

SAN PEDRO BAY PORTS

CLEAN AIR ACTION PLAN

Clean Air Action Plan Implementation Progress Report Second Quarter 2022

ACCOMPLISHMENTS

GENERAL

- The Ports held their fourteenth CAAP Implementation Stakeholder Advisory Group meeting on June 1, 2022.

COVID-19 IMPACTS

- The Ports continued to experience high cargo throughput in Q2 2022. The Ports continue to monitor the situation very closely.
- Due to the ongoing COVID-19 pandemic future CAAP stakeholder meetings will continue to take place via webinar.
- Both Ports are developing plans for return to in-person work at this time. However, it is unclear exactly when staff will return to the office and when in-person, public meetings will commence.
- The impacts from COVID-19 and supply chain disruptions to the Ports' technology demonstrations are addressed below under Early Demonstrations and Deployments within the Trucks and Terminal Equipment headings.

TRUCKS

Clean Truck Fund (CTF) Rate. The Port of Los Angeles (POLA) and the Port of Long Beach (POLB) Boards of Harbor Commissioners approved their respective CTF Rate tariff, which covers exemptions and spending priorities, on November 4, 2021 and November 8, 2021, respectively. Both Ports Boards of Harbor Commissioners approved their respective spending plans for CTF rate dollars collected in Year 1 on March 24, 2022. Collection of the CTF Rate commenced on April 1, 2022. Combined, the Ports are currently on track to collect approximately \$90 million annually. The Ports have not heard of any effect from the CTF Rate on drivers. Drivers are encouraged to reach out to the Ports through email at caap@cleanairactionplan.org or by calling (866) 721-5686.

Large-Scale Zero Emission (ZE) Truck Deployment Pilot Project. On November 19, 2020, the California Air Resources Board (CARB) and the California Energy Commission (CEC) released a unique joint funding opportunity for a large-scale ZE truck deployment within the state. The Ports coordinated with the South Coast Air Quality Management District (AQMD) and other regional partners on the development of a project proposal, including 100 ZE battery electric trucks and associated charging infrastructure, for this solicitation. The AQMD proposal was awarded nearly \$27 million. The grant agreement between AQMD and CARB was executed on June 4, 2021 and the grant agreement between AQMD and CEC was approved at the CEC business meeting on July 15, 2021. The Ports and AQMD have finalized the three-

party Memorandum of Understanding (MOU), which will include \$1.5 million in match funding from each Port towards the project. POLB received approval of the funding request at the April 25, 2022 Board of Harbor Commissioners meeting. POLA plans to request approval from their Board of Harbor Commissioners in Q3 2022.

Early Deployment and Demonstrations. The Ports continue to manage several grant-funded demonstrations of ZE trucks, including over 20 hydrogen fuel cell and battery electric trucks as part of supply chain pilots. There are approximately 24 ZE trucks registered in the Ports' Drayage Truck Registry with access to both Ports. COVID-19 continues to have an impact on the future estimated delivery times of both the low NOx trucks and ZE trucks. On November 23, 2021, POLA released an RFP for projects to deploy at least 10 zero emission trucks. POLA will be providing \$3 Million in grant funds to support the awarded project(s). Preliminary award selection(s) and work on contracting was made in Q2 2022. POLA expects to obtain Board approval in Q3 2022.

At POLB, all four LNG plug-in hybrid electric trucks funded under a CEC grant have been in and out of service due to engine cooling system and electrical issues. Technology manufacturer, US Hybrid has been working with Cummins to further assess and address the issues. In the meantime, TTSI continues to pursue options to install electrical infrastructure needed to power the Nuvve chargers at their Carson facility.

Proposition 1B Support and the Kickstart Incentive Program. The Ports supported AQMD with outreach to the drayage community regarding the Proposition 1B (Prop 1B) Program, which had \$50 million available in incentives to turn over the dirtiest pre-2010 diesel trucks to clean low NOx or ZE trucks. The open solicitation period closed on April 30, 2021. POLB provided application support to 22 drayage truck drivers, resulting in 10 application submissions to replace a total of 21 diesel trucks. Three applications were subsequently withdrawn, and one was deemed ineligible, resulting in 9 eligible trucks to be replaced with ZE trucks, and 3 to be replaced with low-NOx trucks through Prop 1B. The Ports have received feedback that some of the applicants have withdrawn their applications due to increases truck costs, which makes the grants less attractive, and that additional individuals may withdraw their applications as costs continue to rise. To further accelerate the transition to cleaner trucks, POLB has provided an additional \$1 million for low NOx and ZE drayage trucks as part of the "Kickstart Incentive Program." This program, approved by the POLB Board of Harbor Commissioners on April 26, 2021, is a supplement to the AQMD-administered Prop 1B Program, and will fund additional drayage truck applications from the solicitation that closed in April 2021. AQMD has selected two fleets conducting drayage service at POLB to move forward with contracting for a total of two low-NOx and four battery electric trucks.

Advanced Clean Trucks/Fleets Regulation. As a companion to the Advanced Clean Trucks (ACT) Regulation that CARB passed in June 2020, CARB continues to move ahead with establishing the requirements for large entities and fleets. CARB has held a series of workshops related to different aspects of the transition to zero emissions trucks, and Ports' staff continue to attend and participate. Ports' staff has met with CARB staff and will continue to monitor the development and implementation of these regulations.

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 Feasibility Assessments evaluate the current snapshot of emerging zero-emission and near-zero emission truck technologies. The first report, [2018 Feasibility Assessment for Drayage Trucks](#), was released in April 2019, with an update later in May 2020. The Ports began work on the second Feasibility Assessment for Drayage Trucks in Q1 2021. The Draft 2021 Feasibility Report for Trucks is expected to be released in Q3 2022 for public review and comment.

Public Truck Charging. POLB completed and released a [Public Charging and Fueling Study](#) in September 2021. To build on this effort, POLB released a Request for Information (RFI) in

February 2022 to obtain information regarding the near-term development of publicly accessible electric-charging facilities for drayage trucks at four sites on POLB property. The RFI closed on March 29, 2022. POLB is reviewing the information provided from the RFI and will make a summary document available later in 2022.

CTF Rate Voucher Incentive Program. As part of the CTF Rate spending plans approved by each Port's Board of Harbor Commissioners in March 2022, the Ports committed to partnering with CALSTART to implement a Ports-specific Zero Emission Truck Voucher Incentive Program (Voucher Incentive Program). The POLA Board of Harbor Commissioners approved an agreement with CALSTART to implement the Voucher Incentive Program on March 24, 2022. POLB will go to their Board with a similar agreement in Q3 2022. The Voucher Incentive Program will allocate \$40 million from POLA and \$30 million from POLB of the approximate \$90 million initially expected to be collected from the CTF Rate by both Ports to provide up to \$300,000 towards the purchase price of a ZE truck. Each truck funded will be obligated to provide drayage service to the San Pedro Bay Ports for a period of three years. The Voucher Incentive Program complements the CARB Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP) and will leverage the HVIP network of vendors for distribution of the funding. CALSTART is the current administrator of the CARB HVIP Program. With the support of CARB, CALSTART will administer the Voucher Incentive Program at no cost to the Harbor Department. The Ports have been working with CALSTART in Q2 2022 to integrate the Voucher Incentive Program into the existing HVIP administrative process and website.

TERMINAL EQUIPMENT

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

At POLA, as part of the Green Omni Terminal project, five battery electric yard tractors were put into use. On March 16th one of the TransPower yard tractors had a thermal event contained in one battery pack on the vehicle. As a result, Pasha has suspended use of battery electric equipment at their facility. At Everport, two battery electric Taylor top handlers are in use. Two of the three second generation BYD battery electric yard tractors that were put in use at Everport in Q1 2022 were taken out of service due to required repairs. The Smart Charging System, developed by Cavotec and associated with the battery electric yard tractors, were utilized this quarter. Additionally, Everport continues to operate 20 Capacity ultra-low NOx renewable natural gas yard tractors. The grant demonstration periods for these 20 yard tractors and two battery electric Taylor top handlers are complete and Everport will continue to operate the equipment in revenue service. The Advanced Infrastructure Demonstration (AID) Project that will demonstrate wireless charging stations for battery electric yard tractors at West Basin Container terminal began phase 1 construction in Q4 and construction continued through Q2 2022.

At POLB, a total of 20 pieces of ZE cargo handling equipment (CHE) with supporting ZE infrastructure have been commissioned to date. As of June 2022, eight eRTG cranes were in operation at SSA/Pier J. The ninth and final eRTG will be commissioned in Q3 2022. In June 2022, BYD informed POLB that the build and delivery of the remaining four battery-electric yard tractors were not possible due to the loss of crucial resources needed to complete the LBCT-required modifications prior to delivery. . At Pier C, SSA continues to take delivery of the 33 electric yard tractors that will be delivered over the course of 2022. Infrastructure installation to support the yard tractor deployment will begin in Q2 2022 and is expected to be completed in Q3 2022.

Infrastructure Master Planning for Terminal Equipment

In May 2022, POLB executed a \$2.5 million grant agreement with the CEC for the EV Blueprint Phase II Project, which includes development of a zero-emission infrastructure master plan for terminal operations at Pier J. POLB staff have solicited for consultant support to develop the master plan. POLB will be working with the other container terminals to develop zero-emission infrastructure master plans as well.

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 Feasibility Assessments evaluate the current status of clean terminal equipment technologies and infrastructure. The first report, [2018 Feasibility Assessment for CHE](#), was released in September 2019. The Ports commenced the second Feasibility Assessment for Terminal Equipment in Q1 2021. The Draft 2021 Feasibility Report for Terminal Equipment was released for public review and comment on March 2, 2022. Comments were due April 29, 2022. A total of 6 comment letters were received. Ports reviewed the comments provided and are incorporating comments into the Final draft. Publication of the Final version of the 2021 Feasibility Report for Terminal Equipment is expected Q3 2022.

SHIPS

Vessel Speed Reduction. 96% of vessels visiting the Ports in Q2 2022 slowed down to 12 knots within 20 nautical miles of Point Fermin, and 92% of vessels slowed within 40 nautical miles.

Ship Incentive Programs. The Ports continue to collaborate with other West Coast ports on ways to enhance participation in their clean ship incentive programs. POLB continued to implement the revised Green Ship Incentive Program, which incentivizes vessel calls from ships utilizing emission reduction technologies and clean fuels, adopted at their May 10, 2021 Board Meeting. POLA continues to incentivize ships for complying with the ESI program.

Green Shipping Corridor. In Q1 2022, the Port of Los Angeles, Port of Shanghai, and 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, the Port of Long Beach and Ocean Network Express joined the Green Shipping Corridor partnership. The partnership continued to develop an outline for the Green Shipping Corridor Implementation Plan and held several meetings during Q2 2022.

At Berth Regulation. CARB's Board approved the latest update to the At Berth Regulation at their Board meeting on August 27, 2020. Completed and signed Port and Terminal Plans were submitted to CARB by December 1, 2021. During Q2 2022, Port staff continues to meet with CARB staff on the status of the implementation of the updated At Berth Regulation. In addition, the Ports have provided support to the marine terminals on updates to Port/Terminal plans.

HARBOR CRAFT

Commercial Harbor Craft Regulation. On March 14, 2022, CARB held the second Board hearing to consider the Commercial Harbor Craft Regulation. Both Ports' staff submitted a comment letter in advance of the hearing and also provided public comment at the hearing. 15-day changes was released on May 19, 2022 and comments were due June 3, 2022. The final regulation language is expected to be released in Q3 2022.

OTHER

- **2021 Emissions Inventories.** Development of the 2021 annual emissions inventories for the two Ports continued in Q2 2022. Both Ports completed their respective 2020 annual Inventory of Air Emissions and released the reports in Q4 2021, demonstrating significant emissions reductions: <https://cleanairactionplan.org/results/emission-reductions/>. Both Ports are expected to release their respective 2021 Emissions Inventory in Q3 2022.
- **Air Quality Monitoring Program.** The Port of Long Beach and the Port of Los Angeles are planning to release their respective 2021 Air Quality Monitoring Report in Q3 2022. The Ports' previous annual reports can be viewed at: <https://monitoring.cleanairactionplan.org/reports/>.
- **Technology Advancement Program.** In 2021, the Ports received a total of ten (10) project concepts for consideration. Of the ten project concepts submitted by technology proponents and San Pedro Bay Port tenants, seven were invited to submit a full proposal. Two proposals for two separate hydrogen fuel cell project concepts – one for a top handler and the other for a yard tractor application – were ultimately withdrawn by the applicant. Of the seven, five proposals were received and are currently under review. These projects involve a zero-emissions top handler powered using both battery-electric and hydrogen fuel cell technology, a battery-electric tugboat project, a battery-electric locomotive project, a project involving two types of technology retrofits for two different container vessels while in transit, and a project to treat at-berth emissions on a multitude of vessels. All five project proposals are currently under review or in contract development prior to seeking final approval from the Ports' respective Board of Harbor Commissioners. As of June 30, 2022, the Ports have not received any new project concepts; however, the Ports continue to move projects forward, evaluate proposals with approved project concepts and manage existing TAP demonstrations.

As for demonstration projects underway, Pacific Tugboat continued collecting the 1,000 hours of activity on the Nett Technologies BlueMAX™ NOVA 320e after treatment system required to demonstrate durability for CARB verification; Nett Technologies expects to complete collection of the durability hours and the required emissions testing in Q4 2022. Under a separate demonstration, emissions testing on the water-in-fuel (WIF) system developed by MAN Energy Systems was completed. Results of the test will be available Q3 2022. Lastly, Pasha has completed the build of one of the two LNG vessels with delivery expected Q3 2022. The second new-build vessel is in the commissioning phase and anticipated for delivery in December 2022. The repowered vessel will be delivered in April 2023. All three vessels will be installed with dual-fueled engine technology capable of burning LNG or diesel in the propulsion system, with the system optimized for LNG.

The Ports continue to engage and support interested stakeholders. This includes holding TAP bi-weekly meetings between the two Ports, leading the TAP Advisory Committee (AC) meetings every 8 weeks with agency partners, responding to general inquiries, and participating in virtual meetings to provide updates on technology demonstrations.

Electric Vehicle Infrastructure Training Program (EVITP) Policy. POLB staff are developing a new policy that would potentially require contractors bidding on charging infrastructure projects for Port-owned vehicles to be EVITP approved, and their electricians EVITP certified. POLB is also considering a requirement that the EVITP Policy apply to any vehicle charging infrastructure work funded by the Port, including projects that receive incentives from the CTF Rate or the TAP. Finalization of the policy and Board consideration are anticipated for Q3 2022. 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 California Energy Commission, to hold EVITP certification.

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

PLANNED ACTIONS NEXT QUARTER

- Hold a joint in person truck workshops with air agencies and electricity providers on truck regulations along with available funding for ZE trucks and associated infrastructure on July 15, 2022.
- POLA will coordinate with CALSTART for release of initial funding for the Voucher Incentive Program. POLB will complete contracting with CALSTART.
- Port staff will continue to monitor rate collection and if there are any effects on drivers.
- Continue coordination with AQMD on a Large-Scale ZE Truck Deployment project.
 - Finalize a three-party MOU with AQMD to provide match funding from the two Ports.
- Finalize the 2021 Cargo Handling Equipment Feasibility Assessment.
- Release of the draft 2021 Drayage Trucks Feasibility Assessment for public comment.
- Continue to evaluate TAP proposals and recommend projects selected by the TAP AC for funding.
- Request approval from each respective Board of Harbor Commissioners on a TAP project involving conversion of a diesel top handler to one powered by hydrogen fuel cell and battery-electric technology in partnership with Toyota Tsusho and US Hybrid. The demonstration will also involve a mobile hydrogen refueler developed by OneH2.
- Continue to deploy additional grant-funded ZE equipment and vehicles.
- Both Ports will continue preparing the implementation plan for the Green Shipping Corridor Project.
- Both Ports will continue planning and engaging with interested parties in regards to the Department of Energy's forthcoming large grant funding opportunity to develop a Hydrogen Hub in Southern California.
- POLB will close out the 2019 DERA grant after the successful deployment of three hybrid RTG cranes at Pier T.
- POLA will go to their Board for approval of the selected ZE truck proposals from the ZE truck deployment RFP.

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