



SAN PEDRO BAY PORTS CLEAN AIR ACTION PLAN

Status Update on Current Technology
Demonstrations
July 25, 2023

Questions or comments? 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 TAP Guidelines
- Update on the TAP Website
- New Project Concepts in 2023
- New TAP Projects Approved in 2023
- Ongoing TAP Demonstration Projects
- Update on the Ports' Grant-Funded Technology Demonstrations
- Next steps



Technology Advancement Program Update

Updated TAP Guidelines

- Funding priority given to ZE port equipment, locomotives and harbor craft (or repower to Tier 4 or cleaner).
- OGV technology to reduce emissions to Tier III or cleaner
- Innovative charging or fueling
- Changes to heavy-duty truck eligibility

Program Guidelines

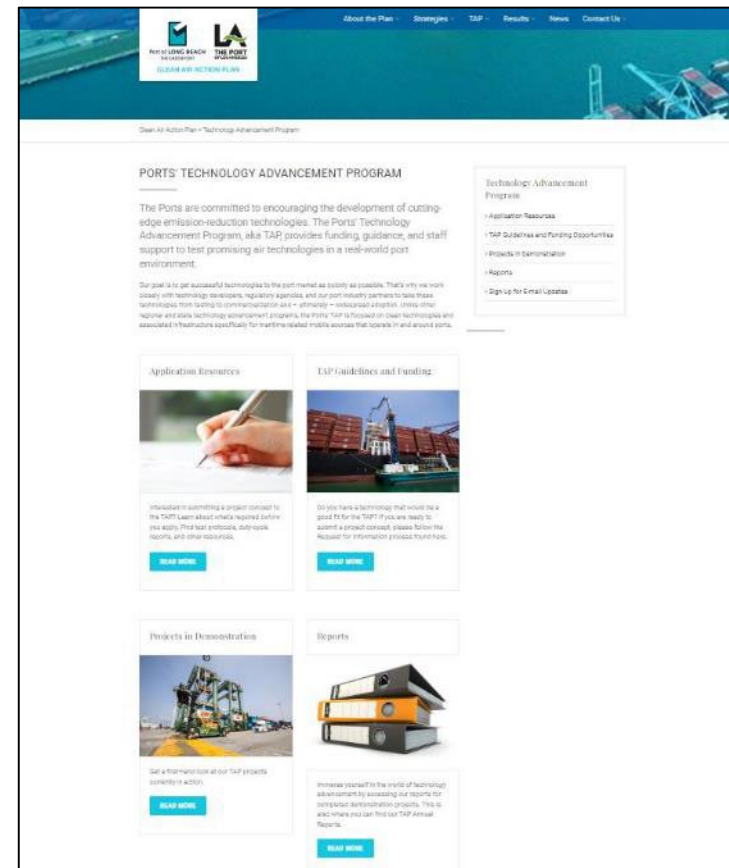


Updated: April 2023

Technology Advancement Program Update

Updated TAP Website

- To reflect the latest revisions in the TAP Guidelines
- To streamline the process for applicants interested in submitting a project concept
- To provide additional support and guidance



The screenshot displays the updated website for the Ports' Technology Advancement Program. The header includes navigation links: "About the Plan", "Guidelines", "TAP", "Results", "News", and "Contact Us". The main content area is titled "PORTS' TECHNOLOGY ADVANCEMENT PROGRAM" and features a introductory paragraph about the program's commitment to encouraging emission-reduction technologies. Below this, there are four main content blocks, each with a "READ MORE" button:


- Application Resources:** Includes a sub-section for "Application Resources" with links to "TAP Guidelines and Funding Opportunities", "Projects in Demonstration", "Reports", and "Sign-up for Email Updates".
- TAP Guidelines and Funding:** Accompanied by an image of a hand writing on a document.
- Projects in Demonstration:** Accompanied by an image of a port crane.
- Reports:** Accompanied by an image of a stack of books.



Technology Advancement Program Update

New Project Concepts in 2023

- Project concepts may be submitted via the TAP RFI www.cleanairactionplan.org/TAP
- Two project concepts have been submitted to the TAP in 2023.
- The TAP Advisory Committee evaluates proposals and provides funding recommendations.



Request for Information
San Pedro Bay Ports Technology Advancement Program
CONCEPT PAPER

Instructions: Read the "San Pedro Bay Ports Technology Advancement Program Guidelines" in its entirety. These guidelines contain information about applicant eligibility, project eligibility, match funding requirements, and the evaluation process. Concepts that do not conform to the guidelines will be rejected, and proposers will be unable to resubmit this same concept for a full calendar year. Fill in all fields in the form below; if you cannot answer a question, write "N/A." **Note:** Proposers should be aware that documents submitted to the Ports are considered public records.

Company Information		
Company Name:		Year Established:
Address:		
City:	State:	ZIP Code:
Primary Point of Contact:	Title/Position:	
Phone Number:	Email:	
Technical/Engineering Contact:	Title/Position:	
Phone Number:	Email:	
Technology Description (500 characters max)		
Target Source Category		
<input type="checkbox"/> Heavy-Duty Trucks (Class 8)	<input type="checkbox"/> Locomotives	
<input type="checkbox"/> Cargo-Handling Equipment	<input type="checkbox"/> Infrastructure	
<input type="checkbox"/> Ocean-Going Vessels	<input type="checkbox"/> Other, please describe:	
<input type="checkbox"/> Harbor Craft		
Funding		
Total Project Cost:	TAP Funding Requested:	
Total Secured Match Funding (\$):		
Match Funding Source:	Amount:	
Match Funding Source:	Amount:	
For additional match funding sources and amounts, please upload an attachment.		
Partners		
Do you have a demonstration partner?		
<input type="checkbox"/> Yes, describe: _____		
<input type="checkbox"/> No		
Have you approached other agencies to fund or support this technology demonstration?		
<input type="checkbox"/> Yes		
<input type="checkbox"/> No		
If yes, please describe: _____		



Technology Advancement Program Update

New Projects Approved in 2023

- SSA Hydrogen Fuel Cell Top Handlers Demonstration
- South Coast AQMD Low-Pressure Exhaust Gas Recirculation Retrofit and Multi-Fuel Injection System for OGVs
- PHL Battery Charging System Demonstration

Under Contract Development

- Crowley Zero-Emission Advanced Technology (ZEAT) Tug Project



Ongoing TAP Demonstration Projects Update





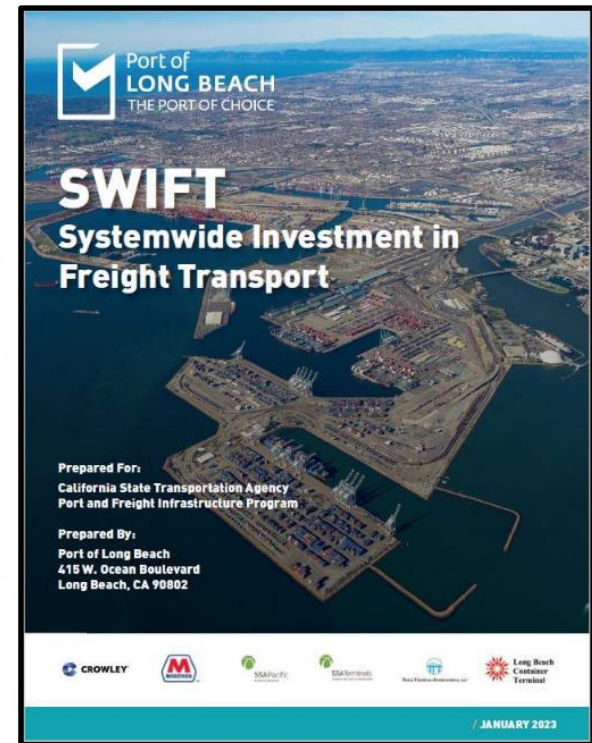
Ports Grant-Funded Demonstration and Deployment Updates

- The Ports have secured a combined \$411 M in grant funds to support ZE demonstration and deployment projects.
- The Port of Long Beach was awarded \$224.9 M from the California State Transportation Agency (CalSTA) under the 2022 Port Freight and Infrastructure Program for ZE projects.
- The Ports supported the deployment of 122 grant-funded ZE vehicles and equipment to date.
- The Ports have secured funding to support deploying an additional 134 grant-funded ZE vehicles and equipment over the next 3 to 5 years.



System-wide Investment in Freight Transport (SWIFT) - NEW

- \$224.9 million awarded to the Port of Long Beach for ZE projects from California State Transportation Agency (CalSTA) under the Port and Freight Infrastructure Program in 2022 for:
 - Replacement of nearly 65 pieces of fossil-fueled equipment with ZE
 - Incentive program targeting ZE cargo handling equipment and clean harbor craft projects
 - Demonstration program for ZE locomotives
 - Shore power demonstrations at tanker facilities
 - ZE terminal infrastructure master planning



ZE TRUCKS

PORT OF LONG BEACH - PETERBILT/MERITOR - SHIPPERS TRANSPORT EXPRESS

PORT OF LOS ANGELES - KENWORTH/TOYOTA - UPS, TTSI, SCE AND TLS



ZE YARD TRACTORS

PORT OF LONG BEACH
PORT OF LOS ANGELES

- DINA/MERITOR – SSA (PIER C)
- BYD – PASHA, WBCT, EVERPORT
- KALMAR – PASHA
- TRANSPower/MERITOR – PASHA



ZE TAYLOR TOP HANDLERS

TAYLOR/BYD - PORT OF LOS ANGELES - EVERPORT

TAYLOR/BYD - SHIPPERS TRANSPORT EXPRESS (OAKLAND)



HYDROGEN INFRASTRUCTURE

SHELL (ONTARIO AND WILMINGTON SITES) – PORT OF LOS ANGELES





Looking Forward

- Both Ports continue to seek additional opportunities to partner on technology development and demonstration projects and to secure further grant funding
- California – Proposed budget includes \$6.1 billion for zero-emission vehicle funding, including future year recommendations for Port specific funds
- Federal – Bipartisan Infrastructure Law and the Inflation Reduction Act each will continue to fund major emissions reduction grant programs and projects
 - EPA Clean Ports Funding Program
 - Reduction of Truck Emissions at Port Facilities (FHWA)
 - Diesel Emission Reduction Act 2023



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 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

Green Shipping Corridors

Teresa Pisano – Port of Los Angeles
Marine Environmental Supervisor

CAAP Stakeholder Implementation
July 25, 2023



Need for Action

- Worldwide Need for Action
 - Global climate crisis requires collective action
 - Ocean-going vessels is the most challenging source to decarbonize
 - » Long useful life
 - » High replacement cost
 - » Limited proven technology solutions, each with high cost
 - » Limited fuel availability and high cost



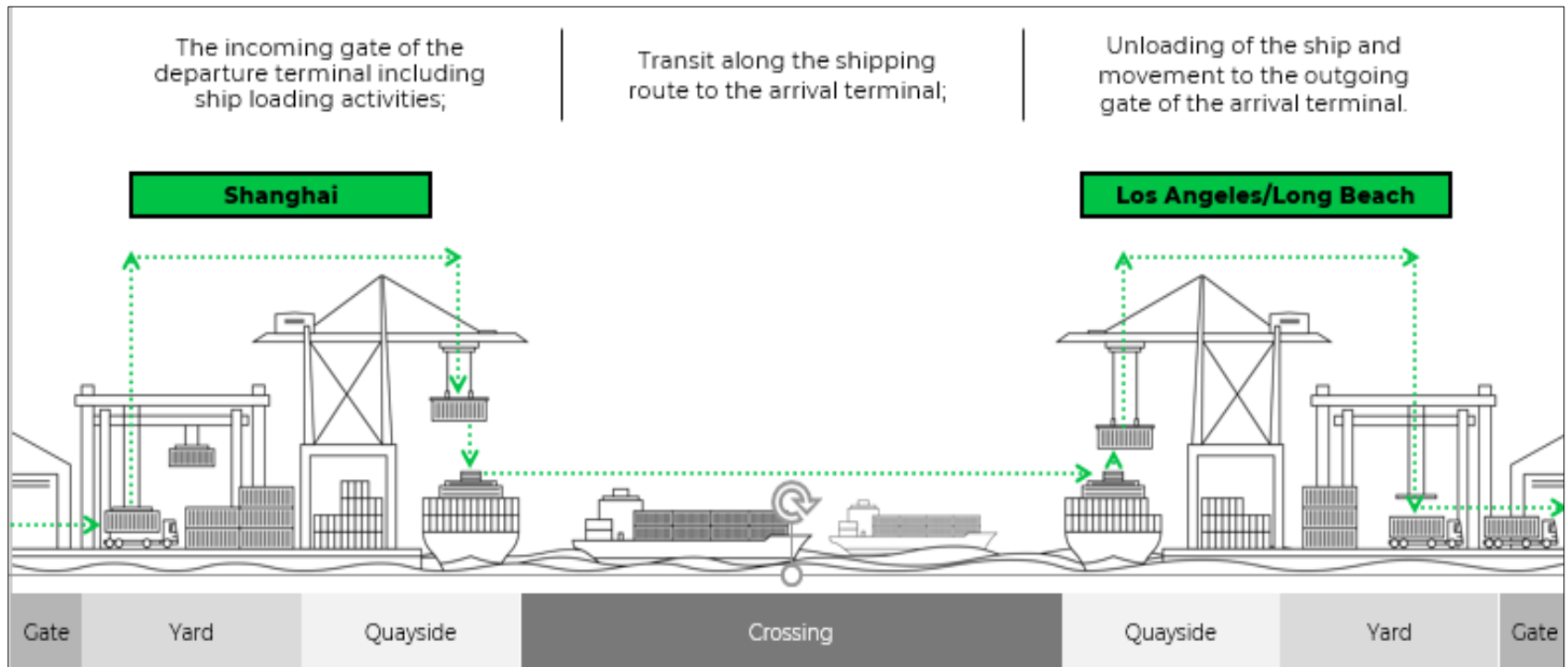
Green Shipping Corridor (GSC) Purpose

- Why Green Shipping Corridors
 - Establish a framework and process to provide real, meaningful emissions reductions from shipping and goods movement between designated ports that can be tracked and reported to the world
 - More than 80% of emissions are in open ocean
 - Showcase cutting edge goods movement technologies, fuels, and best management practices, including digitization
 - Incentivize demonstration of technology/strategies to reduce GHGs
 - Serve as a model to other ports for decarbonizing supply chains along various routes



Example of a GSC Scope

The participants of the Los Angeles/Long Beach - Shanghai GSC have committed to reducing greenhouse gas and other pollutants from gate-to-gate and along the route.





GSC Participants & Commitments

- Collaboration among the public and private stakeholders in the maritime and goods movement industry:
 - Shipping Lines
 - Ports
 - Cargo Owners
 - Knowledge Partners, Policy Makers
 - Environmental/Community Groups
- Provide input to develop Implementation Plan and identify interim and long-term goals
- Administer the corridor
- Track progress
- Collaborate and share knowledge globally



San Pedro Bay Ports GSC

- Port of Los Angeles/Port of Long Beach - Port of Shanghai
- Port of Los Angeles/Port of Long Beach - Port of Singapore
- Port of Tokyo – Port of Los Angeles
- Port of Yokohama – Port of Los Angeles
- Port of Nagoya – Port of Los Angeles
- Port of Kobe – Port of Long Beach

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. The text 'Thank you!' is overlaid in white on a semi-transparent teal rectangular background in the center of the image.

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
July 25, 2023



Joint Port Trucks Today*

- 21,592 trucks are in the Port Drayage Truck Registry (PDTR)
- 13,640 2014+ trucks registered in the PDTR and make 85% of moves
- 98% of trucks in the PDTR have engines meeting 2010 EPA standards
- 2% of trucks in the PDTR are engine year 2007-2009
- 873 LNG/CNG trucks are in the PDTR and perform 5% of moves
- 481 trucks with the Cummins natural gas fueled 0.02g/bhp-hr NOx engines are in the PDTR
- 119 Zero Emission (116 battery-electric, 3 Hydrogen Fuel Cell) trucks in the PDTR

* Snapshot from June 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 June 2023
Approximately \$96.8 million
- Amount allocated to ZE trucks & infrastructure
Approximately \$14 million



Current CTF Rate Status

- Ports have recently been informed that there have been cases where shipping agents or cargo owners may be reducing the payment for drayage services paid to the drayage operators by the amount of the CTF Rate that has been charged to them
- Such actions violate the intent and spirit of the CTF Rate tariff and is of great concern to the Ports



Current CTF Rate Status

Drivers and trucking companies are encouraged to contact the Ports with any specific comments or concerns on the CTF Rate.

- By email at : caap@cleanairactionplan.org
- By phone at : (866) 721-5686
- Comments or concerns provided by phone can be made anonymously



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



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 < 10 trucks (CARB definition of small fleet)
- POLB contract with CALSTART to administer plus-up program executed in April 2023.
- POLA to go to Board to amend existing contract ~ Aug/Sept 2023.
- CALSTART developing the administrative processes. Plus-ups expected to begin Q4 2023.



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. Second RFP expected release ~ Q3/Q4 of 2023.
- POLA – Currently working on a Request for Proposals (RFP) on for a site located in Wilmington. RFP expected release ~ Q3/Q4 of 2023



Public Charging Infrastructure Cont.

- Ports worked with CEC/CALTRANS on the tri-state Charging and Fueling Infrastructure corridor application to support charging station development along the I-710 corridor. Each Port committed up to \$3M in CTF Rate funds as match if the project is awarded funding.
- Ports continue working with the MSRC to support infrastructure projects that will be drayage focused.



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



Reduction of Truck Emissions at Port Facilities

- U.S. DOT Federal Highway Administration released a Notice of Funding Opportunity to reduce truck emissions at Ports.
- POLA and POLB submitted a joint application to develop and administer a \$100M incentive program that would pay a per-trip incentive to owners of zero emission trucks at the Ports.
- Ports asking for \$60M from FHWA with the 40% match coming from the CTF Rate.



CARB Truck Regulations

- Advanced Clean Fleets Regulation
 - Adopted by CARB Board April 2023
 - Rule finalization as early as July 27, 2023
 - Expected implementation starting January 1, 2024
 - Ports working with terminals and CARB on enforcement and reporting processes



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 selection of infrastructure projects for funding

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