SAN PEDRO BAY PORTS

# CLEAN AIR ACTION PLAN

**Clean Air Action Plan Implementation Progress Report**
**2024 Annual Report**

## ACCOMPLISHMENTS

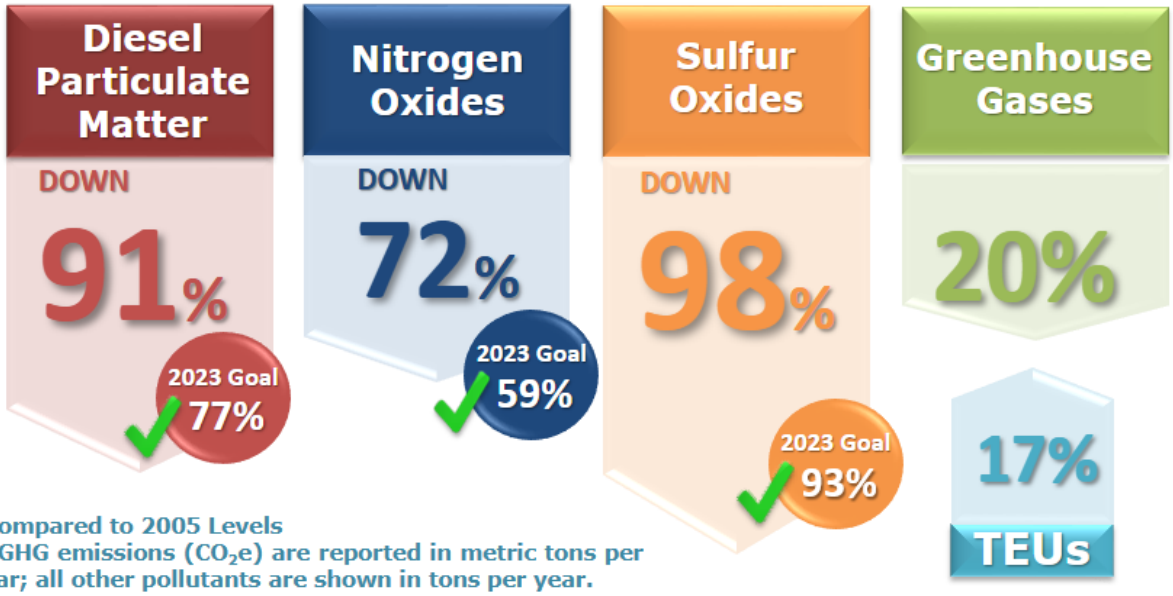
### GENERAL

- The Ports of Long Beach and Los Angeles (Ports) held their nineteenth, twentieth, and twenty-first Clean Air Action Plan (CAAP) Implementation Stakeholder Advisory Group meetings on March 18, July 30, and November 21, 2024, respectively.

- The Ports experienced a similar throughput in the first two quarters of 2024 compared to 2023. This changed in the last two quarters of 2024 where the ports experienced higher throughput due to demand for holiday-related goods and increased ship calls in anticipation of potential tariffs in 2025.

- Both Ports released their 2023 Emissions Inventories in Q3 2024. The 2023 emissions inventories were compared to the baseline years of 2005, 2017, and the prior year. The comparison to 2017 was added in response to community input. Detailed reports are available here: https://cleanairactionplan.org/results/emission-reductions/.

  While each Port prepares an individual inventory, the combined 2023 emission reductions compared to 2005 exceeded the 2023 San Pedro Bay Emission Reduction Standards reduction goals established in the 2010 CAAP Update, as shown below:




*Compared to 2005 Levels
**GHG emissions ($CO_2e$) are reported in metric tons per year; all other pollutants are shown in tons per year.

*** TEU stands for twenty-foot equivalent units, which is a unit of measure used in containerized ocean freight. It is equal to a 20-foot long cargo container.

## TRUCKS

***Clean Truck Fund (CTF) Rate.*** The Ports' respective Boards of Harbor Commissioners (Boards) continued implementation of the CTF Rate, which commenced collection on April 1, 2022. For calendar year 2024, POLA collected $40.1 million and POLB collected $45.2 million for a combined total of $85.3 million. A snapshot of the Ports' Drayage Truck Registry shows that as of January 2025, there are over 500 zero-emission (ZE) trucks out of approximately 21,000 trucks registered to conduct drayage at the San Pedro Bay Ports Complex. Of these ZE registered trucks, 425 are battery electric, and 80 are hydrogen fuel cell trucks. These ZE trucks perform about 2.5% of the container moves.

***CTF Incentive Programs.*** As part of the CTF spending plans approved by each Port's Board in March 2022, the Ports allocated $36.5 million in CTF dollars towards the purchase of ZE trucks and infrastructure projects/programs in 2024.

The Ports continued their partnership with CALSTART to manage the Ports' voucher incentive program which is a voucher supplement from the Ports on top of the current CARB Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP). Both Ports released a combined $60 million allocation in November 2023, and the program was closed in October 2024. From November 2023 to December 2024, the Ports distributed 506 truck vouchers totaling $40.2 million of the $60 million allocated for vouchers.

***Kickstart Incentive Program.*** In 2021 POLB provided $1 million for low NOx and ZE drayage trucks as part of the "Kickstart Incentive Program," a supplement to the South Coast Air Quality Management District (South Coast AQMD)-administered Prop 1B Program to fund additional drayage truck applications from the solicitation that closed in April 2021. The program was closed out in 2024 with the delivery of low-NOx trucks to three separate fleets. A total of 10 trucks were funded with a Kickstart incentive of $100,000 per truck.

***Advanced Clean Trucks/Fleets Regulation***. As a companion to the Advanced Clean Trucks (ACT) Regulation that CARB passed in June 2020, CARB approved the Advanced Clean Fleets Regulation in April 2023, which established ZE requirements for large entities and fleets. Specifically for drayage, ACF required any new truck registered with the state after January 1, 2024 to be ZE and all drayage trucks must be ZE by 2035. Legacy combustion engine drayage trucks can continue to operate in drayage until the end of their useful life, the earlier of 18 years or 800,000 miles, if they were registered into the CARB system by December 31, 2023 and visit a port or intermodal railyard at least once per year. On December 28, 2023 CARB issued an Enforcement Notice indicating that enforcement of the drayage and high priority fleet portions of the regulation would be put on hold pending issuance of a waiver from the United States Environmental Protection Agency (USEPA). The enforcement hold of ACF continued throughout the entirety of 2024.

***Feasibility Assessment for Trucks.*** As part of the 2017 CAAP update, the Ports committed to developing assessments for drayage trucks at least every three years. The Ports began work on the 2024 Feasibility Assessment for Drayage Trucks in June 2024. Updates on the process were presented at CAAP stakeholder meetings on July 30 and November 21, 2024. Work has continued throughout 2024 and the assessment is scheduled for release later in 2025. Previous assessments from 2018 and 2021 may be found online.

***Public Truck Charging.*** POLB released an RFP for public truck charging at the Clean Truck Center on July 6, 2023, and Greenlane was selected to enter into contract negotiations in 2024. POLB released a second RFP for public truck charging at a site located at Pier B Street and Carrack Avenue on July 22, 2024. Selection to enter into contract negotiations is expected in early 2025.

In October 2024, POLB received Board approval to provide $5.5 million from the Clean Truck Fund to Zeem Solutions for the installation of 42 dual port fast charging stations on private property within the harbor district. This will be added to the growing number of charging stations at the Terminal Access Center and the planned charging depot at Pier B Street and Carrack Avenue. Charging depots at POLB from partner companies 4Gen Logistics,[1] WattEV,[2] Forum Mobility,[3] and Zeem, will bring close to 200 chargers to the Port.

POLA released an RFP for public charging at a site in Wilmington in July 2023. The RFP closed in October 2023 without any responsive proposals. A revised RFP was released in January 2024. A selection was made in 2024 and is currently undergoing environmental review prior to Board approval. POLA expects to go to Board for approval of an operator/developer in fall 2025. The site is part of a larger grant funded project through the Los Angeles Cleantech Incubator. The Ports allocated $12.5 million per port for public charging infrastructure to support the installation of more than 150 heavy-duty charging stations at six sites at various locations throughout the region that would support drayage trucks. This project is in partnership with the Mobile Source Air Pollution Reduction Review Committee (MSRC), comprised of representatives from various agencies including the South Coast AQMD, to fund projects that reduce air pollution in its jurisdiction. Contracting with MSRC and Boards approval of these infrastructure projects were completed in Summer 2024. These projects will be managed by the MSRC.

The Ports have allocated $6 million per Port towards cost share in support of the State of California's heavy duty Charging and Fueling Infrastructure projects in partnership with California Energy Commission (CEC). The projects are still in the contracting phase and are expected to go to the Boards for approval in 2025. Additionally, each port allocated $5 million towards cost share for heavy duty charging infrastructure in support of the South Coast AQMD's Climate Pollution Reduction Grant projects. The projects are still in the contracting phase and are expected to go to the Boards for approval in 2025.

## TERMINAL EQUIPMENT

***Early Deployment and Demonstrations.*** The Ports continue to manage several grant-funded demonstration projects which include electric yard tractors, electric and hydrogen top handlers, and hydrogen rubber-tired gantry cranes (RTG), as well as innovative approaches to charging infrastructure including micro-grid controls with distributed generation and battery storage.

Under the Technology Advancement Program (TAP), the Ports completed demonstration of the Toyota Tsusho hydrogen fuel cell top handler and mobile refueler at Fenix Marine in late 2024. Operational testing began in December 2023 and continued through 2024. The top handler demonstrated reliable performance in terminal operations, while the mobile refueler, delivered in March 2024, successfully fueled equipment. The final upgrade to the top handler was completed in December 2024, with recommissioning planned for early 2025.

**POLA.** At POLA, Yusen Terminal (YTI) deployed five of the first commercially available ZE top handlers in the United States. This technology was first deployed and demonstrated at the Everport Terminal. YTI is also demonstrating the world's first ZE hydrogen fuel cell RTG. The Advanced Infrastructure Demonstration (AID) Project is demonstrating 12 WAVE wireless inductive charging stations to energize 10 BYD battery electric yard tractors at West Basin Container terminal (WBCT). By the end of 2024 all equipment was delivered to the terminal and commissioning was in progress. Demonstration is expected to begin in 2025.

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[1] https://polb.com/port-info/news-and-press/new-charging-station-is-largest-at-u-s-port-11-26-2024/
[2] https://www.youtube.com/watch?v=9ZhzRRWFooA
[3] https://polb.com/port-info/news-and-press/construction-begins-on-truck-charging-depot-at-port-05-15-2024/

In October 2024, POLA was awarded $412 million in grant funding from the USEPA as part of the Clean Ports Program (CPP) to support POLA's ZE transition. The new funding will be allocated to terminal operators for purchasing nearly 425 pieces of battery electric, human-operated ZE cargo-handling equipment, installing 300 new ZE charging ports and other related infrastructure, and deploying 250 ZE drayage trucks. The grant will also provide $50 million for a community-led ZE grant program, workforce development, and related engagement activities.

**POLB.** At Pier C, SSA worked to commission 33 electric yard tractors and supporting infrastructure. Due to the prototype nature of the equipment, significant mechanical and software issues with the yard tractors needed to be resolved. The provider of the charging stations, Tritium, declared bankruptcy and was unable to complete commissioning of the infrastructure. As a result, less than half of the charging stations were operational and only a portion of the yard tractor fleet could begin their demonstration period. Demonstration of the vehicles will proceed in batches through 2024 and into 2025.

In October 2022, POLB was awarded $30.1 million under the U.S. Maritime Administration's (MARAD) Port Infrastructure Development Program (PIDP) to replace 60 diesel yard tractors with battery-electric technology and supporting infrastructure at Long Beach Container Terminal (. In 2023, the project was Categorically Excluded under the National Environmental Policy Act (NEPA) and contracting commenced between POLB and MARAD. A final master contract with MARAD and an executed subgrant agreement passing through all terms and conditions of the grant to Long Beach Container Terminal was completed in 2024. POLB will continue to administer the award going forward and Long Beach Container Terminal plans to construct charging infrastructure and deploy the ZE battery electric yard tractors over the next few years.

***Infrastructure Planning for Terminal Equipment***

**POLB.** In May 2022, POLB executed a $2.5 million grant agreement with the CEC for the EV Blueprint Phase II Project. This effort includes development of a zero-emission infrastructure master plan (ZEIMP) to support terminal operations at Pier J. Initial site assessments have been identified potential areas for charging infrastructure, and various alternatives were evaluated including battery-electric and/or hydrogen fuel cell technology options, as well as parking layouts for new ZE equipment. A draft of the ZEIMP, focused primarily on battery-electric solutions, was submitted for internal review in late 2024. Revisions are currently underway based on stakeholder feedback, with the final report expected to be submitted to the CEC by mid-2025. Separately, POLB selected Jacobs for professional engineering services to develop the SSA Marine Pier A ZEIMP under a request for proposal (RFP) from POLB's Engineering Division's bench of on-call consultants zero-emission programs. Long Beach Container Terminal, Total Terminals International, and International Transportation Service were actively designing for their transition to zero-emission operations at their respective terminals.

**POLA.** The POLA Engineering Division worked with the Los Angeles Department of Water and Power (LADWP) and the Electric Power Research Institute (EPRI) on a grid-demand assessment to evaluate the impacts from terminal electrification on LADWP's grid. The report also recommends projects for POLA and LADWP to pursue in support of terminal electrification to achieve the CAAP CHE ZE goal. The Zero-Emission Planning and Grid Assessment for the Port of Los Angeles report was published on July 29, 2023. Following this report, POLA staff has been working with each terminal partner to develop a public ZE Terminal Transition Plan for publication in 2025.

***Feasibility Assessment for Terminal Equipment.*** As part of the 2017 CAAP update, the Ports committed to developing assessments for terminal equipment at least every three years. The Ports began work on the 2024 Feasibility Assessment for Cargo-Handling Equipment in June 2024. Updates on the process were presented at CAAP stakeholder meetings on July 30 and

November 21, 2024. Work has continued throughout 2024 and the assessment is scheduled for release by Q4 2025. Previous assessments from 2018 and 2021 may be found online.

**SHIPS**

***Early Deployment and Demonstrations.*** Under the TAP, Pasha Hawaii completed the build of the two LNG vessels. The *MV George III* vessel was delivered in July 2022. The *MV Janet Marie* vessel was delivered in July 2023. Both ships operated fully on LNG and bunkered successfully in Long Beach every two weeks. The *MV George II*, a repowered LNG vessel, was delivered in January 2024. All three vessels were installed with dual-fueled engine technology capable of burning LNG or diesel in the propulsion system, with the system optimized for LNG. The TAP project was completed in 2024.

***Vessel Speed Reduction.*** 96% of vessels visiting the Ports in 2024 slowed down to 12 knots within 20 nautical miles of Point Fermin, and 93% of vessels slowed within 40 nautical miles.

***Ship Incentive Programs.*** POLB continued to implement the revised Green Ship Incentive Program, which incentivizes vessel calls from ships utilizing the Environmental Ship Index (ESI) and those that meet the International Maritime Organization (IMO) Tier III engine standards. POLA continues to incentivize ships for complying with the ESI program, meeting IMO Tier III Engine Standards, and/or participating in the TAP.

***Green Shipping Corridors.*** In Q1 2022, POLA and Port of Shanghai, with support from C40 Cities, announced a partnership including the City of Los Angeles, City of Shanghai, shipping companies, and a network of cargo owners, to create the world's first transpacific green shipping corridor to decarbonize goods movement between ports in the United States and China. In Q2 2022, POLB joined the Corridor partnership. A Green Shipping Corridor implementation plan was developed and released publicly on September 22, 2023. In 2024, the Corridor held an in-person partnership meeting in Shanghai. Additionally, the Partnership published the first Annual Progress Report at the North Bund International Shipping Forum. It outlines the significant progress made by the Partnership and lists the next steps for the way to zero lifecycle carbon emission container ships.

On April 24, 2023, POLA, POLB, and the Maritime and Port Authority of Singapore signed a Memorandum of Understanding (MOU) to establish a green and digital shipping corridor between Singapore and the San Pedro Bay Ports complex. This corridor will focus on low- and zero-carbon fuels for bunkering, as well as digital tools to support the deployment of clean technology. Corridor partners met regularly during Q2-Q4 2023, developing a Partnership Strategy for the green and digital shipping corridor, which was ultimately unveiled at the 2023 United Nations Climate Change Conference (COP28) on December 6, 2023.

In April 2024, the LA-LB-Singapore Green Shipping Corridor released a Baseline Study of maritime trade flows between Singapore, Los Angeles, and Long Beach, and held the first in-person stakeholder meeting in Singapore. The Baseline Study, commissioned by C40 Cities and the Ports, and conducted by the American Bureau of Shipping, analyzed maritime trade flows between Singapore, Los Angeles and Long Beach, and provided a baseline of activities and energy demand requirements for vessels operating on the corridor through to 2050. Singapore began bunkering clean marine fuels such as LNG and methanol in 2024.

***Clean Marine Fuel.*** As part of the Ports' Green Shipping Corridor work, the Ports have engaged with shippers as well as fuel and bunkering service providers to identify clean marine fuel demand and supply status. Additionally, the Ports engaged with the Harbor Safety Committee to begin coordination. Corridor partners such as Singapore and Port of Shanghai have begun bunkering cleaner marine fuels. Clean Marine Fuel assessments for San Pedro Bay Ports will continue in 2025. In August 2024, the first methanol dual fueled ship, the *Alette Maersk*, arrived at APM

Terminals in POLA. The ship bunkered methanol in Asia and was able to call to POLA without bunkering in the San Pedro Bay Ports.

Finally, in 2024, POLB commissioned a Clean Marine Fuels White Paper in order to understand the opportunities and challenges related to the adoption of clean marine fuels. This document is intended to prepare and position the Port and its stakeholders for adopting lower-emitting alternative fuels, and provides high-level information on the array of currently available low carbon marine fuels, along with an exploration of the potential infrastructure needs for their deployment. In December of 2024, the document was finalized and posted on the POLB website.

***At Berth Regulation.*** CARB's Board approved the latest update to the At Berth Regulation at their Board meeting on August 27, 2020. POLA and POLB completed, signed and submitted Port and Terminal Plans to CARB by their due date, December 1, 2021. During Q1-Q4 2024, Port staff continued to meet with terminal operators regarding implementation of their terminal plans. Specifically, Port staff worked with tanker and auto terminal operators for mandatory February 1, 2024 update of their terminal plans.

**HARBOR CRAFT**

***Commercial Harbor Craft Regulation.*** Implementation of the amendments to the Commercial Harbor Craft (CHC) Regulation approved by CARB in 2022 began on January 1, 2023. CHC operators reported on their CHC fleets by March 31, 2023. Facility operators/owners were required to report on CHC fleet operators beginning July 1, 2023. Both Ports submitted the required reporting in compliance with the July 1, 2023 deadline. Ports also submitted the CHC infrastructure report in compliance with the December 31, 2023.

**POLB.** Began the development of a Commercial Harbor Craft Incentive Program to distribute $28.7 million in grant funding received from the California's State Transportation Agency's Port and Freight Infrastructure Program which provides financial incentives to support the repower, replacement or retrofit of propulsion engines in eligible Commercial Harbor Craft (CHC). This effort will support compliance with CARB's CHC Regulation.

**POLA.** Received notification of award of a $31 million from the CARB for the Los Angeles Marine Emissions Reduction (LA MER) Project with Catalina Express and Harbor Breeze Cruises. The project will involve testing and evaluation of two different harbor craft emission-reduction technologies. This project will be kicked off in 2025.

The Ports will develop a comprehensive evaluation of the commercial status of harbor craft technology and identify infrastructure gaps for ZE harbor craft. This analysis will be funded in part by the CARB LA MER grant project and both Ports.

**LOCOMOTIVES**

***Early Deployment and Demonstrations.*** The Ports completed the Pacific Harbor Line ZE Switcher Demonstration Project. PHL worked with Progress Rail (subsidiary of Caterpillar, Inc.) to design, manufacture and demonstrate a battery charging system to support PHL's demonstration of a zero-emission, battery-electric switching locomotive at the Ports. Progress Rail provided both the charging infrastructure and locomotive for the demonstration. The battery charging system was installed in October 2023, testing and commissioning was completed in November 2023. Both the battery charging system and locomotive were placed in service December 2023. During the one-year demonstration, which concluded in December 2024, it was found that the locomotive typically required recharging after one or two shifts, unlike diesel locomotives that can operate for several days. This necessitated more complex work planning and limited the locomotive's operational locations.

**POLB.** In July 2024, POLB broke ground on the new $1.5 B Pier B On-Dock Rail Support Facility to increase efficiency and shift cargo from trucks to trains.

**POLA.** Throughout 2024, POLA continued to coordinate with Union Pacific for the development of their ZE Switcher Project, the Battery Electric Locomotive. Design has been completed, and Battery Electric Locomotive components are being fabricated. This project is funded by a $2M Diesel Emissions Reduction Act grant.

**OTHER**

***Air Quality Monitoring Program.*** POLB released its 2023 Air Quality Monitoring Report in September 2024. POLA released their respective 2023/2024 Air Quality Monitoring Report in September 2024. The Ports' annual reports can be viewed at: https://monitoring.cleanairactionplan.org/reports/.

***Technology Advancement Program (TAP).*** The Ports posted the 2023 TAP Annual Report on the CAAP website in July 2024. Work on the 2024 TAP Annual Report began in late 2024, with the goal of finalizing and posting it by mid-2025.

The Ports also received project concepts in 2024 for potential funding. Projects that met the TAP Guidelines criteria were invited to submit full proposals as the next step in the review process.

***Electric Vehicle Infrastructure Training Program (EVITP) Policy.*** POLB staff developed an Electric Vehicle Infrastructure Training Program (EVITP) Policy that requires contractors bidding on Port-owned and led charging infrastructure projects for Port-owned electric vehicles to be EVITP approved, and their electricians EVITP certified. The policy also applies to any vehicle charging infrastructure work funded by the Port, including projects that receive incentives from the CTF Rate or the TAP. The finalization and execution of this ordinance was completed at the POLB Board meeting on July 24, 2023. In 2024, POLB sought ZE equipment and infrastructure projects to receive grant funding from state and federal agencies, and compliance with Board adopted EVITP policy was required for submittal. Currently, POLA requires contractors that provide construction services for electric vehicle charging infrastructure or equipment, funded or authorized in whole or in part by the California Public Utilities Commission or the CEC, to hold EVITP certification.

***Rule 2304 –Indirect Source Rule for Commercial Marine Ports.*** Port staff continues to monitor the progress of the regulation and participates in all workshops/meetings.

***U.S. Department of Energy Hydrogen Hubs.*** On December 23, 2022, the Ports submitted their proposed project for the deployment of zero-emission terminal equipment and supporting fueling equipment to ARCHES for inclusion into the statewide application. In October 2023, it was announced that the ARCHES application was awarded up to $1.2 billion. In July 2024, both Port secured $50 million funding with ARCHES under the Department of Energy's Hydrogen Hubs Program and commenced preparing subrecipient agreements for Board approval in 2025. Ports are coordinating with state leaders, ARCHES, Port tenants, and industry partners to secure projects under this opportunity.

***California State Transportation Agency (CalSTA) Award to POLB***

On July 7, 2023, POLB was awarded $383.35 million under the CalSTA Port and Freight Infrastructure Program for the Pier B On-Dock Rail Support Facility Program and clean air technology projects aimed at accelerating the transition to zero-emission operations. The overall program is known as the System-Wide Investment in Freight Transport (SWIFT) Program. $224.9 million will fund zero-emissions cargo handling equipment at SSA Marine terminals (Piers C & F)

and Long Beach Container Terminal (Pier E), ship-to-shore power at all three Tesoro terminals, the Crowley ZEAT tugboat demonstration, and development of new incentive programs to further reduce emissions from cargo handling equipment, rail, and harbor craft. In 2024, POLB worked with Caltrans, who is implementing the grant on behalf of CalSTA, on carrying out the various projects. This included preparation of formal agreements with tenants, required deliverables for the grant, including Project Programming Requests (PPRs), and outreach and engagement plans.

## PLANNED ACTIONS FOR 2025

### Air Quality Monitoring

- Both Ports will release their respective 2024 Air Monitoring Reports.
- Updates will be available at: https://monitoring.cleanairactionplan.org/

### CAAP Stakeholder Meetings

- The Ports will continue to jointly host CAAP Implementation Stakeholder Meetings in 2025, with all meetings held in person and alternating between the Port of Long Beach and Port of Los Angeles. Stay informed by signing up on the CAAP website to receive updates and notifications.
- Information on past meetings, including presentations and minutes, is available at: https://cleanairactionplan.org/about-the-plan/stakeholder-advisory-group/

### Emissions Inventories

- Both Ports will release their respective final 2024 Emissions Inventories.
- Both Ports will being work on their respective 2025 Emissions Inventories.
- Updates will be available at: https://cleanairactionplan.org/results/emission-reductions/

### Grants

- POLB will execute a master agreement with MARAD for the PIDP grant award and a subgrant agreement with Long Beach Container Terminal.
- POLB will finalize project program requests, or PPRs, execute project supplement agreements for individual projects, and pass through all grant requirements to vendors via formal agreements.
- POLB will develop new incentive programs and provide financial incentives for ZE locomotives, ZE cargo handling equipment, and cleaner harbor craft.
- POLA to continue USEPA DERA grant to implement zero-emission switcher locomotive project with Union Pacific.
- Both Ports will continue to deploy additional grant-funded ZE equipment and vehicles.
- Both Ports will actively seek new grant funding opportunities as they become available.

### Green Shipping Corridor

- Both Ports will continue implementation of the Los Angeles/Long Beach-Shanghai Implementation Plan Outline for the Green Shipping Corridor Project, including working groups meetings and communication with corridor partners
- Both Ports will continue coordination to advance the green and digital shipping corridor initiative with the Maritime and Port Authority of Singapore
- Both Ports will track development and implementation of Green Shipping Corridors.

### Hydrogen Initiatives

- Both Ports will continue engaging with Alliance for Renewable Clean Hydrogen Energy (ARCHES) regarding the Department of Energy's major grant funding opportunity to develop a participating project in the Southern California Hydrogen Hub.

Technology Advancement Program

- Both Ports will continue evaluating TAP proposals and recommending projects selected by the TAP Advisory Committee for funding.
- Both Ports will finalize and post the 2024 TAP Annual Report online.
- Both Ports will begin development of the 2025 TAP Annual Report.
- More information about the TAP is available at: https://cleanairactionplan.org/technology-advancement-program/

Cargo-Handling Equipment

- Complete the 2024 Cargo-Handling Equipment Feasibility Assessment
- Develop and publicly present zero-emission terminal transition plans for each Port.
- Accelerate the development of zero-emission cargo-handling equipment technologies through demonstrations projects.
- POLA will complete a zero-emission hydrogen fuel cell demonstration with Toyota Tsusho and Fenix Marine through the TAP.

- POLB will develop and implement the SWIFT ZE Terminal Transformation Incentive Program to provide financial incentives to support the purchase of eligible ZE CHE and battery-electric CHE charging equipment.

Harbor Craft

- Initiate development of harbor craft technology and complex-wide zero-emission infrastructure assessment.
- Advance innovative harbor craft technologies through demonstrations
- POLB will develop and implement the SWIFT Commercial Harbor Craft Incentive Program to provide financial incentives to support the repower, replacement or retrofit of propulsion engines in eligible Commercial Harbor Craft.

Locomotives

- Complete a zero-emission locomotive charger demonstration with PHL through the TAP.
- POLB will develop and implement the SWIFT ZE Locomotive Incentive Program to provide financial incentives to support purchase of ZE locomotives or the repower of diesel locomotives to zero emission.

Ships

- Update Green Ship Incentive Program (ESI 2.0)
- Support tanker and RoRo terminals in installing shore power.
- Advanced clean marine fuel initiatives.
- POLB to implement ship-to-shore power projects under CalSTA.
- Accelerate deployment of at-berth emission control systems.
- Complete an LNG retrofit demonstration with PASHA through the TAP.
- Continue to demonstrate vessel projects with South Coast Air Quality Management District though the TAP.
- Both Ports will work on preparing a clean marine fuel feasibility assessment.

Trucks

- Continue to monitor CTF Rate collection and if there are any effects on drivers.
- Develop strategies to accelerate the deployment of zero-emission trucks in the Ports' fleet.
- Increase funding toward zero-emission truck purchases.
- Complete funding cycle for truck infrastructure projects.
- Explore innovative concepts to reward early adopters
- Complete Class 8 Drayage Truck 2024 Feasibility Assessment
- Continue to monitor the Ports' supplemental Voucher Incentive Program to determine if modifications to the program are needed.

**Send any questions or comments to the CAAP email at: caap@cleanairactionplan.org**