



SAN PEDRO BAY PORTS CLEAN AIR ACTION PLAN

Status Update on Current Technology
Demonstrations
January 27, 2021

Questions or comments? Chat us or
submit via caap@cleanairactionplan.org

Rose Szoke, Port of Long Beach
Jacob Goldberg, Port of Los Angeles



Overview

- Update on the Ports' Technology Advancement Program, or TAP
- Update on the Ports' Grant-Funded Technology Demonstrations
- COVID-19 Impacts



2020 Technology Advancement Program Updates

- Received three TAP proposals including two ocean-going vessel (OGV) projects
- Supported SCAQMD in deploying two additional zero-emission Class 8 trucks
- Completed two TAP projects including a tugboat design project and an ultra low-NOx diesel engine development project for Class 8 trucks
- Received Ports' BHC approvals for an OGV project with SCAQMD and two new OGV projects with PASHA Hawaii



SCAQMD OGV Water-in-Fuel Demonstration

- Project demonstration in partnership with SCAQMD and MAN Energy Solutions USA, Inc.
- Demonstration will be conducted on the MSC Anzu vessel
- Vessel anticipated to be delivered Q2 2021





PASHA LNG/Diesel Dual-Fuel OGV Demonstrations



- Two separate project focuses (i.e., new builds and repower)
- Project demonstration in partnership with PASHA Hawaii, LLC
- Two LNG/diesel OGVs anticipated for delivery in 2021 (new builds)



Ports Grant-Funded Demonstration and Deployment Updates

- The Ports were awarded a combined **\$152 M** in grant funds to support the advancement of technology.
- To date, the Ports have deployed the following for demonstration:
 - **Two Tier 3 ships**
 - **Two zero- and two near-zero emission on-road trucks**
 - **26 zero- and 20 near-zero emission port equipment**

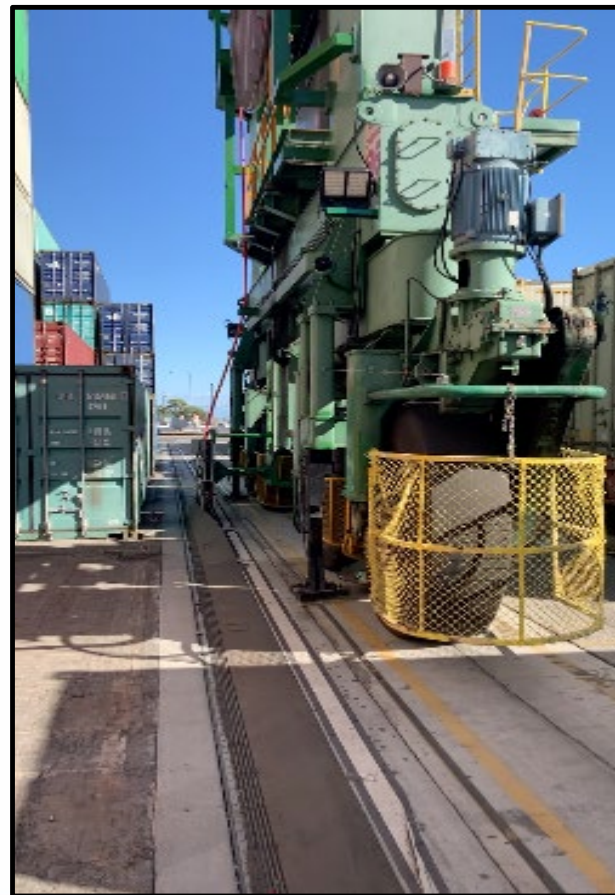


Tier 3 Ocean-Going Vessels



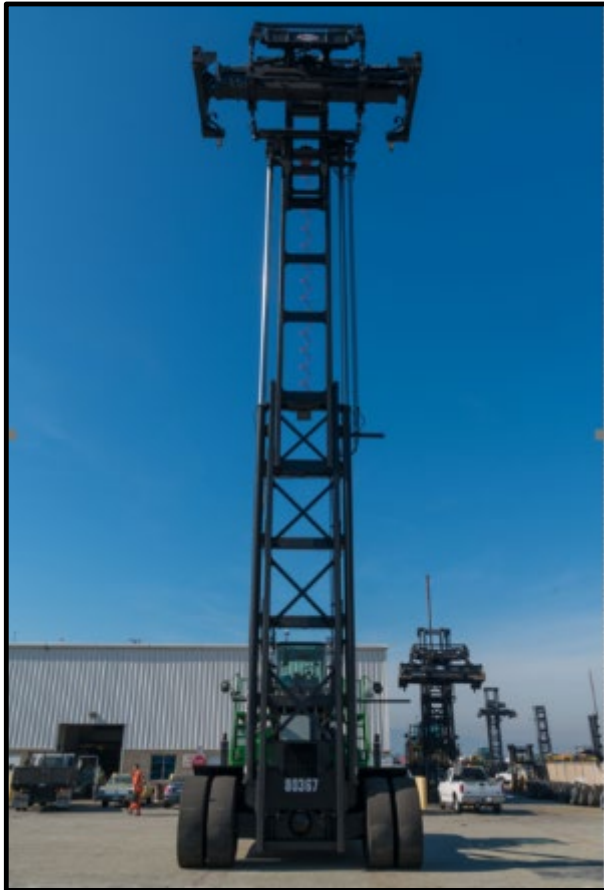


ZE RTG Cranes Update





ZE Top Handler Updates





Near-ZE and ZE Yard Tractor Updates





Near-ZE and ZE On-Road Truck Updates





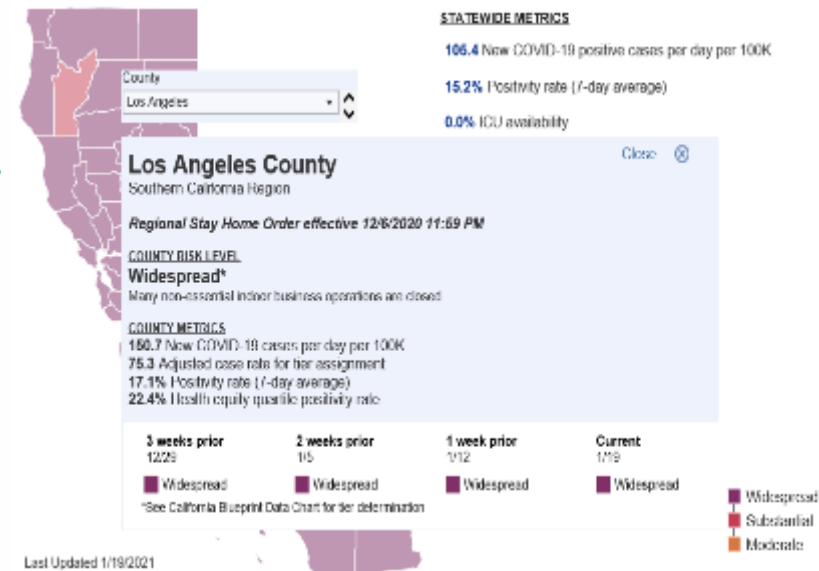
Hydrogen Infrastructure Updates





Ports' Technology Demonstrations – COVID Impacts

- Labor shortages
- Technology manufacturers operating at reduced capacity, which have contributed to a slow-down in equipment production and schedule delays.
- Limited access to terminals and facilities for equipment and emissions testing.
- COVID travel restrictions.





Contacts/Information

- **Jacob Goldberg, Port of Los Angeles: jgoldberg@portla.org**
- **Rose Szoke, Port of Long Beach: rose.szoke@polb.com**
- www.cleanairactionplan.org
- www.polb.com/zeroemissions
- <https://www.portoflosangeles.org/environment/air-quality/zero-emissions-technologies>

An aerial photograph of a large harbor area, likely in Seattle, showing a dense urban landscape, a large marina filled with boats, and a deep blue body of water. A semi-transparent teal banner is overlaid across the center of the image, containing the text "Thank you!".

Thank you!



SAN PEDRO BAY PORTS **CLEAN AIR ACTION PLAN**

Clean Truck Program Update
January 27, 2021

Christopher Cannon
Port of Los Angeles



Clean Truck Program Update

- Current Clean Truck Program (CTP) Status
- Clean Truck Fund (CTF) Rate Status
- CTP Long Term Strategy Plan
- Request for Information on CTP Funding
- Large-Scale Zero Emission (ZE) Truck Demonstration Update



2017 CAAP Update – Clean Truck Program

- Beginning in 2018, new trucks entering the Ports Drayage Truck Registry (PDTR) must be 2014 engine model year or newer [completed]
 - 5,258 MY 2014+ trucks registered in the PDTR since October 1, 2018
 - 65% trucks in the PDTR are 2010 EPA Compliant
 - 35% trucks in the PDTR are 2007 EPA Compliant
 - There are 120 Low NOx trucks that use the .02 Cummins natural gas engines in the PDTR
 - There are approximately 29 ZE Trucks in the PDTR



Clean Truck Fund Rate Resolution

- Resolution adopted by the Ports' Boards of Harbor Commissioners (BOHC) on March 9, 2020
- Approved the 2020 Clean Truck Fund (CTF) Rate = \$10 per twenty-foot equivalent unit (TEU) for loaded containers hauled by heavy-duty trucks that enter or exit Port terminals
- ZE trucks will be exempt from the CTF Rate for the duration of the program
 - Exemptions for Low NOx trucks under review



Clean Truck Rate Status

- A Rate Collection Mechanism Contract is being finalized
- Incentives and other program elements under development
- The Ports continue to monitor the economic and operational effects of COVID-19 on the industry
- When each Port's BOHC decides that it is appropriate to move forward with rate collection, the Ports will request Tariff amendments to officially begin collecting the rate and implement the incentive program



Ports' CTP Long Term Strategy Plan

CAAP Goal of 100% Zero Emission Trucks by 2035

- BOHCs requested Ports to provide a long term strategy plan on how the Ports would meet the 2035 CAAP goal
- Working Draft is under preparation
- Ports will release the Draft for public review and stakeholder input before finalizing



City of Los Angeles ZE Truck Financing RFI

- POLA released Request for Information (RFI) on October 30, 2020
- Objective: Solicit information from private financing companies to provide potential pathways to financing the turnover to a ZE drayage fleet at the Ports
- RFI responses received on January 14, 2021
- Responses are under review
- Potential Request for Proposals to be released in 2021



50 to 100 Truck Demonstration Update

- The Ports have completed and posted the Concept Paper for ZE Large-Scale Drayage Truck Pilot Program at:
<https://cleanairactionplan.org/documents/zero-emissions-large-scale-drayage-truck-pilot-program-concept-paper.pdf/>
- CARB and CEC Large Scale Truck Demonstration Grant Funding Opportunity
 - Solicitation released in November 19, 2020
 - Proposals are due on February 15, 2021
 - \$24 million available for on-road class 8 ZE trucks
 - \$20 million available for ZE infrastructure
 - \$100,000 for workforce development
 - 50% Cost Share
- Ports and the Regional Zero Emission Truck Collaborative are partnering with SCAQMD in their application to demonstrate 100 ZE trucks

Next Steps

- Continue to monitor economic impacts due to COVID-19
- Support application development for the CARB/CEC grant opportunity to demonstrate 100 ZE trucks
- Finalize Draft Comprehensive Long-Term Strategy Plan for release
- Board approval of a rate collection mechanism contract
- Amend each Port's Tariff to implement the CTF Rate
- Begin collection of the CTF Rate

An aerial photograph of a large city harbor, likely Seattle, showing a dense urban area, a large marina with many boats, and a deep blue body of water. A semi-transparent teal rectangular box is overlaid in the center of the image, containing the text "Thank you!".

Thank you!



SAN PEDRO BAY PORTS CLEAN AIR ACTION PLAN

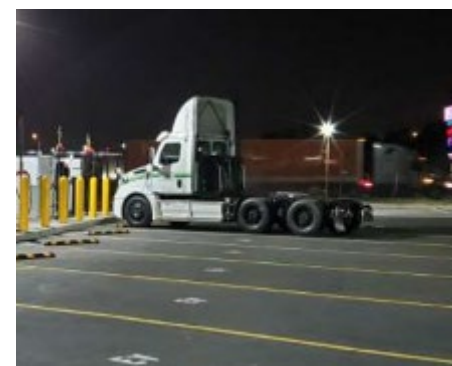
San Pedro Bay Ports 2020 Accomplishments & 2021 Priorities

Morgan Caswell
Port of Long Beach



2020 Accomplishments at a Glance

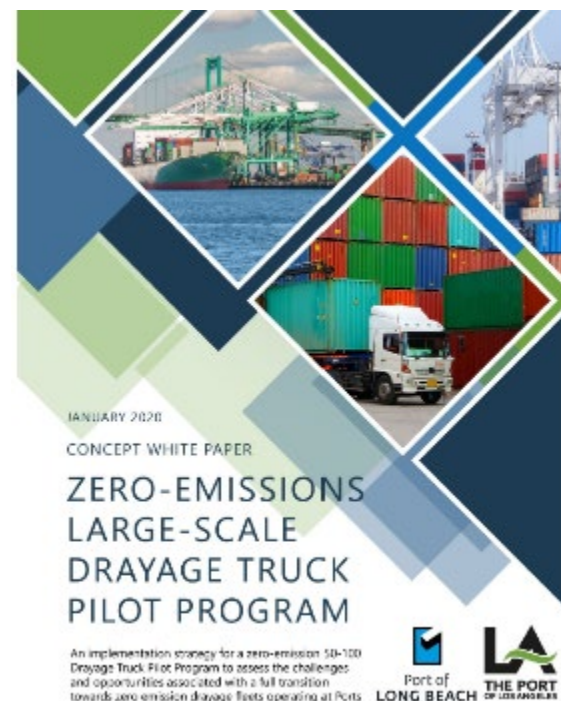
- ✓ Completion of the Clean Truck Fund Rate Study
- ✓ Establishment of the Clean Truck Fund Rate
- ✓ Released the TAP Request for Information
- ✓ Released the 2019 TAP Annual Report
- ✓ Deployed 16 pieces of zero-emission port equipment (and converted five from diesel to near-zero emissions at POLB)
- ✓ Deployed 2 zero- and 2 near-zero emission Class 8 trucks
- ✓ Deployed 2 Tier 3 ships
- ✓ Completion of 2 technology advancement projects
- ✓ Boards approved 3 new ocean-going vessel projects





2020 Accomplishments at a Glance

- ✓ 2018 Drayage Truck Feasibility Study Update
- ✓ Completion of the Zero-Emissions Large-Scale Drayage Truck Pilot Program Concept Paper
- ✓ Held 3 CAAP stakeholder meetings
- ✓ Released the 2019 emission inventories and air monitoring reports
- ✓ Participated in the development of various regulations
- ✓ Advocated for grant funding to support clean technologies and infrastructure



An aerial photograph of a coastal city and harbor. The image shows a dense urban area on the left, a large harbor with numerous piers and ships in the center, and a residential area with a beach on the right. A teal semi-transparent box is overlaid in the center, containing the text "2021 Priorities".

2021 Priorities

Truck Priorities



- Feasibility Assessment
- Rate Collection Mechanism
- Clean Truck Fund Rate Incentive Program
- Comprehensive Long-Term Strategy Plan for Trucks
- 50-100 Truck Pilot
- Public Charging & Fueling Studies
- Truck Demonstration Projects

CHE Priorities

- Feasibility Assessment
- Zero Emission Infrastructure Planning
- CHE Demonstration Projects



OGV Priorities

A large container ship is docked at a port. The ship is white with a yellow mast and is heavily loaded with colorful shipping containers (red, blue, orange, and white). In the background, several white gantry cranes are visible, extending over the water. The sky is blue with some light clouds. The water in the foreground is dark blue with some white foam from the ship's wake.

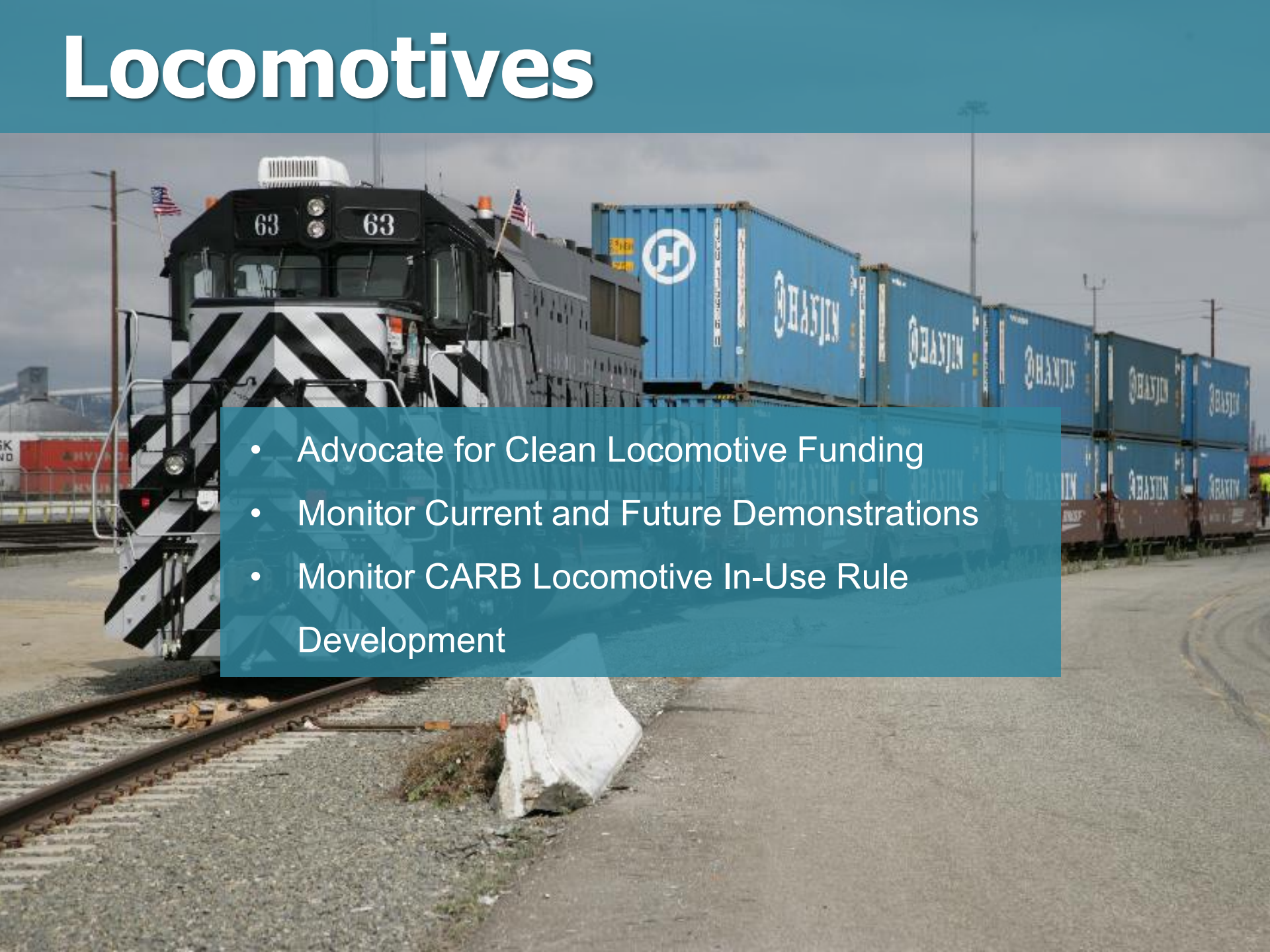
- Continue Evaluation of Vessel Incentive Programs
- Develop Port Plans to comply with the CARB At Berth Regulation
- OGV Demonstration Projects

Harbor Craft

- Participate in CARB Harbor Craft Rule Development
- Harbor Craft Demonstrations
- Harbor Craft Funding Advocacy



Locomotives

- 
- Advocate for Clean Locomotive Funding
 - Monitor Current and Future Demonstrations
 - Monitor CARB Locomotive In-Use Rule Development



Emission Inventories and Air Monitoring

- 2020 Emission Inventories
- 2020 Air Monitoring Reports
- Address COVID-19 Impacts



An aerial photograph of a large city harbor, likely Seattle, showing a dense urban area, a large marina with many boats, and a deep blue body of water. A semi-transparent teal rectangular box is overlaid in the center of the image, containing the text "Thank you!".

Thank you!