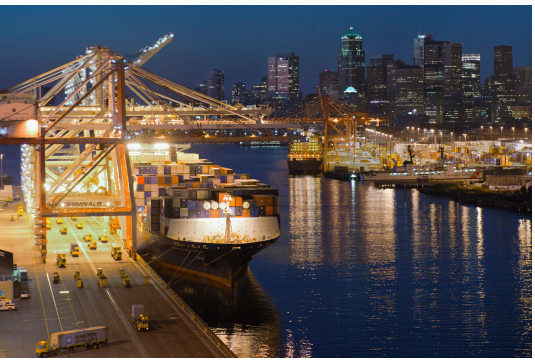
Northwest Ports Clean Air Strategy

2013 Update (DRAFT) | June 2013



Port of Seattle

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Puget Sound Clean Air Agency
United State Environmental Protection Agency
Washington State Department of Ecology

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EXECUTIVE SUMMARY

The Port of Seattle, Port of Tacoma, and Port Metro Vancouver are continuing their collaborative efforts on the **Northwest Ports Clean Air Strategy** to reduce emissions from shipping and port operations in the Georgia Basin–Puget Sound airshed. In developing and implementing the 2007 Strategy and this 2013 **Strategy Update**, the three ports partnered with government agencies including: Environment Canada and Metro Vancouver in Canada, and the U.S. Environmental Protection Agency, Washington State Department of Ecology, and Puget Sound Clean Air Agency in the United States. Collectively, the ports and government agencies are referred to as the Strategy partners.

The voluntary actions in this Strategy Update are intended to complement regulations and, together with the regulations, achieve the following emission reductions relative to a 2005 baseline:

- **Reduce diesel particulate matter (DPM) emissions per ton of cargo by 75% by 2015 and 80% by 2020**, to decrease immediate and long-term health effects on adjacent communities.
- **Reduce greenhouse gas (GHG) emissions per ton of cargo by 10% by 2015 and 15% by 2020**, to limit contributions to climate change and reduce associated environmental, health, and economic impacts.

These goals account for changing levels of port activity and focus on increasing efficiency per ton of cargo moved through the ports.

Since adopting the first Strategy in 2007, the Strategy partners have evaluated data and lessons learned from implementation efforts, advances in emission-reduction technology, and changes in the regulatory landscape. This experience to date informs the Strategy Update and its key elements:

- Goals for reducing port-related emissions in the Georgia Basin–Puget Sound airshed.
- Performance targets for 2015 and 2020 for reducing emissions in each covered sector.
- Pilot studies and demonstration projects to assess how new emission-reduction technologies can help meet the emission-reduction goals.

The ports developed inventories of port-related air emissions in 2005 and updated their emissions inventories in 2010 and 2011. The recent inventories show considerable progress in reducing emissions since 2005, and they provide data to identify areas for continued improvement going forward. The emissions inventories and the Strategy Update cover the following sectors of port-related operations:

1. Ocean-going vessels
2. Harbor vessels
3. Cargo-handling equipment

4. Trucks
5. Locomotives and rail transport
6. Port administration

Table 1 summarizes the actions and performance targets in each sector of the Strategy Update as presented in later chapters. Together, these performance targets are designed to achieve the airshed emission-reduction goals by 2015 and 2020. The Strategy partners also committed to conducting pilot studies and demonstration projects to advance innovative approaches to reduce emissions from these sectors.

Table 1. Summary of Actions and Performance Targets by Sector for 2015 and 2020

Sectors and Actions	2015 Targets	2020 Targets	Reduces DPM	Reduces GHG
Ocean-Going Vessels				
OGV-1 **Vessels surpass Emission Control Area (ECA) requirements**	**Early compliance with 2015 ECA 0.1% fuel-sulfur level** (or equivalent) while hotelling before 2015	**Ports track number of vessels** with Tier 3 marine engines, shore power use, cleaner fuel, or other emission-reduction technologies	✓	✓
OGV-2 **Ports and vessels participate in port-designed or third-party certification** programs that promote continuous improvement (such as Environmental Ship Index, Green Marine, Clean Cargo Working Group, or others)	**Ports and 10% of vessel calls**	**Ports and 40% of vessel calls**	✓	✓
Harbor Vessels				
Harbor-1 **Strategy partners conduct annual outreach** to port-related harbor vessel companies and **recognize best practices and engine upgrades**	**Partners** conduct outreach and **50% of harbor vessel companies** report best practices and engine upgrades	**Partners** conduct outreach and **90% of harbor vessel companies** report best practices and engine upgrades	✓	✓
Harbor-2 **Ports and harbor vessels participate in port-designed or third-party certification** programs that promote continuous improvement (such as Environmental Ship Index, Green Marine, Clean Cargo Working Group, or others)	**Ports and 10% of harbor vessels**	**Ports and 40% of harbor vessels**	✓	✓

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Table 1. Summary of Actions and Performance Targets by Sector for 2015 and 2020 *(continued)*

Sectors and Actions	2015 Targets	2020 Targets	Reduces DPM	Reduces GHG
Cargo-Handling Equipment				
CHE-1 **CHE meets Tier 4 interim** (T4i) emission standards or equivalent	**50% of equipment**	**80% of equipment**	✓	
CHE-2 **Ports and terminals have fuel-efficiency plans** in place that promote continuous improvement	**Ports and 50% of terminals**	**Ports and 100% of terminals**	✓	✓
Trucks				
Truck-1 **Trucks meet or surpass U.S. EPA emission standards** or equivalent for model year 2007	**80% of trucks**	**100% of trucks** (by 2017)	✓	
Truck-2 **Ports, terminals, and trucks have fuel-efficiency plans** in place that promote continuous improvement	**Ports**	**Ports, terminals, and 50% of trucks**	✓	✓
Locomotives				
Rail-1 **Switcher locomotive owners/operators participate in a fuel-efficiency program**	**100% of owners/operators** institute a program	**100% of owners/operators** achieve performance objectives of chosen program	✓	✓
Rail-2 **Switcher locomotive owners/operators upgrade or replace unregulated engines** (engine replacements will be Tier 2 or better)	**10% of unregulated locomotive engines**	**20% of unregulated locomotive engines**	✓	✓

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Table 1. Summary of Actions and Performance Targets by Sector for 2015 and 2020 *(continued)*

Sectors and Actions	2015 Targets	2020 Targets	Reduces DPM	Reduces GHG
Port Administration				
Admin-1 **Ports own and operate cleaner vehicles and equipment and have fuel-efficiency plans** in place that promote continuous improvement	**Ports report** use of cleaner vehicles and equipment and other relevant information	**Ports increase use** of cleaner vehicles and equipment	✓	✓
Admin-2 **Ports apply clean construction standards** to engines used on port-led construction projects (such as American Association of Port Authorities, U.S. EPA Best Practices for Clean Diesel Construction, or equivalent best management practices)	**Ports institute clean construction best practices** for port-led projects, including idle-reduction and **Tier 2** engine emission requirements	**Ports apply clean construction best practices f**or port-led projects, including idle reduction and **Tier 4** engine emission requirements	✓	✓
Admin-3 **Ports facilitate energy studies and conservation projects** at port-operated and/or tenant facilities to identify and address energy conservation opportunities in building systems, operations, and yard lighting	**Each port conducts 3** energy studies	**Each port completes 3** energy conservation projects	✓	✓