

Item 4B

Meeting: 9/21/17

# Second Reading and Final Adoption

## Policy Resolution - Greenhouse Gas Reduction Resolution 2017-04-PT



# Greenhouse Gas Reduction Resolution



Request adoption of the Greenhouse Gas Reduction Resolution  
2017-04-PT.

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

*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)

This is the second reading, requesting final adoption of Resolution.

# Feedback

## Greenhouse Gas Reduction Resolution



### Public Comments

- At the first reading on August 17, 2017, six members of the public provided comment.
- Comments were generally supportive of the Resolution and urged staff to develop a plan for implementing the goals, a comment also made by Commissioners. Several commenters questioned how adopting such goals relates to Puget Sound Energy's LNG facility development.

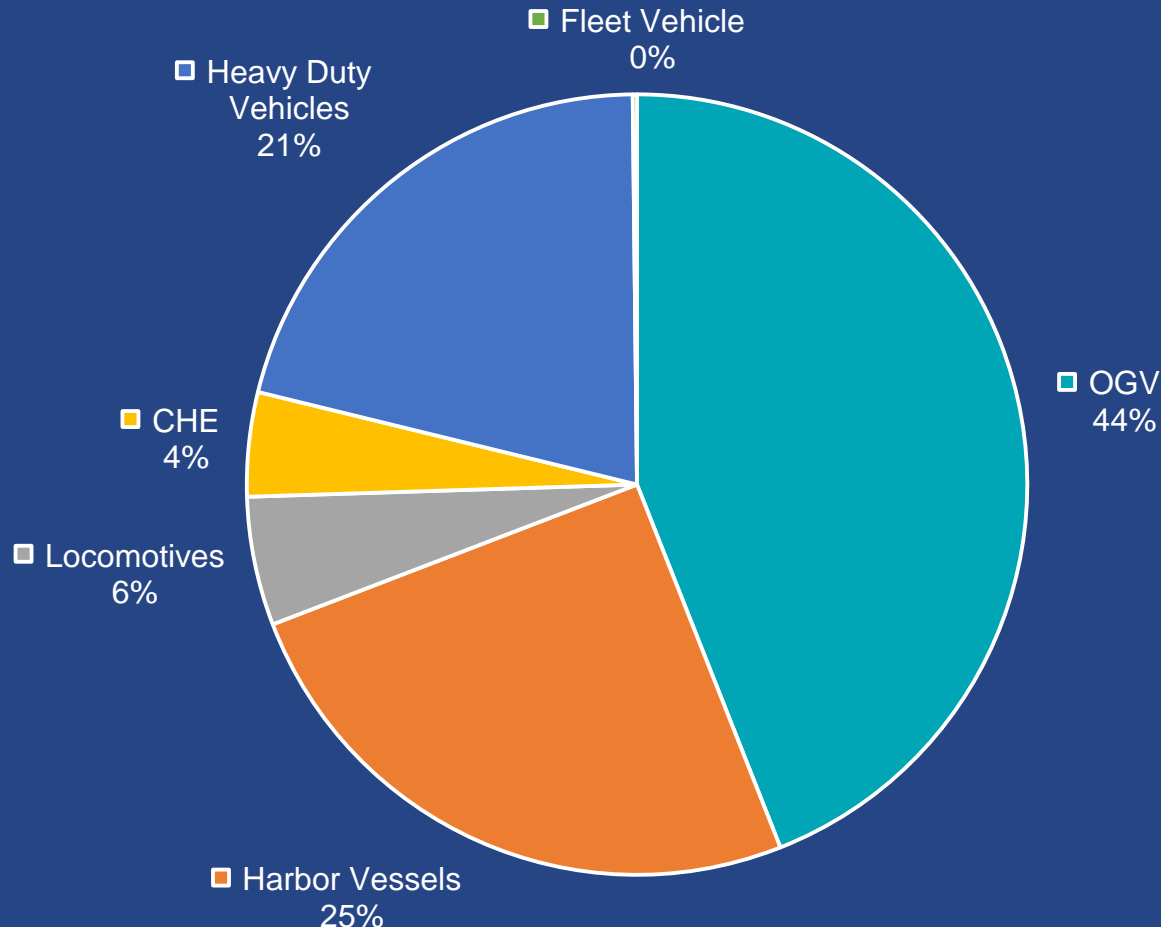
### Commissioner Feedback

- Consider adopting more aggressive targets and striving for carbon neutrality by 2050
- Capacity of the local grid to support electrification
- How this Resolution relates to the City of Tacoma goals
- How much environmental benefit would result from adoption
- Relationship to NWPCAS 2018 update

# Updates - Implementation Greenhouse Gas Reduction Resolution



2005 CO<sub>2</sub>e Emissions



- 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

# Updates – Commissioner Feedback Greenhouse Gas Reduction Resolution



- Consider adopting more aggressive targets and striving for carbon neutrality by 2050
  - Staff recommends tracking emissions toward this goal, but not formally adopting this target.
- Capacity of the local grid to support electrification
  - Previous conversations with Tacoma Power indicate there is excess electrical capacity in the Tideflats. A more complete review of capacity and projections for growth will be developed over the next year.
- How this Resolution relates to the City of Tacoma goals
  - Staff will continue to work with the City and participate in the Central Puget Sound Climate Preparedness Partnership to coordinate efforts.
- How much environmental benefit would result from adoption
  - In 2005, approximately 485,000 tons of CO<sub>2</sub>e of emissions in the Puget Sound airshed were associated with POT – roughly equivalent to the emissions from 100,000 passenger vehicles driven for one year.
- Relationship to NWPCAS 2018 update
  - Will be the basis for the new GHG emission goal

# Case Studies

## Greenhouse Gas Reduction Resolution



Efficiency Program	Vancouver, BC	New York/New Jersey	Savannah	POT/NWSA
<b>Tenant Training</b>	Introduced voluntary training for port tenants – saved \$670,000/yr (waste reduction and energy efficiency).	No official program.	No official program.	Annual stormwater training with tenants.  No comparable energy-efficiency training.
<b>Lighting Upgrades</b>	Upgrade lighting where practicable.  Refitting cranes and RTG	LED lighting projects in Lincoln Tunnel (\$283,000/yr savings) and Holland Tunnel (\$250,000/yr savings).	Reduced energy & costs by 59% from new lighting for container yard.  Synced with dawn & dusk.	Upgrade lighting when practicable, alongside other facility upgrades.  Lighting at Earley Business Center upgraded to LED lighting with motion sensors.
<b>Electrifying cargo-handling equipment</b>	Charge tenants fees for operating Tier 1 and older equipment	Scrapping program for replacing diesel tenant CHE.	27 cranes converted from diesel to electric.  Upgraded 45 RTG cranes to electric for \$17.5 million – plan to have all 169 RTG to electric by 2026.	8 new cranes due in South Harbor.  Upgrading diesel straddle carriers to diesel-hybrid.  Tried electric yard truck in 2016.
<b>Tenant Utilities</b>	Energy Action Initiative with BC Hydro – tenants eligible for a Blue Circle Award if participate: Energy Mgmt Assessment and Plan Set targets and monitor	Aggregated accounts and held reverse auction.  Installed advanced utility meters.  Reduced utility costs by \$2.2 million/yr.	No official program.	Some tenant utilities on same meters as POT operations – no submeters.

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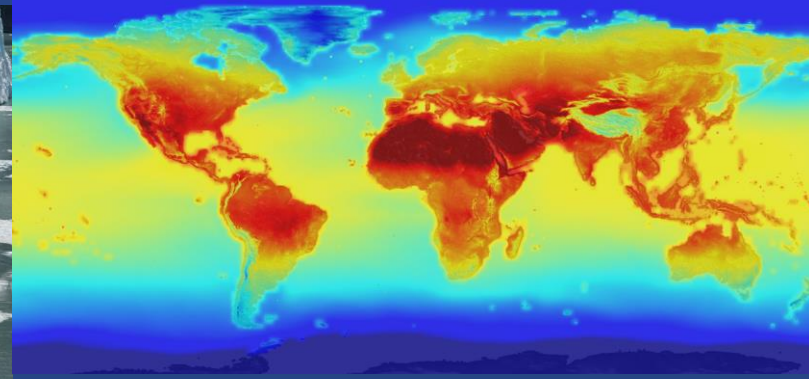
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# Background – Why this is important Greenhouse Gas Reduction Resolution

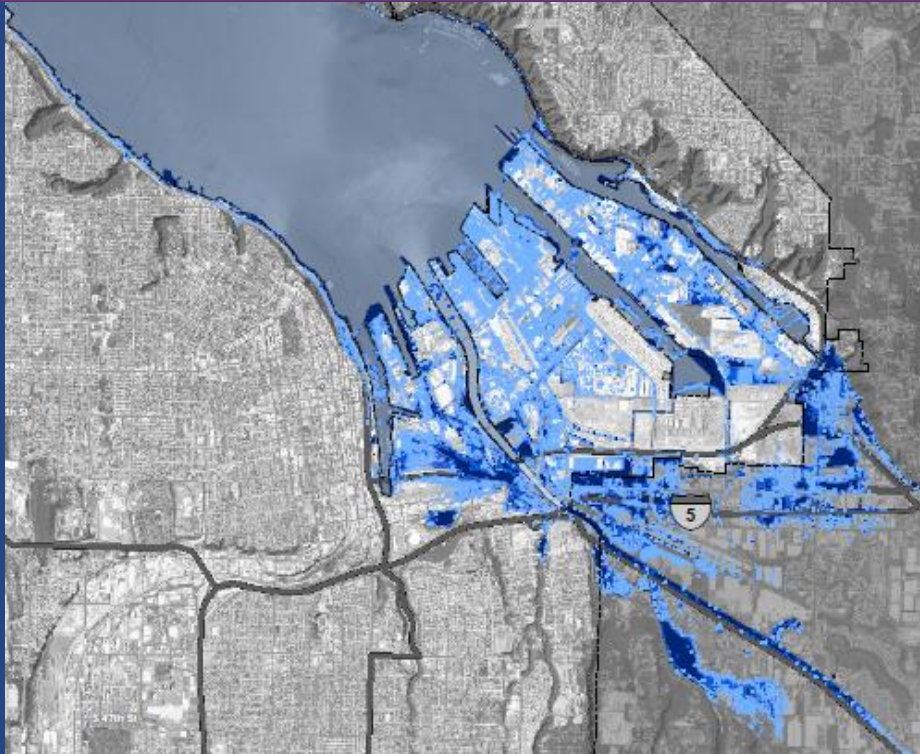


- Scientific consensus is climate change is already happening
- Paris Agreement:
  - Countries aim to keep global temperature rise to below 2 degrees Celsius above pre-industrial levels
  - POT joined national 'We Are Still In' coalition in June 2017
- POT an early leader by adopting GHG reduction goals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





# Background – Why this is important Greenhouse Gas Reduction Resolution



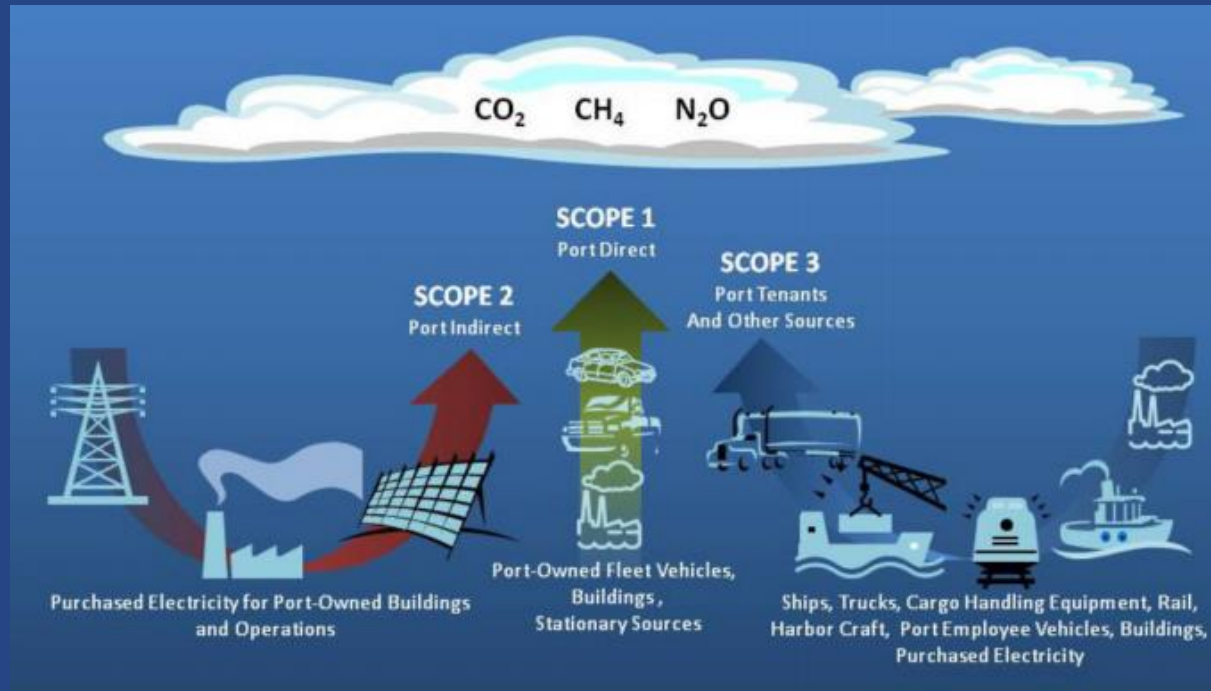
2050 High Tide Extremes: up to 19 inches above today's levels

Dark Blue: Exposed today

Light Blue: Exposed in 2050 to flood events

- 27% reduction in Mt. Rainier's glaciers (1913-1994).
- 7.8 inch increase in sea level over the last century.
- Warming in all seasons, especially summer.
- More intense heat waves.
- Wetter winters and drier summers, with heavier and more frequent extreme rainfall events.
- Greater flood risk in the Puyallup watershed.
- Potential for more landslides.

# 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 Policy 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



# Economic Investment/Job Creation Greenhouse Gas Reduction Resolution



- Reduce inefficiencies (reduce wasted fuel/time/materials)
  - Reduce costs and create new investment
- Investment in electric equipment
  - Efficiency & fuel savings
- Employee commuting schemes
  - Time/fuel/cost savings
- Attract new industries to Tideflats
  - Create new jobs
- Use alternative fuels



# 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 and 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.



# Next Steps Greenhouse Gas Reduction Resolution



- Second reading to NWSA Managing Members for the adoption of the POT and POS GHG emissions targets via resolution at October 3<sup>rd</sup> meeting.
- 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.
- Develop Implementation Plan in next 6 months

# Background – Precedents Greenhouse Gas Policy 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 and 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.