		• US EPA: Tier 4 new and remanufactured engines in 2015 • Canada: adopt US EPA for new engines only in 2017
CHE		• US EPA: Tier 4 new CI engines in 2014 • Canada: adopt US EPA for new CI engines in 2014
Trucks		• US EPA: Efficiency and GHG standards, MY 2014-18 (Phase 1) and MY 2021-27 (Phase 2) • Canada: adopt US EPA, Phase 1 and Phase 2
Admin		• WA local government agencies must, to the extent practicable, use 100% biofuels or electricity to operate all publicly owned vehicles starting June 2018

*Table note: Draft numbers, OGV and Harbor apportionment estimated for VFPA

Review of successes and challenges: key points from interviews with Ports and Partners

We heard that the NWPCAS successes include:

- **Justifies and drives** environmental programs at ports (see accomplishments table for some of these), and supports ongoing emission inventory updates
- **Leads to valuable collaboration** among ports and agencies, both cross-border and within each region
- **Raises awareness and profile** of port air programs – locally and abroad
- **Opens up funding opportunities** for engine replacements, upgrades and other pilot projects (primarily in US where it drives and focuses port related funding from the State and Federal governments)
- **Serves as a stakeholder engagement tool**, particularly during strategy review and/or during annual reporting
- **Shared airshed goals**, with flexibility to meet these in different manners

We also heard that the NWPCAS has challenges:

- **Set unrealistic numeric targets** that lacked context and/or were not meaningful in different port contexts or in specific sectors
- **Ambiguous mix of voluntary and mandatory** targets, where some simply align with regulation, while others are aspirational and beyond regulation, without being differentiated or justified in the strategy
- **Had insufficient stakeholder buy-in / funding** to achieve some of the targets identified – particularly those requiring significant capital investment in new equipment and/or technology by equipment owners, and some reluctance to engage stakeholders on the strategy
- **Did not tie directly to port business plans** making it challenging for staff to justify effort needed to put into implementation of the strategy
- **Involves cumbersome annual reporting** without clear benefit or interest for stakeholders or ports
- **Lacks closer ties to health impacts** for local communities, which are core to the strategy's goals

Summary of stakeholder priorities and input – US Ports Engagement

Interviews completed with a sub-set of US Port stakeholders only. The following comments are based on 5 interviews with industry and labor. Interviews are ongoing, so this summary is preliminary.

Perspectives on clean air in relation to industry

- **Climate change and emissions reductions are priorities** that influence operational decisions – particularly in relation to new California requirements and IMO requirements; need support with pilot projects and capital investments to go beyond current requirements
- **Significant opportunity to learn from industry operating in California** – in many cases operators serve both regions and are connected to clean technology pilot projects currently underway
- **Current lack of clarity on role of natural gas** as a low-emission transportation fuel
- **Concern about new costs from regulations** that could impact competitiveness, including potential carbon tax

Perspectives on the NWPCAS

- **General awareness of strategy is low** – particularly among specific operators, but more awareness at industry associations; awareness of emissions inventory is higher
- **Confusion about the roles of various agencies**, how the strategy and emissions inventory are related, and whether initiatives are voluntary or mandatory
- **NWPCAS reports can be useful to help tell a good story**, but are not used to influence operational decisions

Opportunities

- **Interest in pilot projects, support with testing new technologies** in operating context before broad deployment
- **Interest in more frequent inventory data** and new metrics about efficiency and logistics (e.g. terminal turn times)
- **Interest in creating common messaging** to accompany inventory and to report annually on achievements – e.g. have a representative of each sector work with ports to develop common messages