



**THE NORTHWEST  
SEAPORT ALLIANCE**  
*Gateway to Solutions*

**Date of Meeting: 9/05/17  
Item No.: 4A**

# **Adopt Policy Resolution – Greenhouse Gas Reduction Resolution 2017-02**

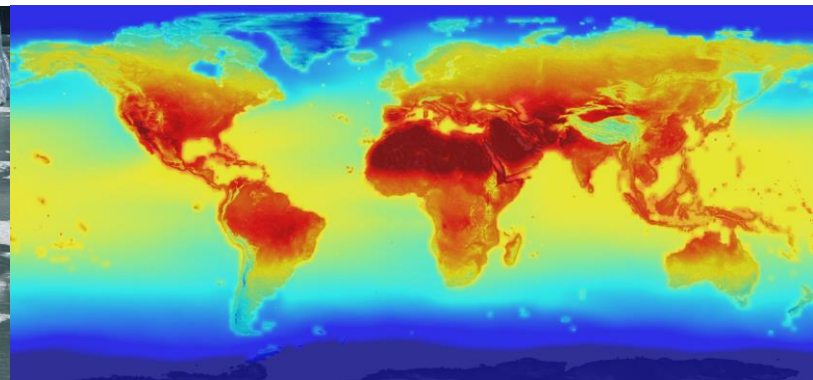
# First Reading Greenhouse Gas Reduction Resolution

- **Request adoption of the Greenhouse Gas Reduction Resolution 2017-02.**
- **Resolution will update the Northwest Seaport Alliance's greenhouse gas reduction targets and define the scope and boundary of which emissions sources are included.**

# Background – Why this is important

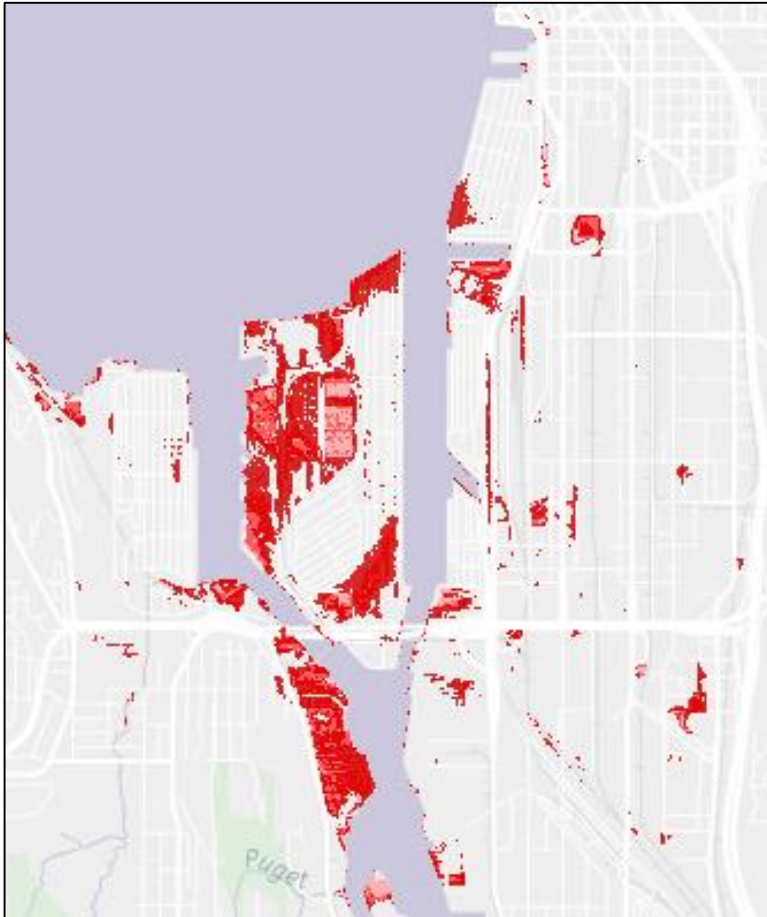
## Greenhouse Gas Reduction Resolution

- Scientific consensus is climate change is already happening
- Paris Agreement:
  - Countries aim to keep global temperature rise to below 2 degrees Celsius above pre-industrial levels
  - POT and POS have joined national ‘We Are Still In’ coalition in June 2017
- POT and POS early leaders by adopting GHG reduction goals in Northwest Ports Clean Air Strategy in 2008
- Public opinion – 71% Pierce Co. and 81% King Co. residents think global warming is happening, majority think caused by human activity

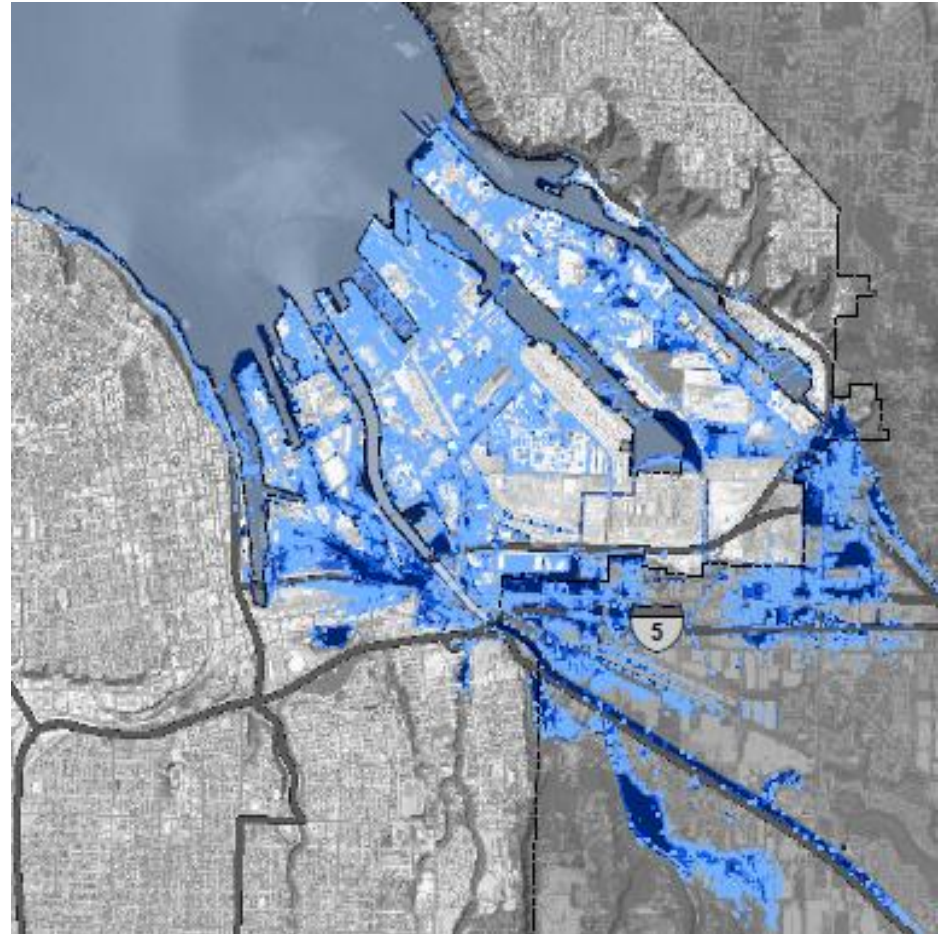


# Background – Why this is important

## Greenhouse Gas Reduction Resolution



City of Seattle and Climate Impacts Group



2050 High Tide Extremes: Up to 19 inches above today's levels



# Recommendation

## Greenhouse Gas Reduction Resolution

Staff recommends the Northwest Seaport Alliance adopt new GHG emission reduction targets:

*By 2030:*

- 50% below 2005 levels (scope 1, 2, & 3 emissions)

*By 2050:*

- Carbon Neutral (scope 1 & 2 emissions)
- 80% below 2005 levels (scope 3 emissions)



# Homeport Context

## Greenhouse Gas Reduction Resolution

Adoption of NWSA GHG Reduction Resolution would align NWSA goals with:

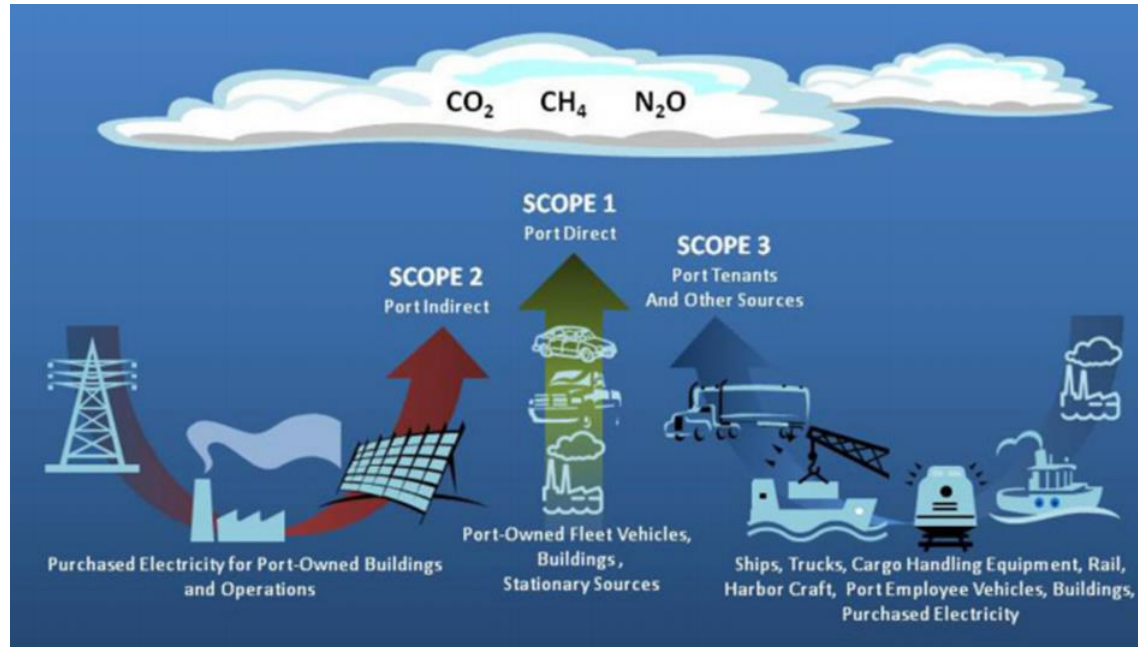
- POS targets adopted in April, 2017 and
- POT targets (awaiting second reading)

Both homeports and the Alliance would be working towards the same aligned targets



# Background

## Greenhouse Gas Reduction Resolution



Scope	Description
Scope 1 (homeport)	Direct emissions from port operations (e.g. natural gas combustion, fuel for port-owned vehicles and CHE)
Scope 2 (homeport)	Indirect emissions (e.g. purchased electricity, heating & cooling for port-owned buildings)
Scope 3 (NWSA & homeports)	All other sources of emissions within the port's value chain (e.g. tenant/customer electricity and fuel, staff commuting)



# Scope 3 Recommendations

## Greenhouse Gas Reduction Resolution

Scope 3 Sources	Port's Level of Influence over the Source	Already tracked in Emissions Inventory
<b>Port Owned/Operated Sources</b>		
Mgmt. of waste (transport, disposal, recycle)	High – Direct control	
Port staff business travel	High – Direct control	
Port staff commuting	High – Direct control	
<b>Tenant Owned/Operated Sources</b>		
Tenant electricity use	Medium – Influence through lease/incentives	
Tenant natural gas use	Medium – Influence through lease/incentives	
Tenant commuting	Low – Influence through incentives	
Tenant cargo-handling equipment	Medium – Influence through lease/incentives	X
Ocean-going vessels	Medium – Influence through MTO lease/incentives	X
Harbor craft (e.g. tugboats)	Medium – Influence through incentives	X
Cargo-related locomotives	Low	X
Cargo-related drayage trucks	Medium – Influence through incentives	X





# Background - Boundary Greenhouse Gas Reduction Resolution



Recommendation: Puget Sound airshed

- Similar to other Port GHG boundaries
- Avoids double-counting



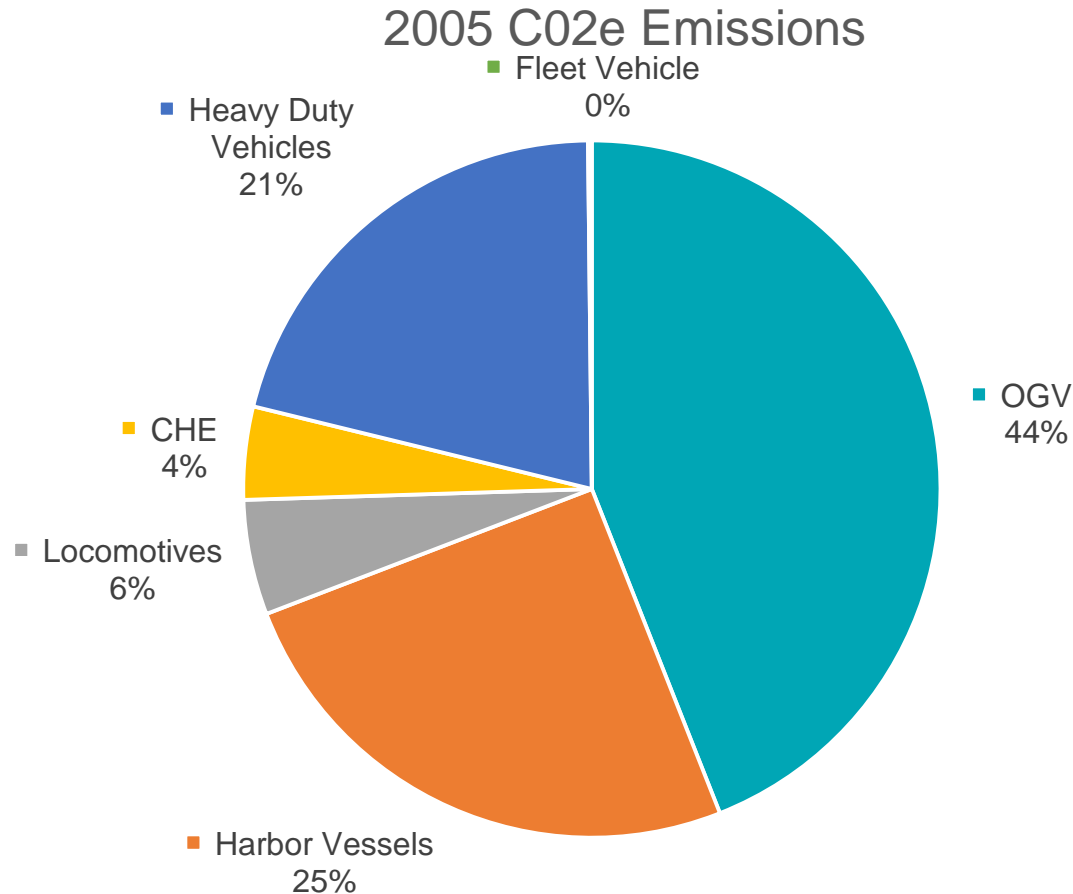
# Global Context

## Greenhouse Gas Reduction Resolution

- International shipping accounts for 2.2% of global CO<sub>2</sub> emissions
- EEDI for new ships mandatory from 2013 – more energy-efficient ships
- Larger & more efficient ships being built
- ECA (Emission Control Area) – fuel sulfur limits 200nm off N. American coast, expanding in 2020



# Puget Sound Emissions Inventory Greenhouse Gas Reduction Resolution



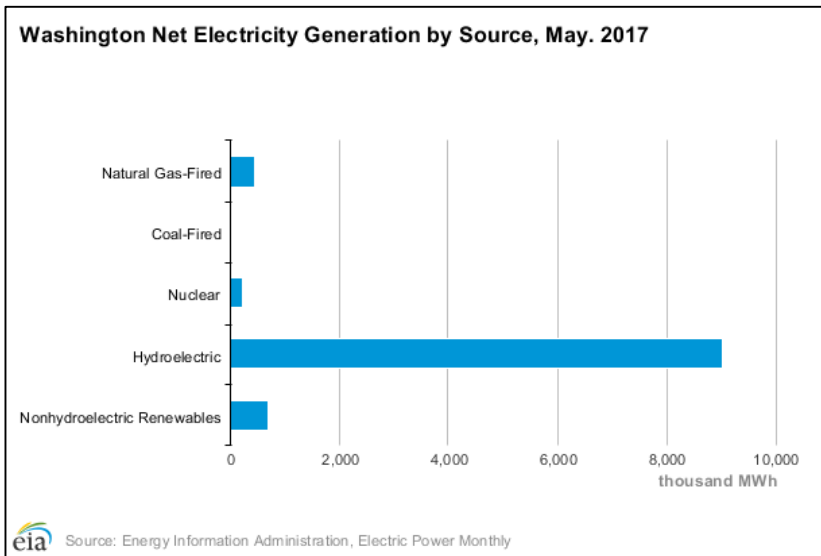
- 2005 Puget Sound Maritime Emission Inventory includes some baseline data for Scope 3 emissions
- A comprehensive inventory will help prioritize projects further (e.g. including tenant electricity consumption)
- To achieve the 2030 target of 50% reduction, will need to address vessels, trucks and multiple equipment types



# Regional Advantages

## Greenhouse Gas Reduction Resolution

- Washington State already benefits from predominately hydroelectric electricity supply
- Leading producer of hydroelectric electricity: 30% of U.S. net hydroelectricity generation in 2015
- Geographic proximity to Asian ports



# Financial Summary

## Greenhouse Gas Reduction Resolution

- All costs associated with annual inventories, capacity building and capital improvements:
  - not estimable at this time
  - will follow standard approval & authorization process.
- The 2017-2021 CIP budget includes \$560,000 for Environmental Sustainability Initiatives and \$4.6 million for the Northwest Ports Clean Air Strategy.
- No additional funds are being requested and the goal is to demonstrate overall cost savings through efficiency measures.

# Case Studies Comparison

## Greenhouse Gas Reduction Resolution

Efficiency Program	Vancouver	New York/New Jersey	Georgia Ports Authority	NWSA
<b>Tenant Training</b>	<ul style="list-style-type: none"> <li>- Introduced voluntary training for port tenants – saved \$670,000/yr (waste reduction and energy efficiency).</li> </ul>	No official program.	<ul style="list-style-type: none"> <li>- No official program.</li> </ul>	<ul style="list-style-type: none"> <li>- Annual stormwater training with tenants.</li> <li>- No comparable energy-efficiency training.</li> </ul>
<b>Lighting Upgrades</b>	<ul style="list-style-type: none"> <li>- Upgrade lighting where practicable.</li> <li>- Refitting cranes and RTG</li> </ul>	LED lighting projects in Lincoln Tunnel (\$283,000/yr savings) and Holland Tunnel (\$250,000/yr savings).	<ul style="list-style-type: none"> <li>- Reduced energy &amp; costs by 59% from new lighting for container yard.</li> <li>- Synced with dawn &amp; dusk.</li> </ul>	<ul style="list-style-type: none"> <li>- Upgrade lighting when practicable, alongside other facility upgrades.</li> <li>- Lighting at Earley Business Center upgraded to LED lighting with motion sensors.</li> </ul>
<b>Electrifying cargo-handling equipment</b>	<ul style="list-style-type: none"> <li>- Charge tenants fees for operating Tier 1 and older equipment</li> </ul>	<ul style="list-style-type: none"> <li>- Scrapping program for replacing diesel tenant CHE.</li> </ul>	<ul style="list-style-type: none"> <li>- 27 cranes converted from diesel to electric.</li> <li>- Upgraded 45 RTG cranes to electric – plan to have all 169 RTG to electric by 2026.</li> </ul>	<ul style="list-style-type: none"> <li>- 8 new cranes due in South Harbor.</li> <li>- Upgrading diesel straddle carriers to diesel-hybrid.</li> <li>- Tried electric yard truck in 2016.</li> </ul>
<b>Tenant Utilities</b>	<p>Energy Action Initiative with BC Hydro – tenants eligible for a Blue Circle Award if participate:</p> <ul style="list-style-type: none"> <li>- Energy Mgmt Assessment and Plan</li> <li>- Set targets and monitor</li> </ul>	<ul style="list-style-type: none"> <li>- Aggregated accounts and held reverse auction.</li> <li>- Installed advanced utility meters.</li> <li>- Reduced utility costs by \$2.2 million/yr.</li> </ul>	<ul style="list-style-type: none"> <li>- No official program.</li> </ul>	<ul style="list-style-type: none"> <li>- Some tenant utilities on same meters as POT operations – no submeters.</li> </ul>





# Next Steps

## Greenhouse Gas Reduction Resolution

- Second reading to POT Commissioners September 21<sup>st</sup>; Second reading to NWSA Managing Members October 3<sup>rd</sup>
- Complete a GHG inventory for POT and NWSA by end of 2017, track progress annually.
- Use inventory to develop a “glide path” plan for incrementally reducing emissions



# Conclusion

## Greenhouse Gas Reduction Resolution

Request adoption of the Greenhouse Gas Reduction Resolution 2017-02.

Resolution will update the Northwest Seaport Alliance's greenhouse gas reduction targets and define the scope and boundary of which emissions sources are included.



# Background - Precedents

## Greenhouse Gas Reduction Resolution

Institutions	GHG Goals
City of Seattle	Zero net emissions by 2050
City of Tacoma	80% below 1990 levels by 2050
King County	80% below 2007 levels by 2050 (same goal as LA/LB)
Pierce County	Currently n/a
Puget Sound Clean Air Agency (PSCAA)	80% below 1990 levels by 2050
State of Washington	57.5% below 2005 levels by 2050 (scope 1 & 2) 50% below 1990 levels by 2050 (scope 3)
Ports	GHG Goals
Seattle	50% below 2005 levels by 2030 100%-or-more below 2005 levels by 2050
Los Angeles	80% below 1990 levels by 2050; zero emissions CHE by 2030, trucks by 2035
Long Beach	80% below 1990 levels by 2050; zero emissions CHE by 2030, trucks by 2035
NY/NJ	80% below 2006 levels by 2050
Vancouver	No GHG reduction target past 2020
Prince Rupert	No public GHG reduction target
Savannah	No public GHG reduction target

# Background – Current Target Greenhouse Gas Reduction Resolution

## Puget Sound Maritime Emissions Inventory:

- Puget Sound airshed in collaboration with Washington ports
- Established 2005 baseline data, updated in 2011, 2016 complete by end of year
- Catalogs a range of emissions from equipment & transportation-does not include all sources

## Northwest Ports Clean Air Strategy:

- Developed in 2007 between POT, POS and Port Metro Vancouver. NWSA became partner.
- Updated in 2013, updated again in 2018
- Collaborative & voluntary effort to set goals & improve air quality around the ports
- Goals are intensity-based, i.e. relative to volume of cargo moved. Proposed GHG Reduction Resolution recommends absolute targets.

NWPCAS Goal 1	Reduce diesel particulate matter (DPM) emissions per ton of cargo by 75% by 2015 and by 80% by 2020, relative to 2005.
NWPCAS Goal 2	Reduce greenhouse gas emissions (GHG emissions) per ton of cargo by 10% by 2015 and by 15% by 2020, relative to 2005.