

The background of the slide is a wide-angle photograph of a busy port. In the foreground, there are numerous stacks of colorful shipping containers (red, blue, yellow, green) and several large blue gantry cranes. In the middle ground, there are more containers and a road with some vehicles. In the background, there are hills and a city skyline under a clear sky.

SAN PEDRO BAY PORTS CLEAN AIR ACTION PLAN

2022 San Pedro Bay Ports Air Emissions Inventory Results

Teresa Pisano
Port of Los Angeles



Background

- Annual activity-based
 - 2005 – 2022
- Source categories
 - Ships, harbor craft, cargo handling equipment, trucks, trains
- Pollutants/ Greenhouse gases
 - PM_{10} , $PM_{2.5}$, DPM, NO_x , SO_x , CO, HC, CO_2e (CO_2 , CH_4 , N_2O)
- Annually coordinated with and reviewed by EPA, CARB, and South Coast AQMD

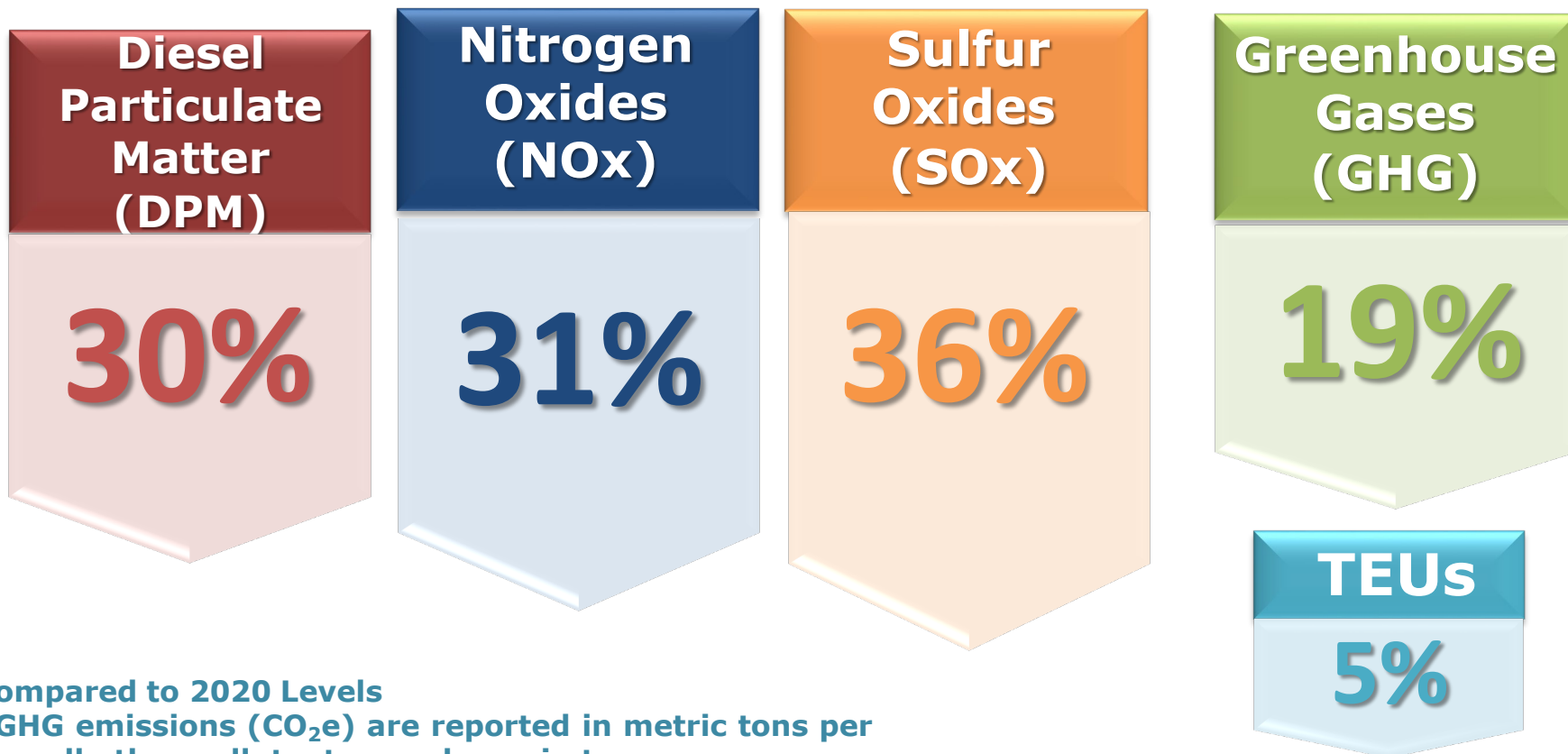


2022 Unique Factors

- Vessel queue system in place since late 2021
- Vessel congestion eased by mid 2022
- Increased number of Tier 3 vessels
- Cargo throughput reduction (5% less than 2021)
- Cleaner trucks calling the Ports (2014 or newer engine year)
- Cleaner cargo handling equipment



SPBP 2022 Air Emissions vs. 2021

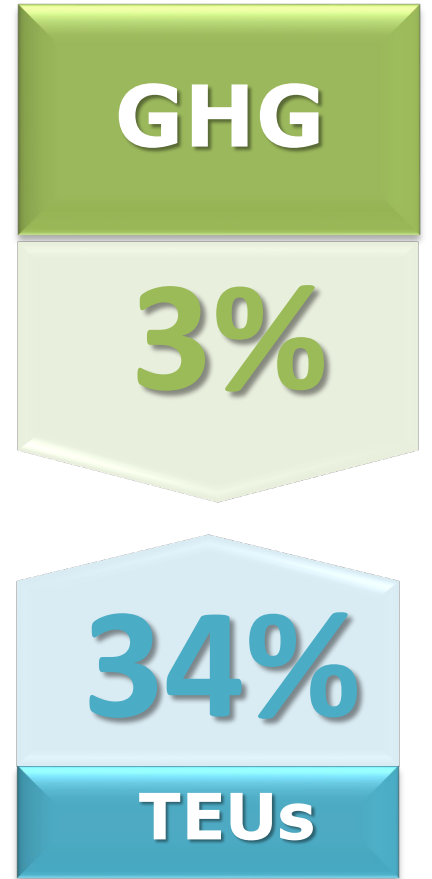
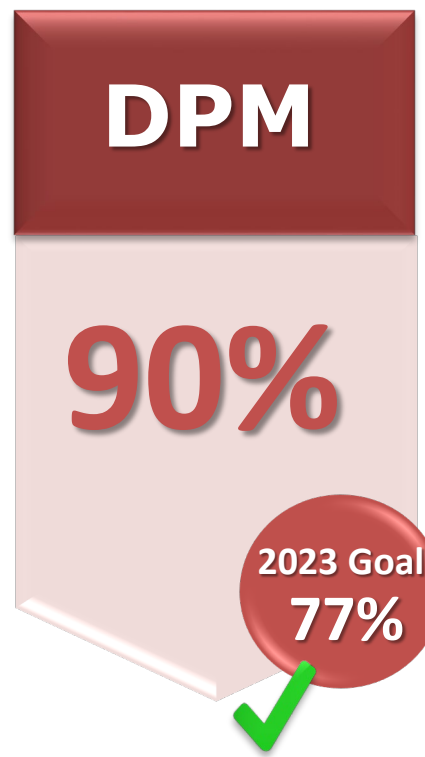


*Compared to 2020 Levels

**GHG emissions (CO₂e) are reported in metric tons per year; all other pollutants are shown in tons per year.



SPBP 2022 Air Emissions vs. 2005



*Compared to 2005 Levels
 **GHG emissions (CO₂e) are reported in metric tons per year; all other pollutants are shown in tons per year.



Moving Forward

- Technology Advancement
- Increased Grant Funding
- State and Federal Regulations
- Ship Incentive Programs
- Green Shipping Corridors
- Clean Truck Fund Rate Investments



2022 Air Emissions Inventories

PORT OF LOS ANGELES

Inventory Of Air Emissions 2022

Technical Report | August 2023



<https://www.portoflosangeles.org/environment/air-quality/air-emissions-inventory>



SAN PEDRO BAY PORTS EMISSIONS INVENTORY METHODOLOGY REPORT

Version 4 - 2023



AIR EMISSIONS INVENTORY - 2022



August 2023



<https://polb.com/environment/air/#emissions-inventory>

An aerial photograph of a large city harbor, likely Seattle, showing a dense urban area, 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

Update on Clean Truck Program Implementation
and Clean Truck Fund Rate

Leela Rao – Port of Long Beach
Environmental Specialist

Amber Coluso – Port of Los Angeles
Air Quality Environmental Specialist

CAAP Stakeholder Implementation
November 8, 2023



Joint Port Trucks Today*

- 21,680 trucks are in the Port Drayage Truck Registry (PDTR)
- 13,861 2014+ trucks registered in the PDTR and make 85% of moves
- 98.6% of trucks in the PDTR have engines meeting 2010 EPA standards
- 1.4% of trucks in the PDTR are engine year 2007-2009
- 882 LNG/CNG trucks are in the PDTR and perform 5% of moves
- 507 trucks with the Cummins natural gas fueled 0.02g/bhp-hr NOx engines are in the PDTR
- 154 Zero Emission (151 battery-electric, 3 Hydrogen Fuel Cell) trucks in the PDTR

* Snapshot from September 2023



Current CTF Rate Status

- Collection began at both Ports on April 1, 2022
- Approximately \$2.5-4 million collected by each port monthly
- Total for San Pedro Bay Ports to distribute through September 2023

Approximately \$116.1 million

- Amount allocated to ZE trucks & infrastructure
Approximately \$74 million



CTF Rate Revenue Spending Priorities

- Each Port developed a CTF Rate Spending Plan for approval by our respective Board of Harbor Commissioners
- Both Ports are prioritizing zero emission truck vouchers with Year 1 funds and infrastructure with Year 2 funds
- Ports also have funds dedicated for early truck deployment projects



POLA Early ZE Truck Deployment

- POLA released a RFP in late 2021 for 10 or more ZE trucks and associated infrastructure to be deployed before the end of 2022
- POLA Board approved 2 proposals for a total of \$6 million (22 trucks)
- One project has deployed all 10 trucks
- Second project has ordered the remaining 12 trucks with expected delivery ~ December 2023



ZE Truck Voucher Incentive Program

- Ports to provide plus-ups to CARB's HVIP vouchers using CTF Rate funds
 - \$150,000 CARB HVIP Voucher + \$75,000 Port plus-up OR \$100,000 for fleets with less than 10 trucks
- POLB contract with CALSTART to administer plus-up program executed in April 2023.
- POLA contract with CALSTART amended executed Sept 2023.
- CALSTART developing the administrative processes. Plus-ups will begin November 14, 2023.
- Ports to provide \$30 million each for this round of voucher funding



Public Charging Infrastructure

- POLB is preparing solicitations for development of public charging at two sites, which may be partially funded using CTF Rate dollars. First solicitation for additional charging at the Terminal Access Center released July 6 and closed October 2.
- POLA –Request for Proposals (RFP) on for a site located in Wilmington. RFP released July 20 and closed October 18.



Public Charging Infrastructure Cont.

- Ports continue working with the MSRC to support infrastructure projects that will be drayage focused.
 - Staff developed scoring criteria, emphasizing the need for the sites to be drayage serving
 - Staff evaluation of proposals completed
 - Proposed total project cost of selected projects is \$140.5M, with a requested funding amount of \$28.5M (\$14.26M per port)
 - Final selections and funding amounts subject to each Ports' Board of Harbor Commissioners approval



CARB Coordination

- Port staff met with CARB enforcement staff to locate sites for placement of remote sensing equipment to support the Clean Truck Check regulation
- Port staff supported a two-day truck outreach event at the Terminal Access Center in October 2023
 - TWIC on-site enrollment
 - CARB staff onsite to discuss recent rulemaking
 - >125 people spoke with CARB staff
 - Ports to host another in person event with CARB before the end of the year



Next Steps

- Both Ports to continue to monitor implementation of CTF Rate and spending plan roll-out
 - Evaluate if additional near-term adjustments to spending programs needed
- Continue work with CALSTART on plus-up voucher program
- Begin contracting with MSRC for funding of infrastructure projects

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SAN PEDRO BAY PORTS CLEAN AIR ACTION PLAN

Zero-Emission Cargo Handling Equipment Update on Progress to the 2030 Goal

Rose Szoke – Port of Long Beach
Senior Environmental Specialist

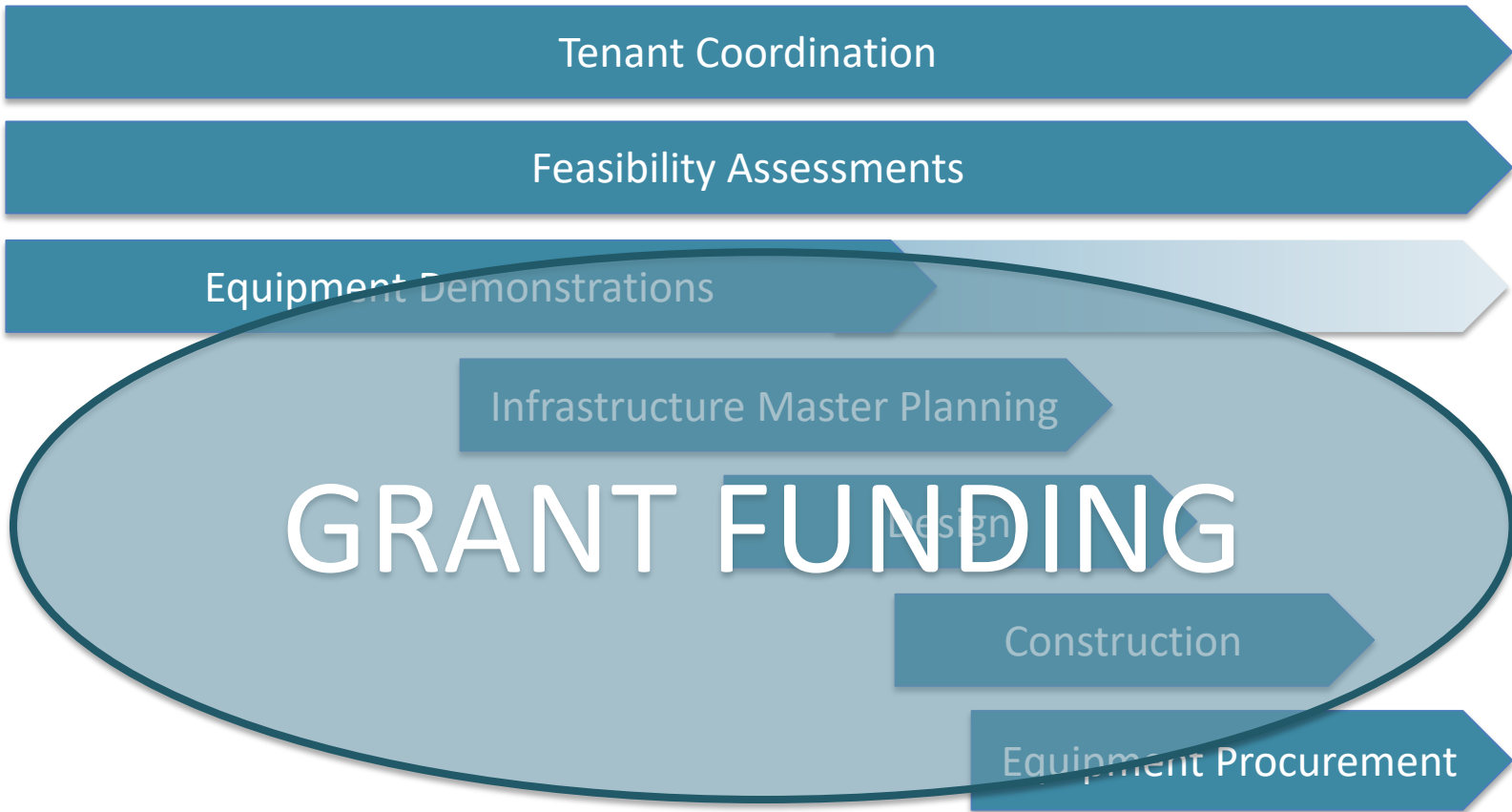
Jacob Goldberg – Port of Los Angeles
Supervisor, Air Quality Grants/Tech Development

CAAP Stakeholder Implementation
November 8, 2023



Transition Pathway to ZE CHE

2017 CAAP Update Goal: ZE CHE by 2030



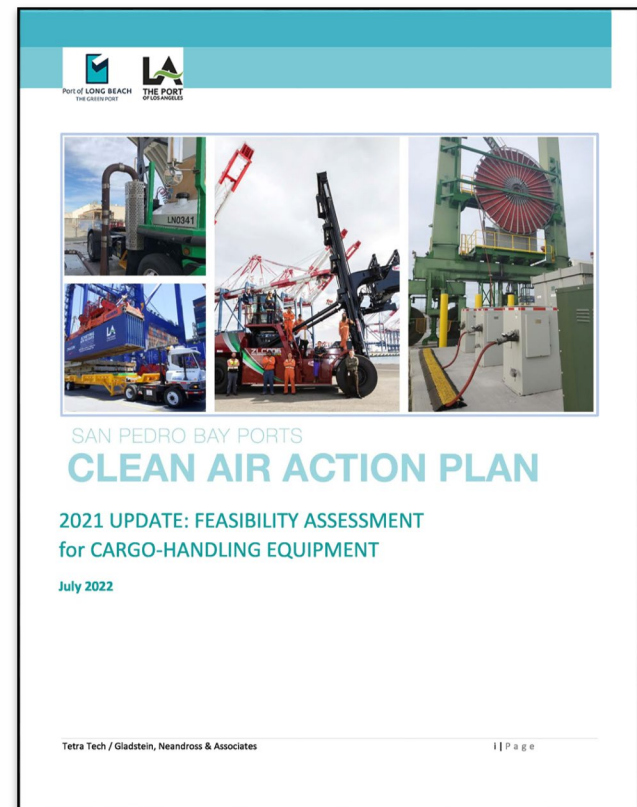
Zero Emission Terminal Operations



Feasibility Assessments for CHE

Feasibility assessments conducted in 2018 and 2021 to evaluate the current state of zero-emission technology for CHE.

Next assessment scheduled for 2024.





ZE Equipment Demonstrations

More than **\$360 Million**

in grant funding has been secured by the ports to implement zero emission demonstration projects.

Additional funding from the Ports for demonstrations through the Technology Advancement Program.

An aerial photograph of a city and harbor, likely San Francisco, with three callout boxes overlaid. The callout boxes are teal with white text. The top box is for 'Pasha Green Omni Terminal', the middle box is for 'Everport Advanced CHE Projects (Complete)', and the bottom box is for 'WBCT Advanced Infrastructure'.

Pasha Green Omni Terminal

Demonstration Focus: Entire scope of terminal operations testing zero-emission (ZE) technologies

Yard Tractors, Forklifts, charging infrastructure, microgrid

Everport Advanced CHE Projects (Complete)

Demonstration Focus: Operational viability of battery-electric CHE

Top handlers and UTRs

WBCT Advanced Infrastructure

Demonstration Focus: Scaling CHE charging infrastructure

Inductive charging pads and peak-shaving battery system

44 ZELCHE

NORTH HARBOR

PIER C

PIER E

PIER F

PIER G

PIER J



9 eRTGS



POLB PIDP Grant Award

Middle Harbor Terminal Zero Emission Conversion Project

- \$30.1 million awarded to POLB from the U.S. Maritime Administration Port Infrastructure and Development Program (2022)
- 60 pieces of ZE CHE and supporting charging infrastructure



*Middle Harbor Terminal
Zero Emission Conversion Project*

**Prepared for U.S. Department of Transportation
Office of the Secretary**
Port Infrastructure Development Program
(PIDP) 2022

Submitted By
Port of Long Beach
415 W. Ocean Blvd., Long Beach, CA 90802 | 562-283-7100

May 16, 2022



Port of
LONG BEACH
THE PORT OF CHOICE

Long Beach
Container
Terminal



POLB CalSTA Grant Award

Environmental Programs = \$224.9 Million

New Competitive Grant Programs (To be Developed in 2024)

- **ZE Terminal Transformation Program - \$28.7 million**
- ZE Locomotive Demonstration Program - \$50 million
- Harbor Craft Business Continuity & Emission Reduction Program - \$28.7 million

Vessel, Equipment, and Infrastructure Projects

- **ZE Terminal Equipment and Infrastructure Deployments - \$73 million**
- ZE Capable Tug Demonstration -\$10 million
- Ship-to-Shore Power Projects - \$34.5 million

Charging Infrastructure Demonstrations



Technology Advancement Program

Active Project:

Fenix Marine - Toyota Tsusho
Repower diesel to HFC top
handler; mobile refueler



Active Project:

SSA Marine – Taylor Machine Works
Two new build HFC top handlers





POLA Terminal Infrastructure - Planning

Worked with terminals and utility to develop supporting infrastructure plan:

- POLA/LADWP/EPRI Study on Grid Upgrades - Aug 2023

In Progress/Upcoming Efforts:

- POLA ZE Terminal Transition Plan – Spring 2024

POLA Terminal Infrastructure



POLB Terminal Infrastructure





Grant Advocacy and Strategy

Ports will be seeking **>\$2 Billion**
in grant funding from local, state, and federal
sources to implement additional zero emission
deployment projects in pursuit of the 2030 Goal in
the CAAP

Terminals are actively applying to funding programs directly as well



Website References

2017 Clean Air Action Plan Update

<https://cleanairactionplan.org/2017-clean-air-action-plan-update/>

2021 Update: Feasibility Assessment for Cargo-Handling Equipment

<https://cleanairactionplan.org/strategies/cargo-handling-equipment/>

San Pedro Bay Ports' Technology Advancement Program

<https://cleanairactionplan.org/technology-advancement-program/>



Contact Information

- POLA

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- POLB

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EPA Clean Ports Funding Update

**A Multi-Agency
Collaborative Approach
November 8, 2023**



EPA Clean Ports Funding

- IRA of 2022 allocates \$3 billion for zero-emission (ZE) port projects and climate and air quality plans
- Administered by the U.S. Environmental Protection Agency
- Notice of funding opportunity (NOFO) expected in February 2024
- Proposed maximum awards of \$2-3 million for planning and \$500 million for zero emission projects
- \$750M of total dedicated to non-attainment areas
- Project period of up to 3 years for planning and up to 4 years for ZE projects
- One-time funding opportunity
- Must be a port, air quality control district, agency with jurisdiction over a port or a private entity partnering with an eligible public agency

Legislative Requirements

- Legislative text for IRA of 2022 indicates:
 - ZE equipment or technologies only
 - Equipment/technology must be for use at, or to directly serve, one or more ports
 - Human-operated equipment
- EPA has not released guidelines for this new program yet



First Look Workshop

- EPA led workshop was held on October 31
 - Slides to be posted here: <https://www.epa.gov/ports-initiative/cleanports>
- Workshop highlights for ZE projects:
 - Technologies should have a few records of implementation or have achieved TRL 7/8
 - Production of equipment and infrastructure in the US will be strongly encouraged
 - Priority points for scrappage
 - ZE equipment must be located at a port or have a primary purpose of serving a port

First Look Workshop Continued...

Additional workshop highlights for ZE projects:

- Infrastructure capped at 10-20% of overall grant request, except for shore power
- Infrastructure must service equipment purchased as part of the grant, except for shore power
- Infrastructure must be located at a port, except for drayage trucks/locomotives, which must be near port
- Required match of 10-20%
- Community engagement prior to application submittal and through project life is critical

South Coast Air Basin Goal & Approach

- *Three agencies work together with stakeholders*
 - *Maximize funding opportunity to improve region's freight projects*
 - Thread a common narrative across all three applications
- *Identify the priority projects for the region through three separate, but complementary applications.*
- Conserve resources by dividing up projects across all three applications
- Address emissions from all five port-related mobile sources

South Coast Air Basin

Project Prioritization and Focus by Agency

Ports of Los Angeles & Long Beach

- Cargo handling equipment
- Ship-to-Shore Power
- Harbor Craft
- Infrastructure
- Studies



South Coast AQMD

- Locomotives
- Trucks
- Infrastructure
- RD&D and studies



All projects must include a committed end user

Stakeholder Engagement

The Ports and the South Coast AQMD plan to leverage multiple forums to solicit stakeholder feedback on application development and project priorities, including:

- CAAP Stakeholder Meetings
- AB 617 Community Meetings
- Ongoing meetings with environmental and community groups
- Sustainable Supply Chain Advisory Committee meetings

Questions for Discussion Today

- Do you support the proposed collaborative approach?
- What project types are most important to you?
- How can we ensure that sufficient stakeholder input is collected during application development?
- What types of engagement with stakeholders would you like to see throughout the project life?
- How can we promote community benefits through our projects?

Contacts

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THANK YOU