COMMISSION AGENDA

Item No: 12A

Meeting: 3/18/21

DATE: March 3, 2021

TO: Port Commission

FROM: Eric D. Johnson, Executive Director
Sponsor: Jason Jordan, Director, Environmental and Planning Services
Project Manager: Steve Nicholas, Environmental Senior Project Manager

SUBJECT: Briefing on NW Ports Clean Air Strategy and Port of Tacoma Implementation Plan

A. SYNOPSIS

The four-port Norwest Ports Clean Air Strategy (NWPCAS) has been updated and is slated for adoption by the Port of Tacoma Commission, Port of Seattle Commission, and Northwest Seaport Alliance Managing Members on April 6, 2021. In addition to the strategy update, all four of the participating port authorities are developing detailed, customized implementation plans to advance the Strategy. The Port of Tacoma's implementation plan is being developed by an interdepartmental Clean Air & Climate Action Team (CCAT) facilitated by the Port of Tacoma/NWSA Air Quality & Sustainable Practices (AQSP) Team. It focuses primarily on reducing emissions from buildings/facilities and vehicles/fleets owned and operated by the Port and its tenants. Following this briefing for the Commission, staff will produce a first draft of the implementation plan, seek additional input from the CCAT and external partners and stakeholders, and produce a final plan by June for Commission review and approval.

B. BACKGROUND

The Northwest Ports Clean Air Strategy (NWPCAS) is a collaboration among four port authorities – Port of Tacoma, Port of Seattle, The Northwest Seaport Alliance (NWSA) and Vancouver-Fraser Port Authority (VFPA), to reduce air and climate pollution – primarily diesel particulate matter and greenhouse gas emissions – from their seaport activities throughout the Georgia Strait-Puget Sound airshed. It creates a shared strategic framework and "level playing field" for clean air and climate actions and investments by the four port.

The NWPCAS was first released in 2008, updated in 2013, and updated again in 2020. In 2017, the Port of Tacoma Commission, Port of Seattle Commission, and NWSA Managing Members all adopted greenhouse gas emission targets "in keeping with the Paris Accords and in alignment with the global reductions necessary to keep warming to within 2° C by 2050." Those targets are/were: 1) by 2030, 50% below 2005 levels for scope 1, 2, and 3 emissions; and 2) by 2050, carbon neutrality for scope 1 and 2 emissions and 80% below 2005 levels for scope 3 emissions. (Scope 1 are emissions from an entity's direct operations; Scope 2 are emissions from an entity's purchase and use of energy; Scope 3 are emissions from related but indirect sources. Carbon neutrality means net-zero emissions, which can include carbon sequestration and carbon offsets.)

The 2020 NWPCAS update builds on these targets and incorporates more recent science, including the 2018 special report of the International Panel on Climate Change (IPCC), which concluded that a number of severe climate impacts could only be reduced or avoided by limiting global temperature increase to 1.5°C. The 2020 NWPCAS sets the ambitious, aspirational vision of "phasing 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 2020 NWPCAS is in the process of being adopted by all four of the participating port authorities. A "first reading" of a draft joint resolution to adopt the Strategy occurred at the NWSA Managing Members meeting on February 2. A "second reading" is scheduled for the NWSA Managing Members meeting on April 6, culminating in a vote by both homeport commissions and the NWSA Managing Members. The VFPA already has adopted the Strategy.

Meanwhile, all four port authorities are developing more detailed implementation plans laying out actions and investments to advance the Strategy's vision and goals. These implementation plans are tailored to each port's emissions profile, lines of business, strategic priorities, community priorities, governance structure, and budget/fiscal realities. This briefing memo provides an update on the Port of Tacoma's draft implementation plan, which is slated for completion by June.

C. PROJECT DETAILS

Overview

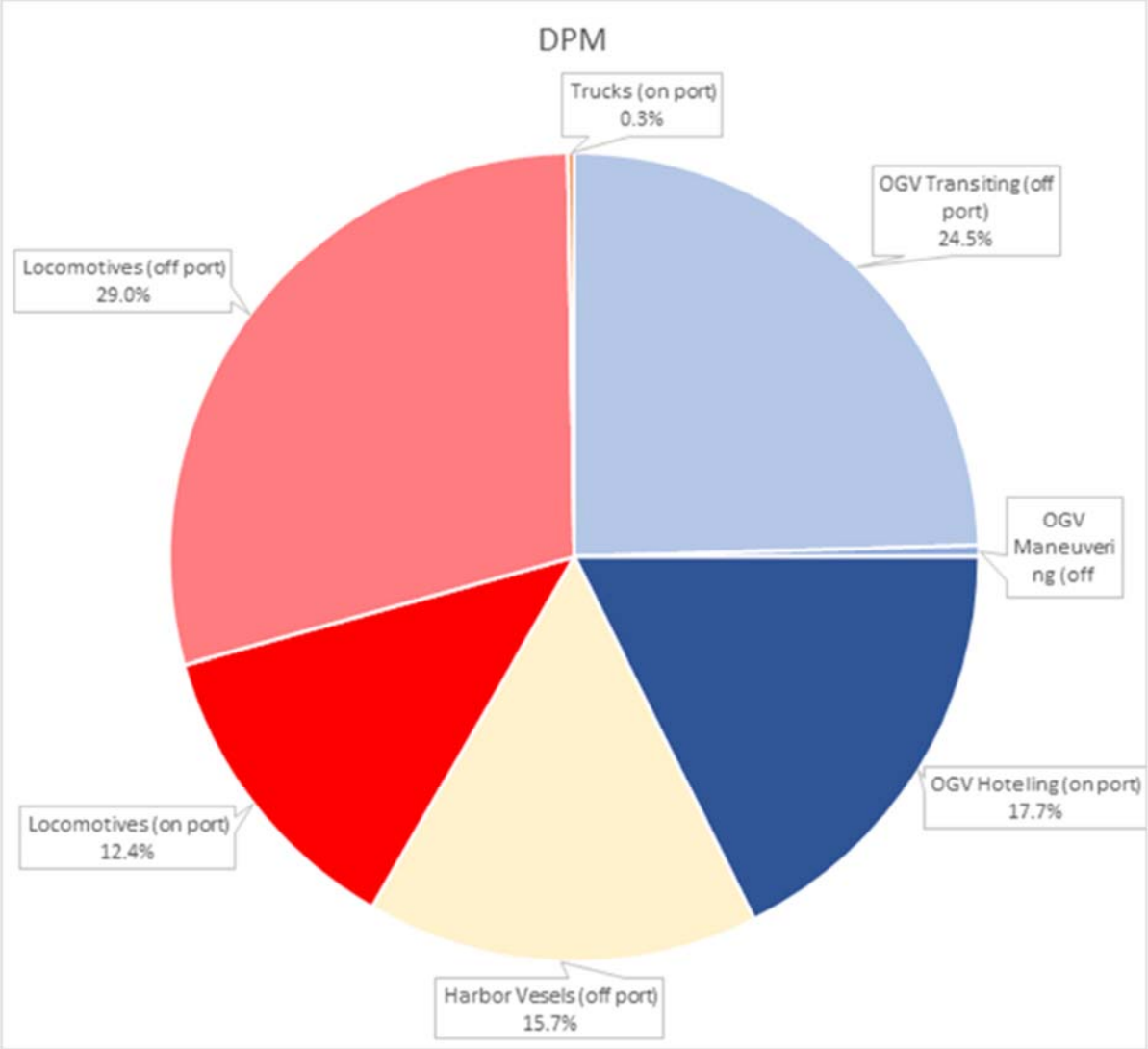
The Port of Tacoma's NWPCAS Implementation Plan will be a five-year action plan tied to annual budgets and the 5-year Capital Improvement Plan and aligned with the new Port of Tacoma Strategic Plan. Based on the Port's emissions profile (see below), the Plan will focus primarily on reducing air and climate pollution from buildings/facilities and vehicles/fleets owned and operated by the Port and its tenants.

Port's Share of Emissions

The Port of Tacoma's share of the total emissions of diesel particulate matter (DPM) and greenhouse gases (GHG) in the South Harbor is small compared to those from NWSA-related activities such as container ships, cargo handling equipment, and drayage trucks – just 3% and 7%, respectively. Still, reducing and ultimately eliminating these sources of air and climate pollution is important for three reasons: 1) to take responsibility for the Port's share and contribute meaningfully toward successful achievement of the broader, four-port vision and goals; 2) to take advantage of increased external funding opportunities that are likely to emerge as the national, state, and local focus on clean air, climate solutions, and environmental justice continues to increase; and 3) to position the Port well for a future in which near-zero emission and zero-emission buildings and vehicles will have a lower total cost-of-ownership than higher-emission alternatives, and/or will be encouraged or required by public policy.

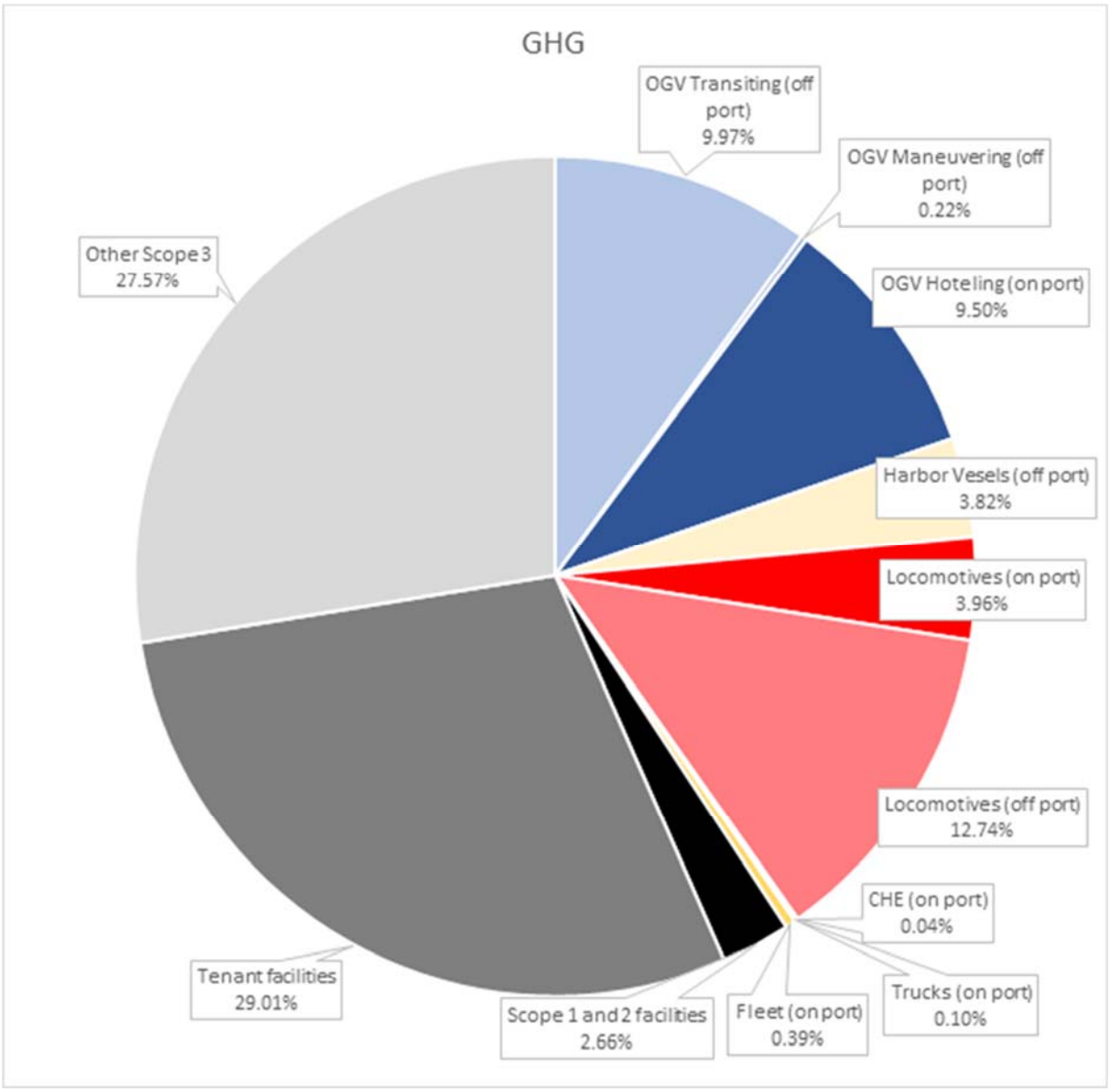
Port's Emissions Profiles

Port-related sources of diesel particulate matter (DPM) are shown here:



Nearly all of these emissions are from the ships that call on the tenant-operated grain terminal on the Foss Waterway – both in transit and at-berth – and the harbor vessels, locomotives, and trucks that serve that terminal and those ships.

The Port-related sources of greenhouse gas (GHG) emission are shown here:

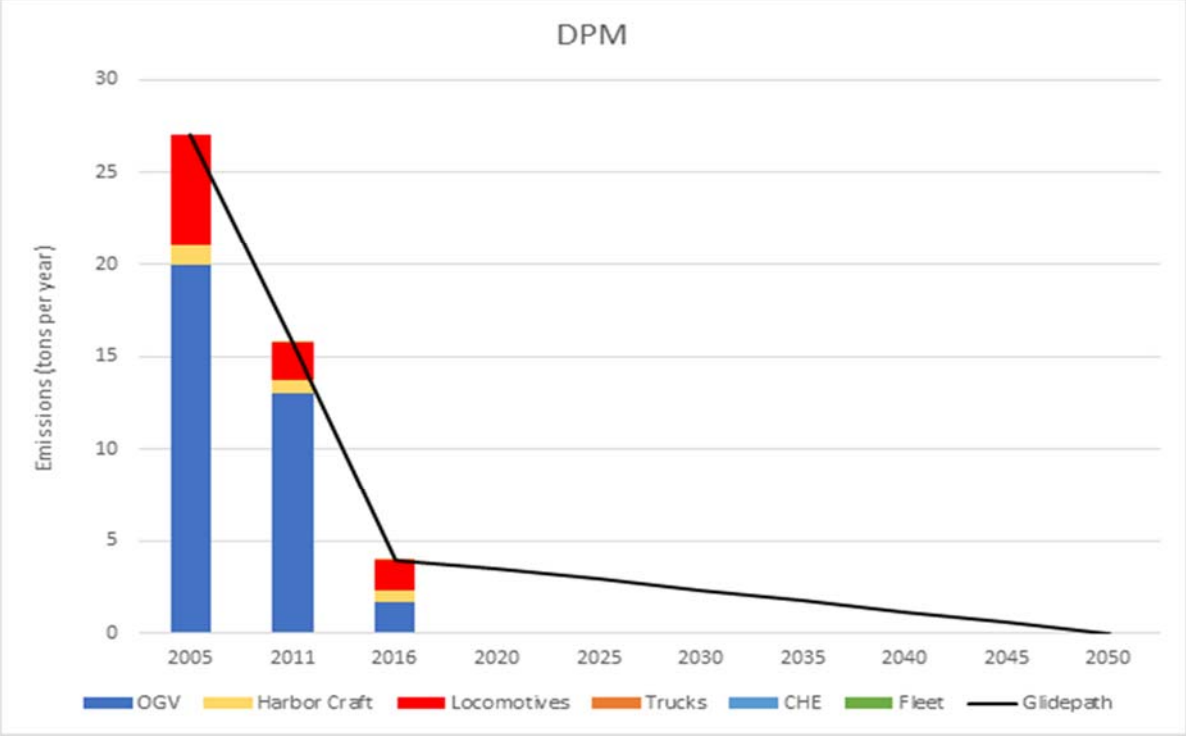


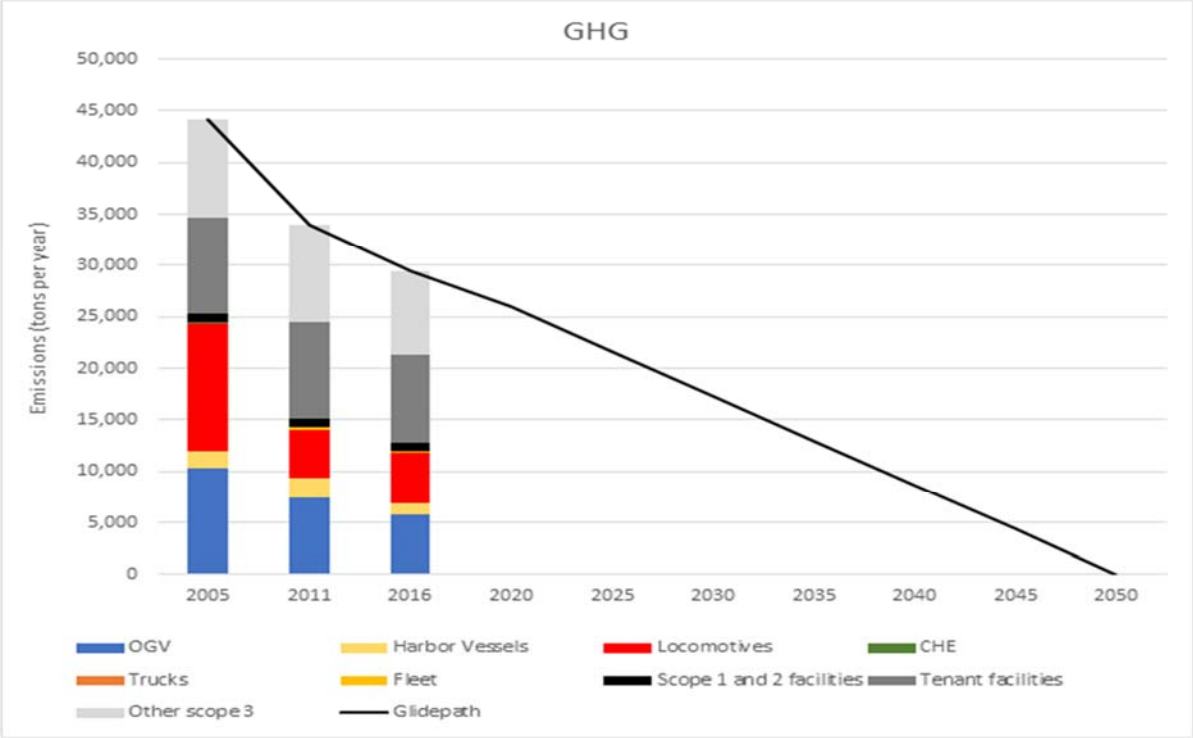
About 40% of these emissions are from the same grain terminal-related sources cited above. The remaining 60% are from other Port and tenant operations, in particular energy use in buildings, facilities, vehicles, and fleets owned and operated by the Port and its tenants. Among these, the most significant sources, which are the primary focus of this implementation plan, are as follows:

Source	Tons
Scope 1 (direct emissions from owned/controlled sources)	
Natural gas use in Port buildings	260
Gasoline use in Port vehicles	120
Scope 2 (indirect emissions from purchased energy)	
Port's purchased electricity	90
Scope 3 (indirect emissions in the Port's value chain)	
Natural gas use in tenant buildings	3,400
Tenants' purchased electricity	650
Port employee commuting	700
Tenants' employee commuting	6,300
Port employee business travel	170

Port's "Pathways to Zero"

The following graphs depict the "pathway to zero" for the Port's DPM and GHG emissions:





Grain Terminal & Operations

The DPM and GHG emissions associated with the grain terminal will be addressed primarily in the Northwest Seaport Alliance's NWPCAS implementation plan, through the Port of Tacoma's collaboration with the NWSA on that plan. For example:

- *International policy engagement and advocacy*: Strengthening efforts to participate strategically in key activities of the International Maritime Organization (IMO) and International Association of Ports and Harbors (IAPH) that support the transition to lower-carbon and zero-carbon ships and fuels;
- *Clean vessel incentives assessment*: Assessing opportunities to incentivize emissions reduction from ocean-going vessels while in transit, for example through "slow-steaming"; and
- *Tenant engagement and support program*: Developing and implementing a program for more systematically engaging with and supporting marine terminal operators and other tenants on clean air and climate solutions.

As part of these collaborative efforts with the NWSA, the Port of Tacoma will work with the grain terminal operator/tenant and other partners (such as the Puget Sound Clean Air Agency) to explore funding opportunities to reduce emissions from the harbor vessels and locomotives that serve the grain terminal, for example by repowering the tenant-owned switcher locomotive.

Note that shore power is not an effective emission reduction opportunity for the grain terminal, because there is not a regular rotation of ships calling at that terminal, and none of those ships are or are expected to be shore power equipped in the near future.

Buildings & Facilities

The near-term priorities for reducing emissions from Port and tenants' buildings and facilities are to: 1) increase energy efficiency in port and tenant buildings with funding support from grants and rebates; and 2) begin the transition away from natural gas use in port and tenant buildings. The draft 5-year plan is as follows:

Priority Action	Timeline	Roles & Responsibilities
1. Develop and implement **Clean Buildings Initiative**: establish Clean Buildings Working Group; identify, assess, and pursue building clean energy projects annually	Establish working group and identify first list of projects by June 2021	Lead: AQSP Support: Finance, Maintenance, Real Estate, Engineering
2. Develop a program for **reducing and ultimately eliminating natural gas use** in Port and tenant buildings: inventory use; identify reduction opportunities annually via #1 above; develop policy for new construction	Complete inventory by end of June 2022; develop program and policy by end of 2022	Lead: AQSP Support: Same as above
3. Develop a **program and policy encouraging tenants** to increase energy efficiency and move away from natural gas	Develop program by end of 2021	Lead: AQSP Support: Real Estate
4. Explore the use of the Envision **sustainability framework** to guide the design and development of infrastructure projects	On-going	Lead: AQSP Support: Finance, Engineering, Commercial

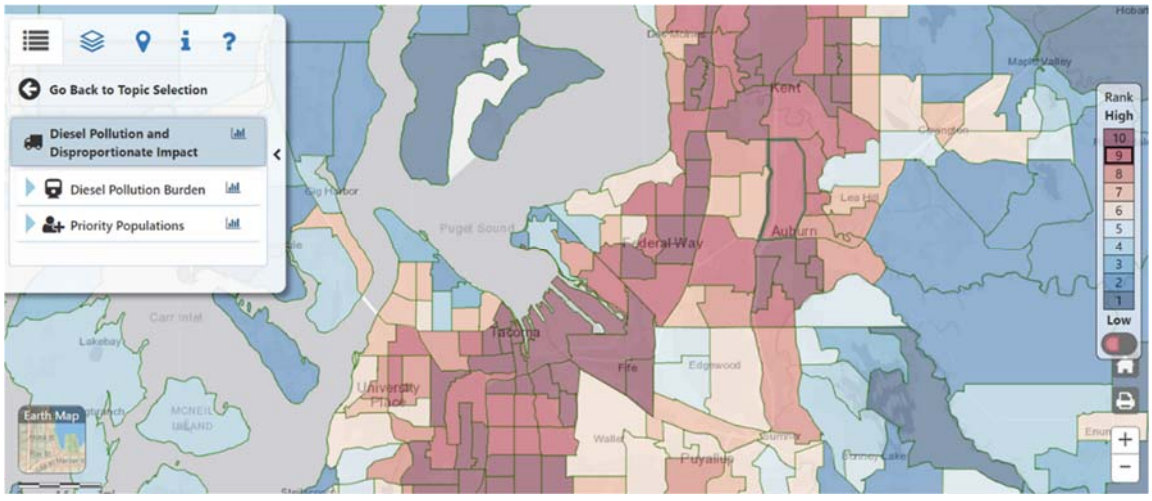
Vehicles & Fleets

The near-term priorities for reducing emissions from Port and tenants' vehicles and fleets are to: 1) increase the efficiency of the Port fleet (e.g., through "right-sizing"); transition away from gas-powered vehicles and move toward electric vehicles; 3) plan and install the charging infrastructure necessary to enable the transition to electric vehicles by the Port and its tenants; 4) strengthen the Port's commute trip reduction program; and 5) advocate and provide support for tenants to transition to zero-emission buildings and vehicles. The draft 5-year action plan is as follows:

Priority Action	Timeline	Roles & Responsibilities
1. **Plan and install EV charging infrastructure**: ▪ Map out EV charging infrastructure needs for the Port and tenant vehicles through the South Harbor Electrification Roadmap (SHERM) ▪ Integrate EV charging capacity into the design and construction of the Port's new Administration Building	Complete SHERM by end of 2022	Lead: AQSP Support: Engineering, Security, Maintenance, Finance
2. **Transition to hybrid and electric vehicles.** ▪ Track the development and total-cost-of-ownership of electric SUVs, vans, security vehicles, light-duty trucks ▪ Purchase only hybrid or electric vehicles through annual vehicle replacement plans	On-going	Lead: Maintenance Support: AQSP, Security, Engineering, Finance
3. **Strengthen the Port's commute trip reduction program**	Recommendations by end of 2021	Lead: Human Resources Support: AQSP
4. **Develop a program for encouraging tenants to transition** to zero-emission vehicles and equipment and implement commute trip reduction programs.	Program in place by June 2022	Lead: AQSP Support: Real Estate, Maintenance

Reducing Environmental Health Disparities

Reducing the environmental health disparities that exist in both NWSA harbors is a central goal of the 2020 NWPCAS and the Port of Tacoma and NWSA implementation plans. For example, this map – taken from the statewide Environmental Health Disparities Map maintained by the state Department of Health – shows that many of the areas adjacent to the Port of Tacoma rank very high in terms of disproportionate exposure to diesel pollution.



Both the NWSA and the Port of Tacoma, as part of their NWPCAS implementation plans, will: 1) do further analysis and community consultations to better understand the environmental health disparities that exist, and the ports' contributions to them; and 2) based on that increased understanding, prioritize actions and investments that reduce the ports' contributions to those disparities.

Other Cross-Cutting Actions

Additional, high-priority cross-cutting actions for the Port of Tacoma are as follows:

Priority Action	Timeline	Roles & Responsibilities
1. Infrastructure Planning: Collaborate with NWSA on **South Harbor Electrification Roadmap**	Complete SHERM by end of 2022	Lead: AQSP Support: Operations, Maintenance, Engineering, Commercial, Finance
2. Develop a program for on-going **communication, engagement, and partnership with tenants**	Program in place by June 2022	Lead: AQSP Support: Real Estate
3. Develop a program for **on-going communication, engagement, and partnership with community groups** in the South Harbor	Program in place by June 2022	Lead: AQSP & Public Affairs
4. Policy Engagement: Develop and implement federal, state, and local clean air **policy agendas**	On-going	Lead: AQSP & Public Affairs
5. Secure external **funding** (grants, rebates, etc.)	On-going	Lead: AQSP Support: Finance

D. DRAFT 5-YEAR MILESTONES

At the end of this first, five-year implementation period for the NWPCAS, these are the milestones that the Port of Tacoma will have achieved:

Action Category	DRAFT 5-Year Milestones
Buildings & Facilities	- At least one clean building project has been implemented per year on average; at least five projects total - Policy on natural gas use in major remodels and new construction has been adopted
Vehicles & Equipment	- Electric vehicle charging is available at new Port of Tacoma Administration Building - At least 50% of the Port's existing fleet has transitioned to plug-in hybrid or all-electric vehicles - A program or policy is in place to encourage tenants to transition to electric or renewable fuel-powered vehicles - Strengthened Commute Trip Reduction program is in place
Cross-Cutting Actions	- Tenant engagement program is up-and-running - South Harbor community engagement program is up-and-running - South Harbor Electrification Roadmap is complete

E. PRELIMINARY COST ESTIMATES

These are preliminary cost estimates for the first, five-year NWPCAS implementation period for the Port of Tacoma:

Action Category	PRELMINARY Cost Estimates
Buildings & Facilities	$200-400K/year for clean building projects
Vehicles & Equipment	$250-300K/year for vehicle replacement $50K total contribution (over two years) to SHERM $100-500K for EV charging at new Administration Building
Cross-Cutting Actions	$50-100K/year for tenant and community engagement
TOTAL	$500K-800K/year plus $150-$550K in one-time costs

F. PREVIOUS ACTIONS OR BRIEFINGS

Date	Action
February 2, 2021	Final NWPCAS presented and “first reading” of adoption resolution by Managing Members
December 11, 2020	NWPCAS briefing memo to NWSA Managing Members
September 1, 2020	Third NWPCAS briefing for NWSA Managing Members
August 6, 2019	Second NWPCAS briefing for NWSA Managing Members
July 3, 2018	First NWPCAS briefing for NWSA Managing Members; authorization of ILA with Vancouver-Fraser Port Authority
December 2018, June 2019, January 2020, June 2020, August 2020, November 2020	NWPCAS briefings for NWSA Managing Members Environmental Working Group
2017	Resolutions setting GHG reduction targets passed by Port of Tacoma Commission, Port of Seattle Commission, and NWSA Managing Members
December 2013	Port of Seattle and Port of Tacoma commissions adopt NWPCAS 2013 update
January 2008	Port of Seattle and Port of Tacoma commissions adopt original NWPCAS

G. ATTACHMENTS TO THIS REQUEST

- Computer slide presentation.

H. NEXT STEPS

- April 6: Managing Members adopt 2020 NWPCAS
- March – April: Port of Tacoma/NWSA staff, working with Clean Air & Climate Action Team Draft Port of Tacoma and NWSA implementation plans
- Late March to Early April: Review and comment on draft implementation plans by external partners and stakeholders
- June: Completion and publication of implementation plans

Item No.: 12A
Date of Meeting: March 18, 2021

Briefing on Northwest Ports Clean Air Strategy & DRAFT Port of Tacoma Implementation Plan

Steve Nicholas

Environmental Senior Project Manager

Port of Tacoma

People. Partnership. Performance.

Background

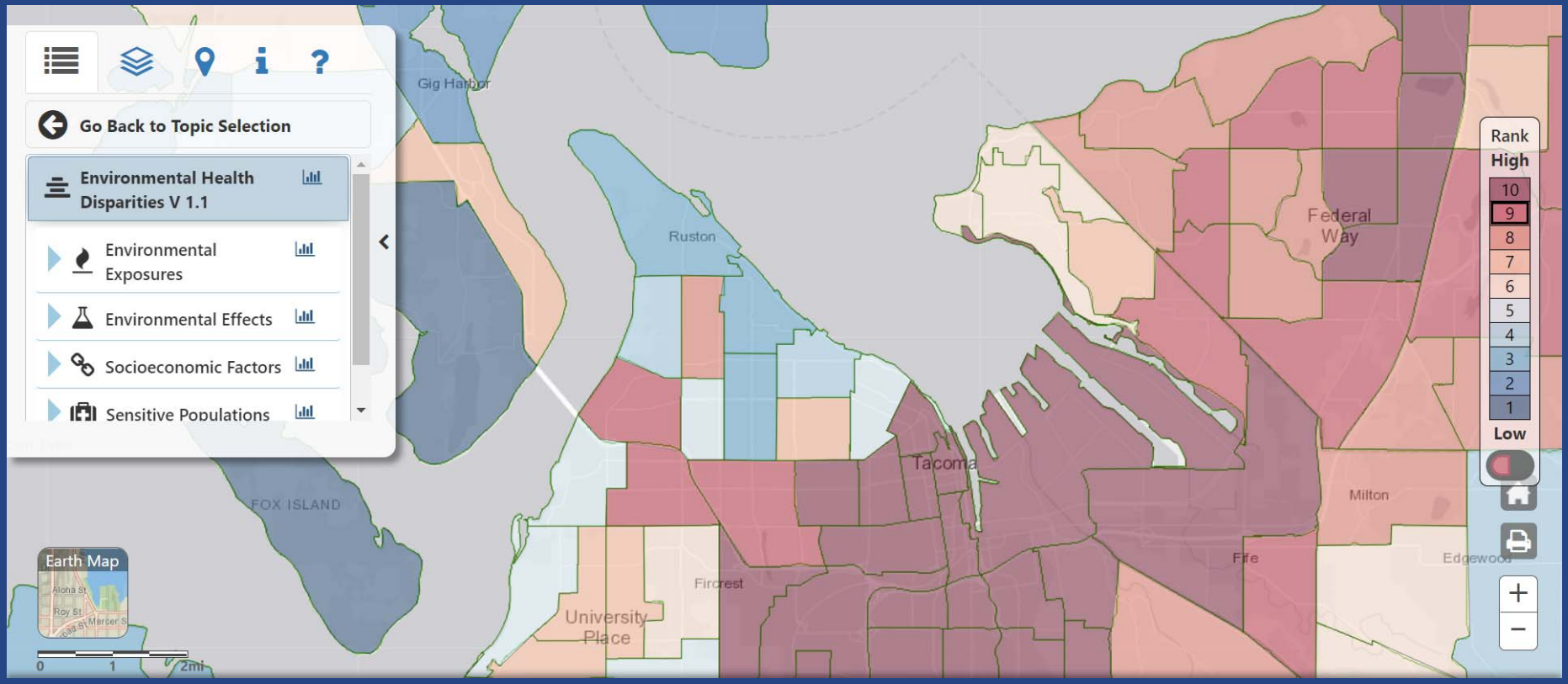
- NW Ports Clean Air Strategy is core initiative of Port's Air Quality & Sustainable Practices program and Environmental Leadership element of new Strategic Plan (EL-2)
- NWPCAS update slated for adoption 4/6
- Participating ports developing detailed implementation plans
- Port of Tacoma and NWSA implementation plans slated for completion in June

Background: Resolution 2017-04-PT

"The Port adopts GHG reduction targets in keeping with the Paris Accord and in alignment with the global reductions necessary for keeping warming to within 2° Celsius by 2050."

- By 2030:
  - 50% below 2005 levels (Scopes 1, 2, 3)
- By 2050:
  - Carbon Neutral (Scopes 1 & 2)
  - 80% below 2005 levels (Scope 3)

Background: Environmental Health Disparities Map



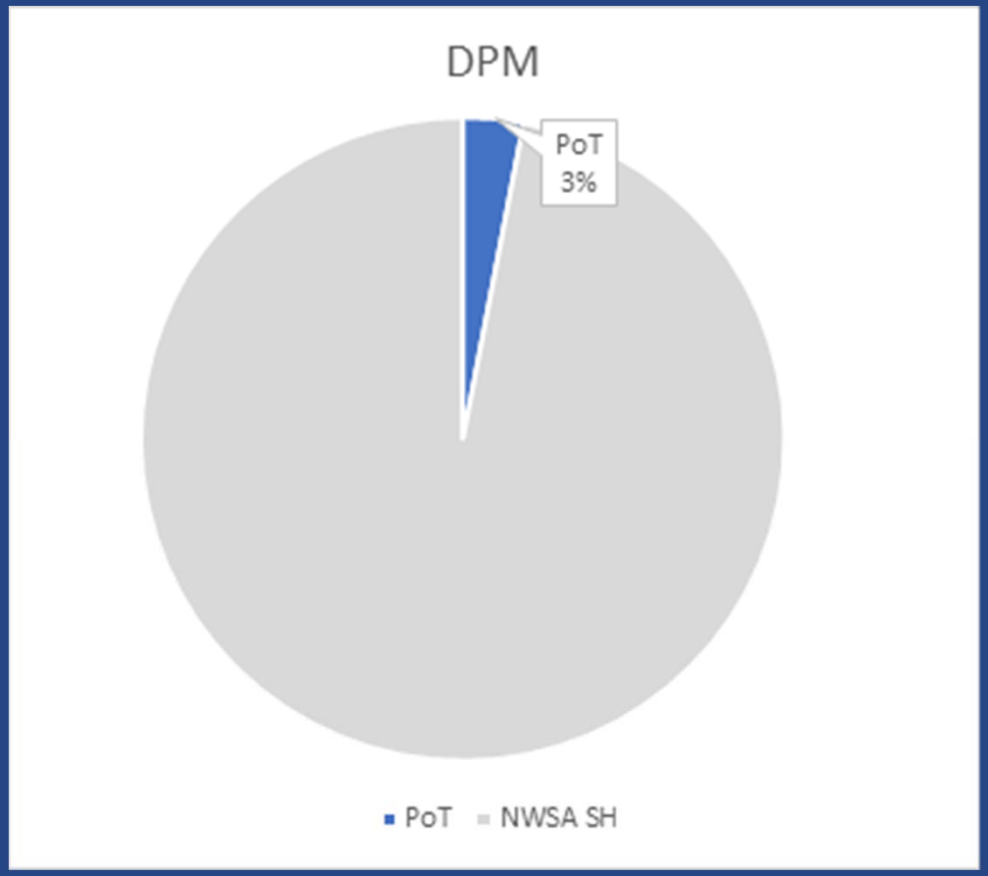
2020 Northwest Ports Clean Air Strategy

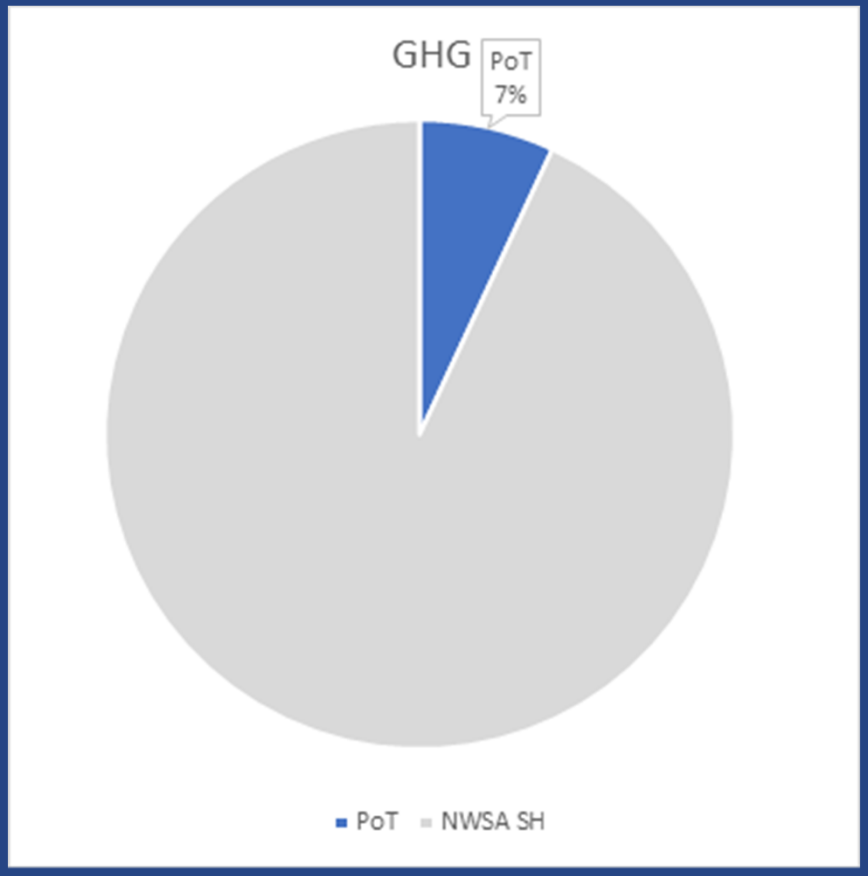
- Four-port collaboration
- Airshed-wide strategic framework for clean air & climate action
- Initiated in 2008, updated in 2013 & 2020
- Aspirational vision of 2020 update: “zero emissions by 2050”

Port of Tacoma's NWPCAS Implementation Plan: Overview

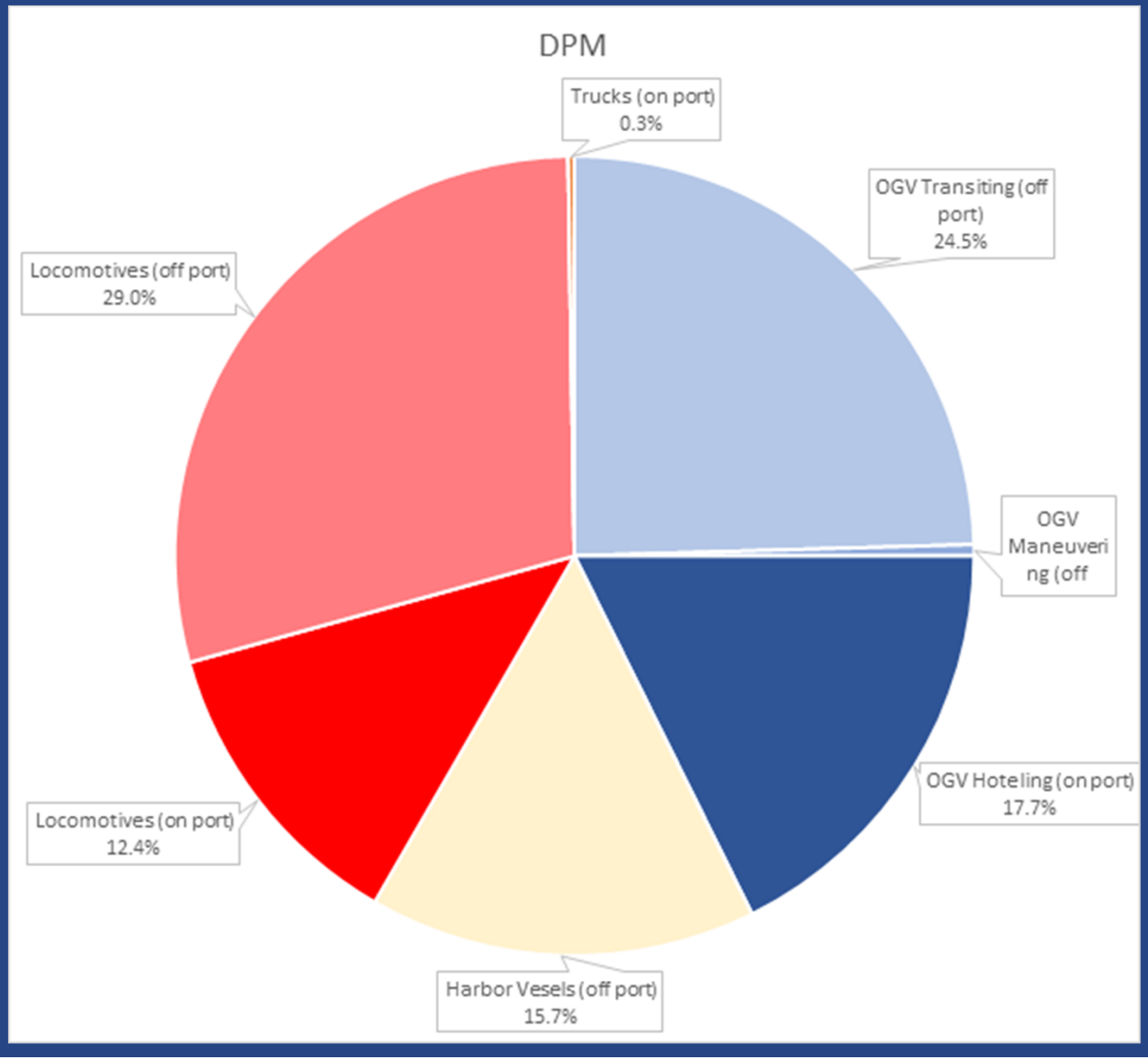
- Being developed with interdepartmental Clean Air & Climate Action Team (CCAT)
- 5-year timeframe, tied to annual budgets and 5-year CIP
- Focuses primarily on buildings/facilities and vehicles/fleets owned and operated by the Port and its tenants
- Other emissions (ships, trucks, CHE, etc.) addressed in NWSA plan

Port of Tacoma vs. NWSA Emissions

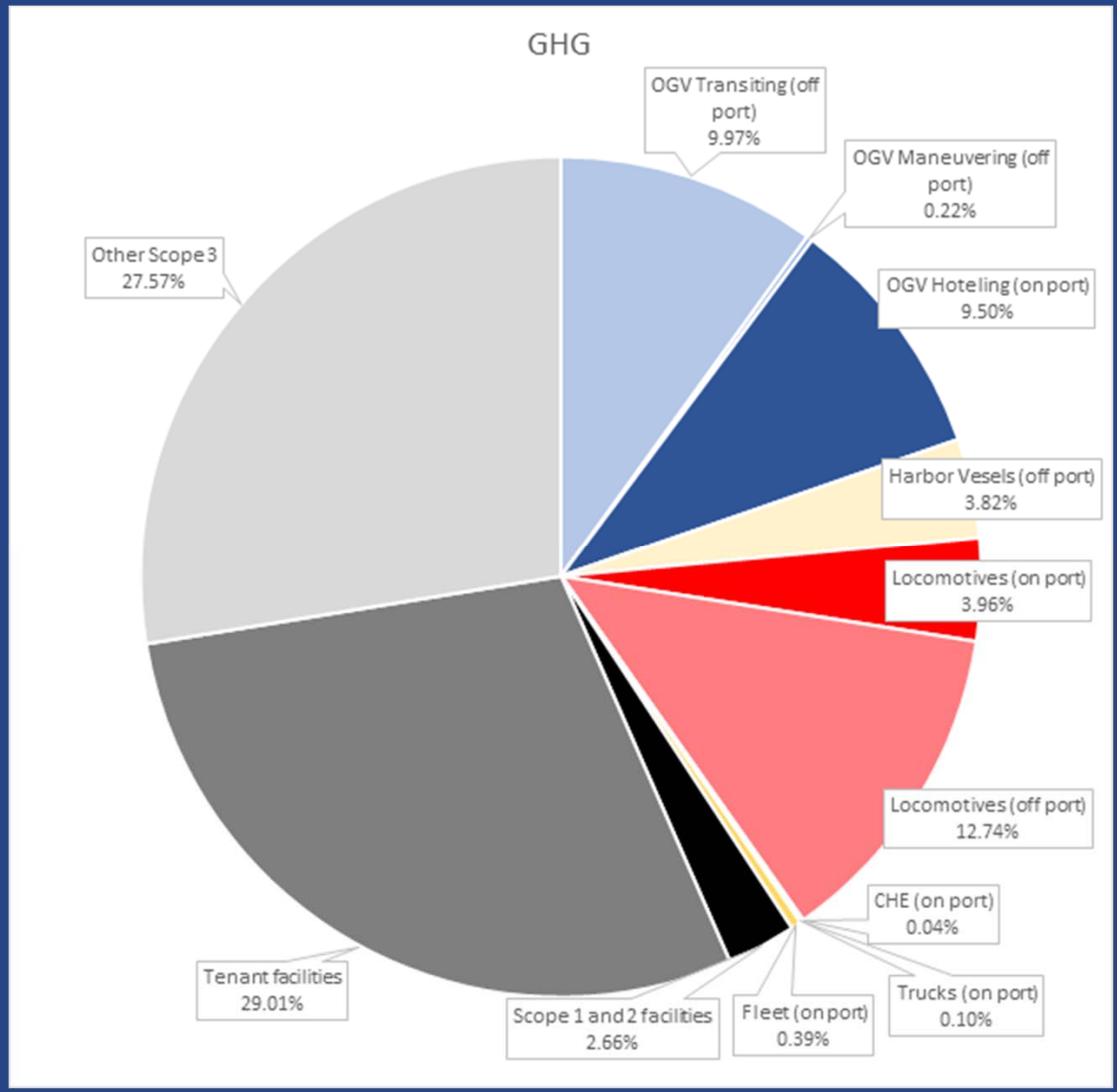




Port of Tacoma Emissions Profile: DPM



Port of Tacoma Emissions Profile: GHG



GHG Emissions from Port & Tenant Operations

Scope 1 (direct emissions)

- Natural gas use in Port buildings
- Gasoline use in Port vehicles

Scope 2 (indirect emissions from purchased electricity)

- Port's purchased electricity

Scope 3 (indirect emissions from value chain)

- Natural gas use in tenants' buildings
- Tenants' purchased electricity
- Port employee commuting
- Tenants' employee commuting
- Port employee business travel

Buildings & Facilities: DRAFT Priorities

- Move toward lower-emission and ultimately zero-emission buildings:
  - Increase energy efficiency in Port and tenant buildings, with funding support from grants and rebates
  - Begin transition away from natural gas use in Port and tenant buildings

Buildings & Facilities: DRAFT Action Plan

Priority Action	Timeline	Roles & Responsibilities
1. Develop and implement **Clean Buildings Initiative**: establish Clean Buildings Working Group to: identify, assess, and pursue building clean energy projects annually via budget process; develop sustainable building policy for new construction (e.g., new Port Administration Building)	Establish working group and identify first list of projects by June 2021 Develop policy by end of 2023	Lead: AQSP Support: Finance, Maintenance, Real Estate, Engineering
2. Develop a program for **reducing and ultimately eliminating natural gas use** in Port and tenant buildings: inventory use; track policy developments; identify reduction opportunities annually via #1 above; include in sustainable building policy	Complete inventory by end of 2022; develop program and policy by end of 2023	Lead: AQSP Support: Same as above
3. Develop a **program/policy for encouraging tenants** to increase building energy efficiency and move away from natural gas	Develop program by end of 2023	Lead: AQSP Support: Real Estate, Legal

Vehicles & Fleets: DRAFT Priorities

Move toward lower-emission and ultimately zero-emission fleets:

- Increase fuel efficiency of Port fleet
- Transition away from gas-powered vehicles to electric vehicles
- Plan and install the charging infrastructure necessary to enable this transition
- Strengthen commute trip reduction program
- Advocate and provide support for tenants to do all of the above

Vehicles & Fleets: DRAFT Action Plan

Priority Action	Timeline	Roles & Responsibilities
1. Plan/install EV charging infrastructure for Port vehicles: ▪ Map out infrastructure needs for Port and tenant vehicles through the South Harbor Electrification Roadmap (SHERM) ▪ Install EV charging at new Administration Building ▪ Explore charging stations at other locations convenient to Maintenance and Security fleets	Complete SHERM by end of 2022	Lead: AQSP Support: Engineering, Security, Maintenance, Finance
2**. Transition to plug-in hybrid and all-electric vehicles.** ▪ Track the development and total-cost-of-ownership of electric SUVs, vans, security vehicles, light-duty trucks ▪ Unless infeasible, purchase only plug-in hybrid or electric vehicles through vehicle replacement plan	On-going	Lead: Maintenance Support: AQSP, Security, Engineering, Finance
3. **Strengthen the Port's commute trip reduction program** (expanded teleworking, improved access to transit, etc.)	Recommendations by June 2022	Lead: Human Resources Support: AQSP
4. **Develop a program for encouraging tenants to transition** to zero-emission vehicles and equipment and implement commute trip reduction programs.	Program in place by end of 2022	Lead: AQSP Support: Real Estate, Maintenance, Legal

Cross-Cutting Actions: DRAFT Action Plan

Priority Action	Timeline	Roles & Responsibilities
1. Develop a program for **on-going communication, engagement, and partnership with tenants**	Program in place by June 2022	Lead: AQSP Support: Real Estate
2. Develop a program for **on-going communication, engagement, and partnership with community groups** in the South Harbor	Program in place by June 2022	Lead: AQSP & Public Affairs
3. Policy Engagement: Collaborate with NWSA on development of international, federal, state, and local clean air and climate **policy agendas**	On-going	Lead: AQSP & Public Affairs
4. Continue to pursue/secure **external funding** (grants, rebates, etc.)	On-going	Lead: AQSP Support: Finance

Port of Tacoma Implementation Plan: DRAFT 5-Year Milestones

Action Category	DRAFT 5-Year Milestones
Buildings & Facilities	- At least one clean building project has been implemented per year on average; at least five projects total - Sustainable Building Policy addressing energy efficiency and natural gas use in major remodels and new construction has been adopted - New Port Administration Building is low- or zero-emission
Vehicles & Equipment	- Electric vehicle charging is available at new Port of Tacoma Administration Building - At least 50% of the Port's existing fleet has transitioned to plug-in hybrid or all-electric vehicles - A program or policy is in place to encourage tenants to transition to electric or renewable fuel-powered vehicles - Strengthened Commute Trip Reduction program is in place
Cross-Cutting Actions	- South Harbor Electrification Roadmap is complete - Tenant engagement program is up-and-running - South Harbor community engagement program is up-and-running

Port of Tacoma Implementation Plan: PRELIMINARY Cost Estimates

Action Category	PRELIMINARY Cost Estimates
Buildings & Facilities	$200-400K/year for clean building projects
Vehicles & Equipment	$250-350K/year for vehicle replacement $50K total contribution (over two years) to SHERM $100-500K for EV charging at new Administration Building
Cross-Cutting Actions	$50-100K/year for tenant and community engagement
TOTAL	$500K-850K/year plus $150-$550K in one-time costs

Next Steps

- **April 6**: Managing Members adopt NWPCAS
- **March-April**: Staff refines draft implementation plans for Port and NWSA, working with Clean Air & Climate Action Team
- **Late March/early April**: Review/comment by external partners
- **June/July**: Implementation Plans completed (and adopted?)