Meeting No. 2024-04

San Pedro Bay Ports
Sustainable Supply Chain Advisory Committee
October Meeting Summary

Date: October 22, 2024 | 9:00 am – 12:00 pm

Location: Zoom / Online Conference Platform

Attachments: Attachment A – Attendees
Attachment B – Meeting Agenda
Attachment C – Meeting Presentation

Meeting Summary

1. Opening Remarks
    a. Port Updates
        i. Referencing the quarterly update that had been circulated prior to the meeting (enclosed in **Attachment C**), port staff highlighted that the emissions inventory figures for CY2023 demonstrated that the joint ports were continuing to make progress on a year-over-year basis towards their target, and had in fact surpassed their 2023 emissions reductions goals. Reductions of diesel particulate matter (DPM) was especially encouraging as it has a direct effect on public health, and the reduction contributes to the ports' public health improvement goals.
        ii. POLB noted that cargo volumes, including by rail, increased during the reviewed period, and that September 2024 had been a record with over 829,000 TEUs moving through the ports without triggering congestion. This is a departure from past trends, where high rates of empty returns, chassis shortages, and/or rail car shortages have contributed to congestion and caused a spike in ships at anchor, all of which contribute to polluting emissions. Capacity within distribution centers and warehouses is also contributing to the smooth operations.
        iii. Referring to the clean truck incentive efforts, the Ports pointed to data showing an uptick of the zero emission truck population supporting port drayage since the start of 2024, with steady growth in the FCEV as well as the BEV counts. The Clean Truck Fund has continued to grow and $119MM of the available resources have been allocated to truck and infrastructure procurements.
2. Discussion – Infrastructure Readiness at the Port Complex
    a. Port / Utility Master Plans
        i. POLA / LADWP
            - Port and utility representatives jointly spoke about their infrastructure master planning efforts and current projections to meet the 2030 electrification target for cargo handling equipment (CHE). While the load capacities anticipated by the ports are considered very large today, LADWP noted that they expect 100

MW load capacities to become more common over the time frame that the ports are moving towards full electrification, particularly in industry-intensive areas.

- The findings of a port electrification assessment conducted by EPRI pointed to managed charging as an important method for controlling load, although not a solution to significantly lower maximum capacity requirements. The results of this study inform LADWP's development and execution of the master upgrade plan, but the POLA and LADWP expect that an updated version will be needed in the next few years.
- Construction activity in the next few years focuses on completing the current environmental impact review (EIR) process, identifying properties that will require existing pipelines or other impediments to be removed to make way for necessary utility upgrades, and beginning construction in 2026. The plan includes redundant circuitry and underground power conversion facilities, and buildout of conduit to the inner harbor to support growing near-dock load from vehicles and vessels. LADWP anticipates having this work completed by 2029, in advance of the Port's 2030 zero emission CHE goals.
- Responding to a question about locomotive demand, LADWP noted that a receiving station north of the port complex has capacity to expand service in the next few years without major upgrades and is located along the major rail corridors. Once the facilities at this site submit their electrification plans, the utility will be able to begin working on capacity expansion and any necessary upgrades to support electrification in the locomotive sector. LADWP reinforced the importance of engaging early with utilities as work cannot typically begin until a request from a customer is received.
    a. Members asked whether the recent ruling from the CPUC regarding utility timeline allowances for EV infrastructure and interconnections would impact their estimated timelines. LADWP clarified that as a public utility they aren't impacted by the CPUC rules. They can conduct a feasibility study with a customer early on for a $1,500 fee, which then can be used towards any equipment upgrades that may be required. SCE staff commented that the ruling allows investor-owned utilities to begin early stages of work without a customer request. This is helpful for planning to meet load requirements in known high-traffic areas where load increases are inevitable, such as along major trucking corridors.
- Responding to a question about chronic power fluctuations at the TraPac facility, LADWP said it's analysis had not found that the fluctuations and voltage were outside of the standard for distribution voltage, and had recommended the end user review the equipment it was using for a higher sensitivity level than the standard. The utility does plan to install some equipment to accommodate more advanced energy relays, as well.
    a. LADWP commented that the changing landscape and sensitivity of equipment that end users are deploying is another reason to refresh the EPRI study.
- Several members asked about storage and on-site power generation considerations, and whether the Committee can support any developments in

this area. Port and utility staff noted that managed charging is related to existing labor agreements and equipment shifts, both of which have slender margins for adjustment. Introducing solar could shave the power load but would not reduce it enough to have a material impact on the load expectations at the port complex and necessary utility upgrades. Utility staff noted that net metering is an option within the LADWP territory and that it is developing a program with DOE grant funding to support customer microgrid and on-site power generation.

a. Members commented that the value and mandates of the land at the port generally preclude dedicating space for significant power production, and/or energy storage.
b. It was noted that the EPRI study used assumptions and specifications for the equipment available at the time, and that technology advancements are allowing for faster charging rates and larger on-board power capacities for some equipment. Smart charging is also presenting opportunities for load shifting. These market dynamics are being considered in the discussions about refreshing the EPRI study.
c. The members discussed the potential advantages of using hydrogen equipment for reducing power needs, and the tradeoffs of hydrogen's energy-intensive production process.

- Utility staff agreed to forward studies on terminal operator potential and energy requirement forecasts to TRC for distribution to the members.

ii. POLB / SCE

- POLB and SCE staff jointly presented an update on their master plan, describing the planning and implementation stages of their terminals. In some cases, the port is managing most aspects of the utility planning, while other terminals are developing their own zero-emission plans; several terminals have electrified the majority of their equipment. These plans are responding to a 2022 study by Engie that estimated the energy requirements in 2030 considering both goods and logistics operations as well as employee charging and cargo growth trends. The results found that coincident peak power demand could increase more than 12x the 2019 level by 2030. The study did not consider electric dredging, hydrogen production via electrolysis, Pier Wind options, developments at Pier S, harbor craft power requirements at shore, short-haul rail locomotive electrification, and construction equipment electrification.
- While some upstream power capacity was considered in the forecast, there is a large supply gap that the ports and utilities are working to fill. SCE commented that as a regulated utility, it cannot start work until a customer files a request, so most of their planning is trend-based and does not advance until a specific request is made.
- Responding to a question about investments in storage, SCE said it has a customer incentive program similar to LADWP's and also recognizes the limitations of dedicating port land to energy services. However, it has installed 200 MW of battery storage at Hinton substation, which services the POLB. It also released a drayage truck incentive program that encourages managed charging, to control load in the adjacent areas.

a. Staff added that the POLB's electric grid and energy system is more resilient that SCE's grid on average. They are also looking at port-adjacent energy production sites for potential new energy siting opportunities where there is a fit.

iii. Regarding workforce development considerations, staff from SCE observed that they recognize that the labor involved in executing their plans, and performing port work, involves contract as well as employee labor. LADWP was not available to respond on the call at this time in the meeting.

3. CARB Regulatory & Compliance Updates
   a. ACF
      i. CARB noted that the comment period for the EPA's waiver to California ended in mid-September, and over 40,000 comments had been submitted at the time. CARB continues to touch base with EPA over the request and timing of a decision.
   b. Truck Registrations & Populations
      i. Staff shared that there are approximately 500 zero emission trucks in the state TRUCRS system through August, and that registration numbers have dropped since the beginning of the year but are holding steady over the last few months. Volvo, Freightliner and BYD battery electric models are the most common vehicle types being registered.
      ii. Regarding cancelled vouchers, approximately 800 have been cancelled and half of these were due to manufacturer-side issues like delivery delays, price increases and repairability. Approximately one-third were financial issues, such as the cost of capital for the buyer or the buyer's business slowing down. Approximately 14% were due to infrastructure issues, and the remainder (~2%) were related to administrative paperwork or regulatory compliance challenges.
      iii. On average, CARB is seeing lead times of 16 months from voucher request to truck delivery and 21 months from voucher request to voucher redemption. Members noted that fleets continue to experience challenges submitting completed paperwork mostly tied to confusion or burdensome preparation requirements, and that the industry continues to work on education and streamlining support.
      iv. Members commented that a study on the price trend differences in the US versus the EU may be beneficial, but should be done by a third party to avoid bias by incentive-providing organizations like CARB. They cited a general trend of Class 8 BEV price declines in Europe and price increases in the US over the same time frame, and often on models from the same manufacturers, and asked whether US incentives are a key reason for the difference. CARB staff said they'd look into the topic and if any studies are being planned at the agency. They also agreed to share a study on price differences between zero emission trucks in the US and EU markets.
   c. Clean Truck Check Requirements
      i. CARB outlined the history and upcoming deadlines of this program, which include a January 2025 start of the emissions compliance testing deadline. CARB is allowing some testing to take place earlier, beyond the 90-day advance window, however once the first deadline is met truck testing must be performed within 90 days ahead of submitting the results.
      ii. Based on industry engagement, CARB said, most freight facilities are planning to deny entry to their facilities for trucks that do not meet the compliance requirement. Once the paperwork is submitted, however, the vehicle has a five day grace period to serve

the port while awaiting confirmation of its submission from CARB, mitigating the impact to business and operations.

iii. CARB commented that compliance at ports and rail yards has been positive, but they are concerned about out-of-state fleets, whose records show lower compliance at this time. Members said that they are trying to get the word out through their channels to avoid issues at the turn of the year.

d. ZE Cargo Handling Equipment
    i. CARB shared that the agency is beginning its technical assessment with site visits and stakeholder interviews and expects to begin drafting the rule in 2026.

e. Commercial Harbor craft and CHE Discrepancies
    i. CARB clarified that CARB Approved Emission Control Strategy (CAECS) are not required to shore power alongside vessels. While they are covered under the harbor craft regulation, the regulation distinguishes between electric generators under and over 99 kW, to focus on the hoteling load of a vessel when it is not actively working. CAECs are typically working barges, and therefore they would not be required to plug in.
    ii. CARB staff and PMSA also noted that they had met earlier in the fall to clarify the issue and PMSA was able to pass the guidance along to its members.

4. Conclusion & Next Steps
    a. Member Updates
        i. The CEC announced that it released its Critical Paths 2.0 solicitation with set-asides for hydrogen-specific projects as well as a focus on freight corridors I-10 and I-710. The program also extended the project site distance from these corridors to two miles, an increase from the previous year's solicitation terms. Applications are due on January 15, 2025, and members and staff were encouraged to attend a pre-application workshop and to consider submitting proposals and discussing with their networks.
        ii. The CEC added that it is developing solicitations based on workshops held earlier in the year, and one is expected to focus on port infrastructure. This will likely be announced in late 2024 or early 2025, with approximately $40MM for projects at sea and land ports of entry. Another concept is the implementation of MHDV infrastructure blueprints that were developed until a multi-year effort with agency support; it will also consider blueprints developed under other programs and initiatives.
    b. Topics and Goals
        i. Members discussed several areas of focus for the Committee in 2025, noting the value of this group as an education and discussion forum.
            - Hydrogen infrastructure and fuel production, as well as continued updates on zero emissions drayage truck infrastructure developments.
            - Discussion on future funding programs to support continued investment in zero emission technology, including California-specific funding programs like HVIP and WAIRE, as well as a review of the NEVI Formula funding to potentially support MHDV applications.
            - Education on near-zero emission solutions in off-road, especially marine, contexts.
            - Education on emissions-reducing strategies and initiatives by non-U.S. ports, and advocacy of the strategies and initiatives in the U.S. that could support port peers elsewhere.

- Education and dialogue with the developers behind cutting-edge technology that is driving out-of-the-box thinking to overcome persistent barriers to truck electrification.
- Updates on the green shipping corridors, and the role of airports in whole-system emissions evaluation and decarbonization potential.

ii. Members also expressed a desire to develop and advance recommendations in 2025, noting that funding is a common area of mutual agreement.

iii. TRC agreed to assemble these comments into a proposed schedule for 2025.

c. 2025 Schedule

i. Next meeting: Week 3 or 4 of January 2025, 9 am – 12 pm, Zoom

ii. TRC agreed to poll the group over the next two months to finalize 2025 meeting dates.

Attachment A

List of Meeting Participants

SSCAC Committee Members	
Ajay Mangat	CARB
Joe Lyou	CCA
Michelle Vater	CEC
Adrian Martinez	EarthJustice
Matt Schrap	Harbor Trucking Association
Sal DiCostanzo	ILWU-13
Michele Grubbs	PMSA
Dr. Aaron Katzenstein	South Coast AQMD
Krystal Romero	Teamsters / Los Angeles County Federation of Labor
Los Angeles Port & City Staff	
Michael DiBernardo	Port of Los Angeles
Jacob Goldberg	Port of Los Angeles
Arthur Mandel	Port of Los Angeles
Teresa Pisano	Port of Los Angeles
Salvador Zambrano	Port of Los Angeles
Michael Samulon	Office of Mayor Karen Bass
Long Beach Port & City Staff	
Heather Tomley	Port of Long Beach
Morgan Caswell	Port of Long Beach
Lori Izakelian	Port of Long Beach
Joe Litchfield	Port of Long Beach
Renee Moilanen	Port of Long Beach
Franklin Ruiz	Port of Long Beach
Harry Semerdjian	Port of Long Beach
Lara Turnbull	Port of Long Beach
Nina Turner	Port of Long Beach
James Vernon	Port of Long Beach
Meeting Facilitation Staff	
Erik Neandross	TRC

Eleanor Johnstone	TRC
Christopher Davis	TRC
Other Stakeholders	
Tracy Haynes	CARB
Alyssa Green	CARB
Babak Pazokifard	CARB
Bonnie Soriano	CARB
Elizabeth White	CARB
Dori Chandler	CCA
Regina Hsu	EarthJustice
Yamen Nenne	LADWP
Mei Wang	South Coast AQMD
Brian Bustamante	SCE
David Castle	SCE

Attachment B
Meeting Agenda

1. Opening Remarks
    a. Port Updates
2. Discussion: Infrastructure Readiness at Port Complex
    a. Port / Utility Master Plans
        i. POLA / LADWP
        ii. POLB / SCE
3. CARB Regulatory & Compliance Updates
    a. ACF
    b. Truck Registrations & Populations
    c. Clean Truck Check Requirements
    d. ZE Cargo Handling Equipment
    e. Commercial Harborcraft and CHE Discrepancies
4. Conclusion & Next Steps
    a. Member Updates
    b. Topics and Goals
    c. 2025 Schedule
        i. Next meeting: January 2025, 9 am – 12 pm, Zoom

Attachment C
Presentation - Committee Meeting

San Pedro Bay Ports

Sustainable Supply Chain Advisory Committee Meeting

October 22nd, 2024

THE PORT OF LOS ANGELES

Port of LONG BEACH THE GREEN PORT

Agenda

1. Opening Remarks & Port Updates
2. Discussion: Infrastructure Readiness at Port Complex
    a. Port/Utility Master Plans
        i. POLA / LADWP
        ii. POLB / SCE
    b. Horizon for EV Equipment Adoption
3. CARB Regulatory & Compliance Updates
    a. ACF
    b. Truck Registrations & Populations
    c. Clean Truck Check Requirements
    d. ZE Cargo Handling Equipment
    e. Commercial Harborcraft and CHE Discrepancies
4. Conclusion & Next Steps
    a. Member Updates
    b. Topics and Goals
    c. 2025 Schedule

1. Opening Remarks

SAN PEDRO BAY PORTS

CLEAN AIR ACTION PLAN

Port Updates

For SSCAC Meeting
October 22, 2024

SPBP 2023 Air Emissions vs. 2022

Diesel Particulate Matter (DPM)	Nitrogen Oxides (NOx)	Sulfur Oxides (SOx)	Greenhouse Gases (GHG)
20%	25%	23%	18%

TEUs

-13%

*Compared to 2022 Levels
**GHG emissions (CO_2e) are reported in metric tons per year; all other pollutants are shown in tons per year.

SPBP 2023 Air Emissions vs. 2005

DPM

91%

2023 Goal 77%

NOx

72%

2023 Goal 59%

SOx

98%

2023 Goal 93%

GHG

20%

17%

TEUs

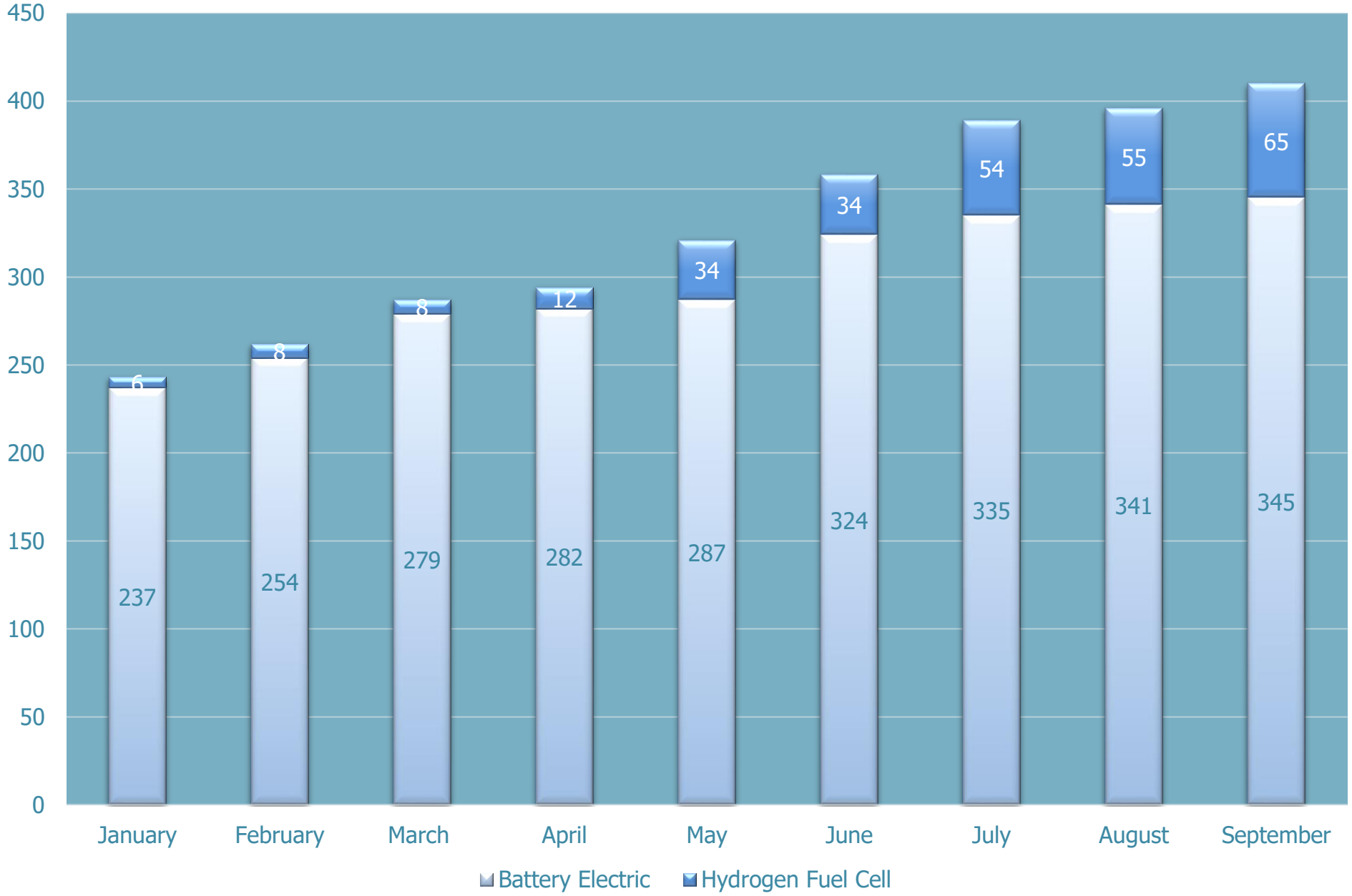
*Compared to 2005 Levels
**GHG emissions (CO_2e) are reported in metric tons per year; all other pollutants are shown in tons per year.

Joint Port Trucks Status*

- 22,868 trucks are in the Port Drayage Truck Registry (PDTR)
  - 16,203 active trucks in August
- 14,808 2014+ trucks registered in the PDTR and make 91.9% of moves
- 99.89% of trucks in the PDTR have engines meeting 2010 EPA standards
- 556 trucks with the Cummins natural gas fueled 0.02g/bhp-hr NOx engines are in the PDTR and performed 3.1% of the moves
- 341 battery-electric trucks in PDTR, 284 active in August and perform 2.06% of moves
- 55 hydrogen fuel cell trucks in PDTR, 47 active in August and perform 0.2% of the moves

* Snapshot from August 2024

ZERO EMISSION TRUCKS IN THE PORT DRAYAGE TRUCK REGISTRY - 2024 SNAPSHOT TO DATE



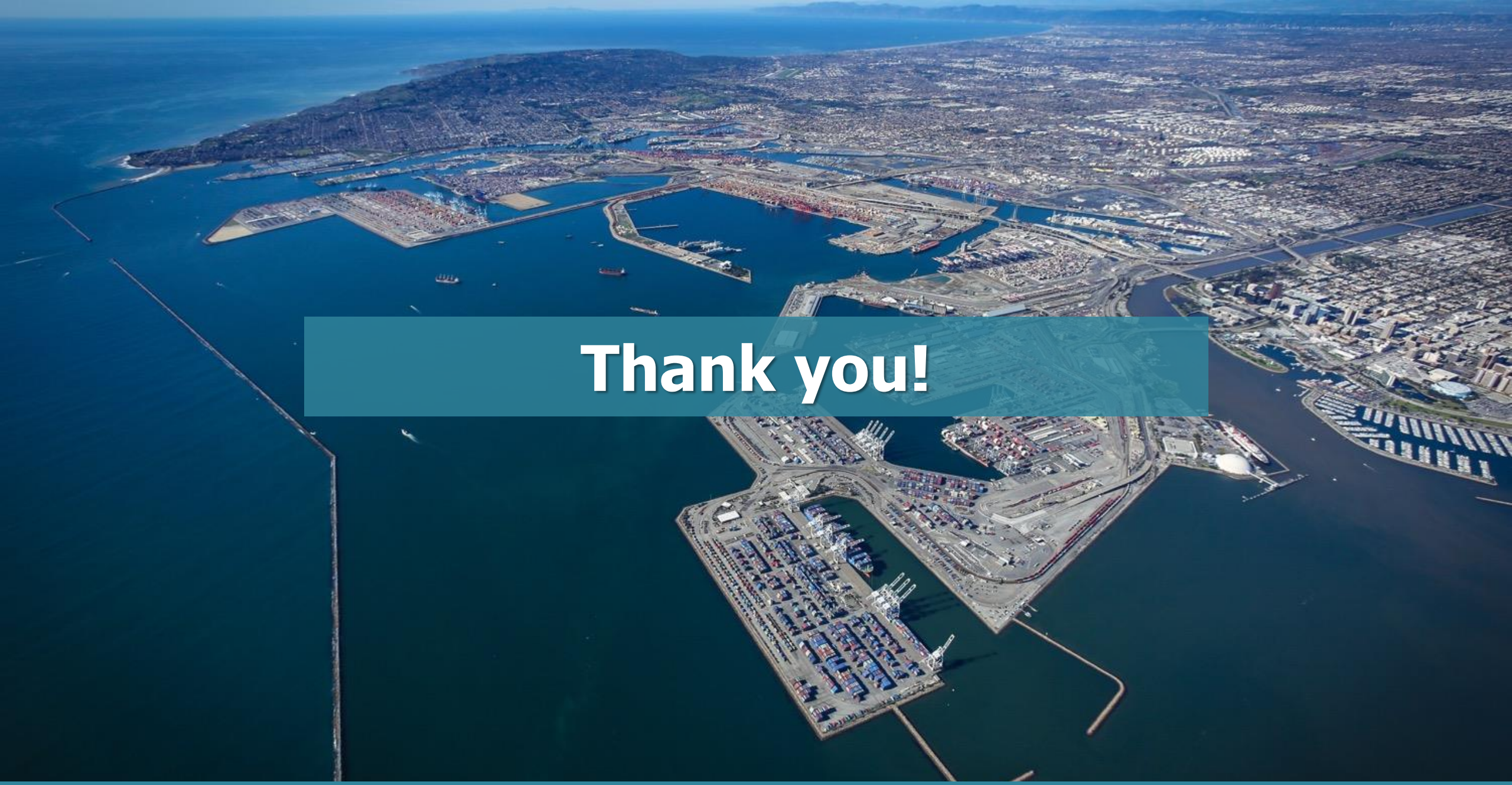
ZE Trucks in PDTR by Company

Company Name	Battery Electric	Hydrogen Fuel Cell	ZE Fleet Count
Performance Team Logistics, LLC	107	0	107
4 Gen Logistics, LLC	57	15	72
National Distribution Centers LLC	61	0	61
IMC Logistics, LLC	6	36	42
WattEV Transport, LLC	24	0	24
Harbor Pride Logistics, Inc.	14	0	14
JNS Transport	14	0	14
Premium Transportation Services, Inc.	12	2	14
J.B. Hunt Transport, Inc.	10	3	13
Hight Logistics, Inc.	11	0	11

Plus 61 ZE trucks across 29 other fleets

Clean Truck Fund Rate Status

- Collection began at both Ports on April 1, 2022
- Approximately $2.5-4 million collected by each port monthly
- Through September 2024:
  - Total collected by San Pedro Bay Ports: $196.2 million
  - Amount allocated to ZE trucks and infrastructure: $119 million


Thank you!

2. Discussion: Infrastructure Readiness at Port Complex

a. Port/Utility Master Plans

b. Horizon for EV Equipment Adoption

2a. Port/Utility Master Plans

i. POLA/LADWP

ii. POLB/SCE

Port of
LONG BEACH
THE GREEN PORT

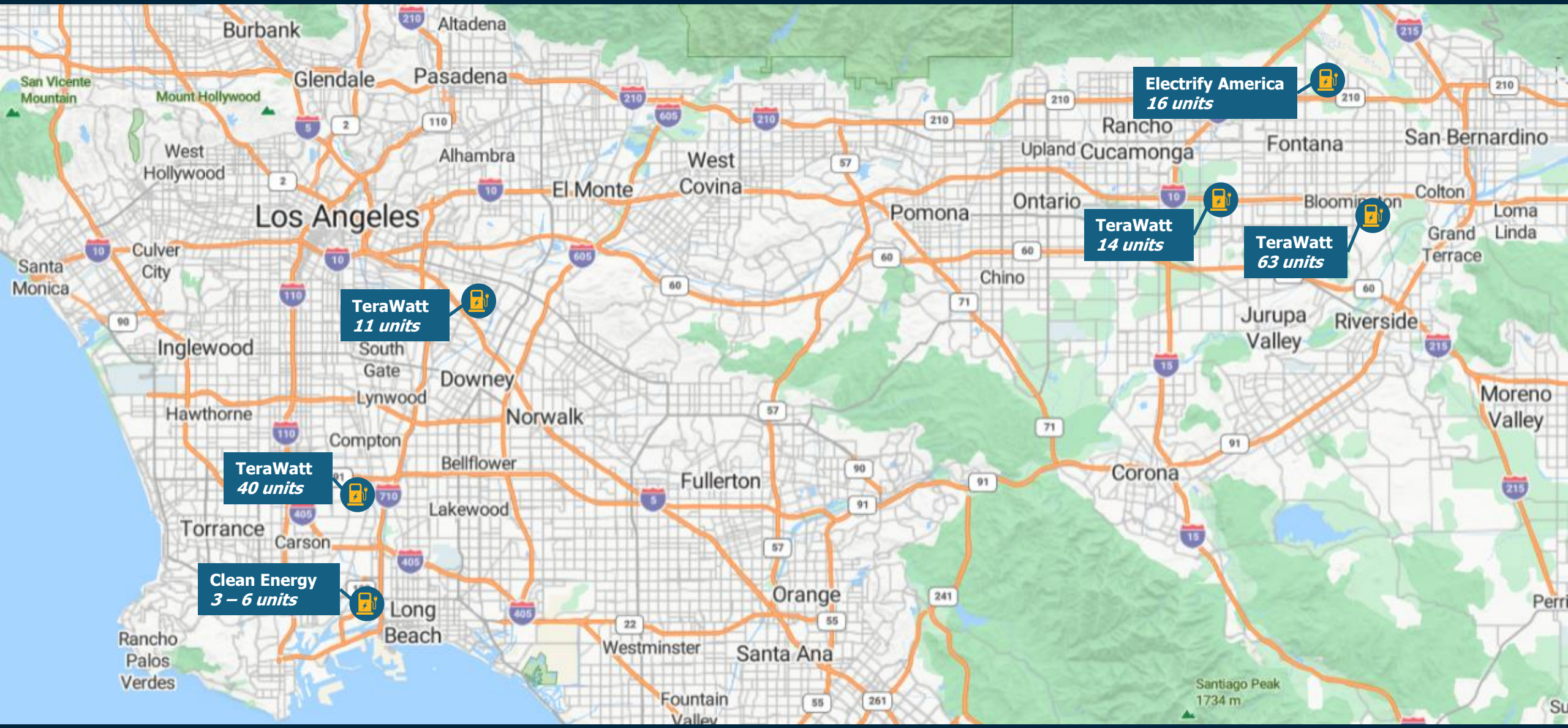
Infrastructure Updates

Port of Long Beach

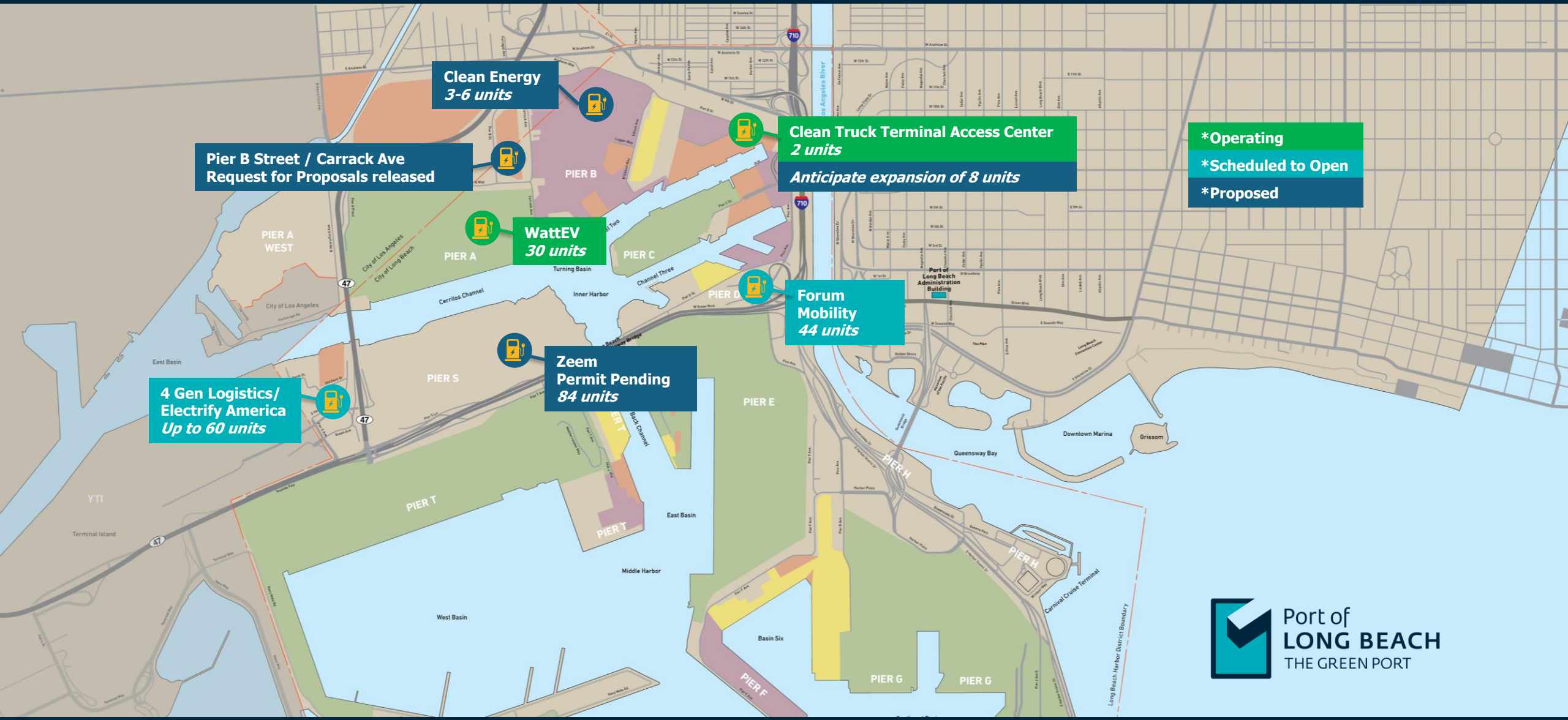
October 22, 2024

ZE TERMINAL DEVELOPMENT PROGRESS

POLA/POLB Co-Funded Regional Charging Depots for ZE Drayage Trucks



In-Port Charging Depots for ZE Drayage Trucks



Port of LONG BEACH
THE GREEN PORT

ELECTRIC LOAD AND RESILIENCE AT PORT OF LONG BEACH

POWER SYSTEMS RESILIENCE ASSESSMENT* (2022)

KEY FINDINGS:

- Meeting emissions-reduction goals will require greater reliance on electrical power systems
- Increased demand for electrical power could seriously degrade reliability and resilience
- Transmission and distribution systems serving the Port of Long Beach urgently need upgrades

**Engie's title: Assessing reliability and resilience of power systems at the Port of Long Beach*

Port of LONG BEACH THE GREEN PORT

PSRA LOAD GROWTH ASSUMPTIONS

PSRA TOOK INTO ACCOUNT:

- 4% annual growth in cargo moving through POLB (relative to 2019 baseline)
- Additional shore power requirements
- Energy efficiency related to LED adoption
- Full or partial adoption by 2030 of battery electric CHE
- Charging of battery electric employee vehicles

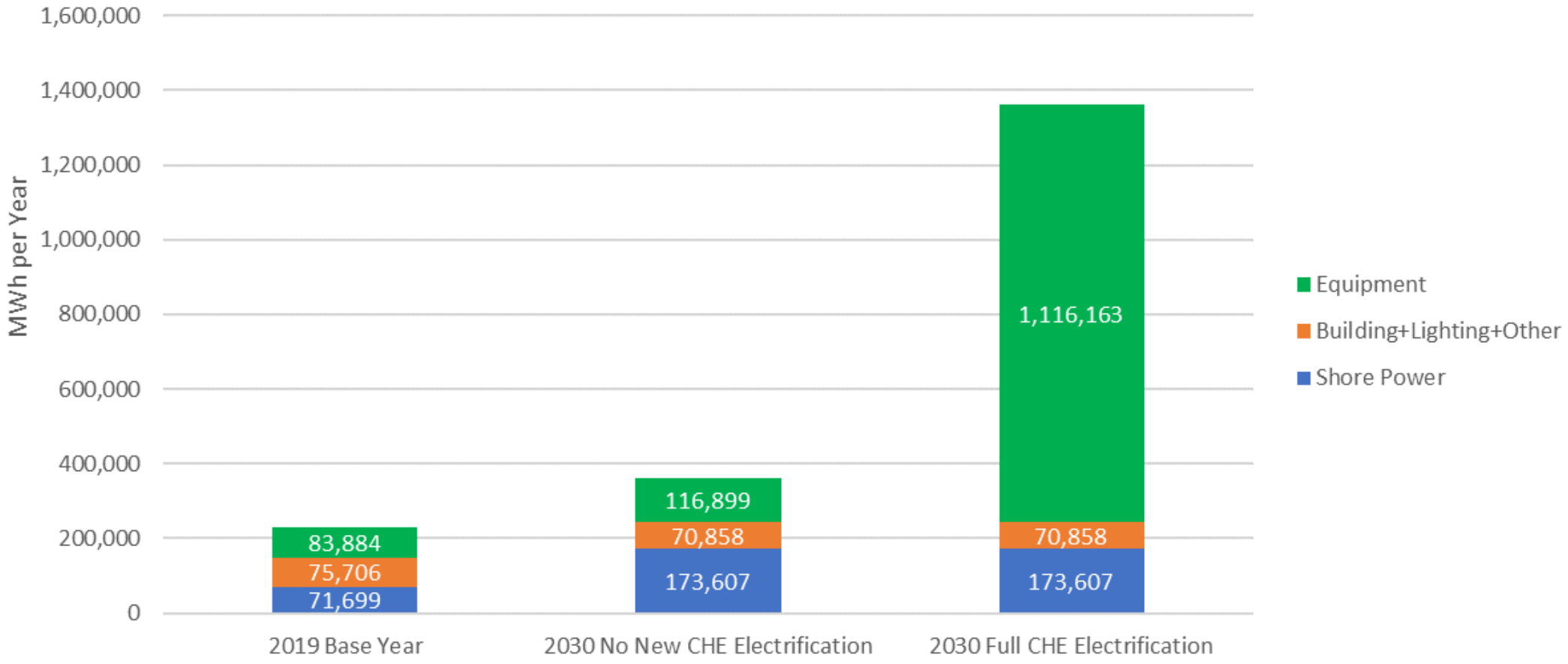
PSRA DID NOT TAKE INTO ACCOUNT:

- Additional demand related to electric dredging (78MW)
- Electrolytic hydrogen production at or near POLB (40MW for 10-acre project)
- Pier Wind (48MW)
- Pier S development
- Harbor Craft
- Short-haul rail locomotive electrification
- Construction equipment electrification

Port of LONG BEACH
THE GREEN PORT

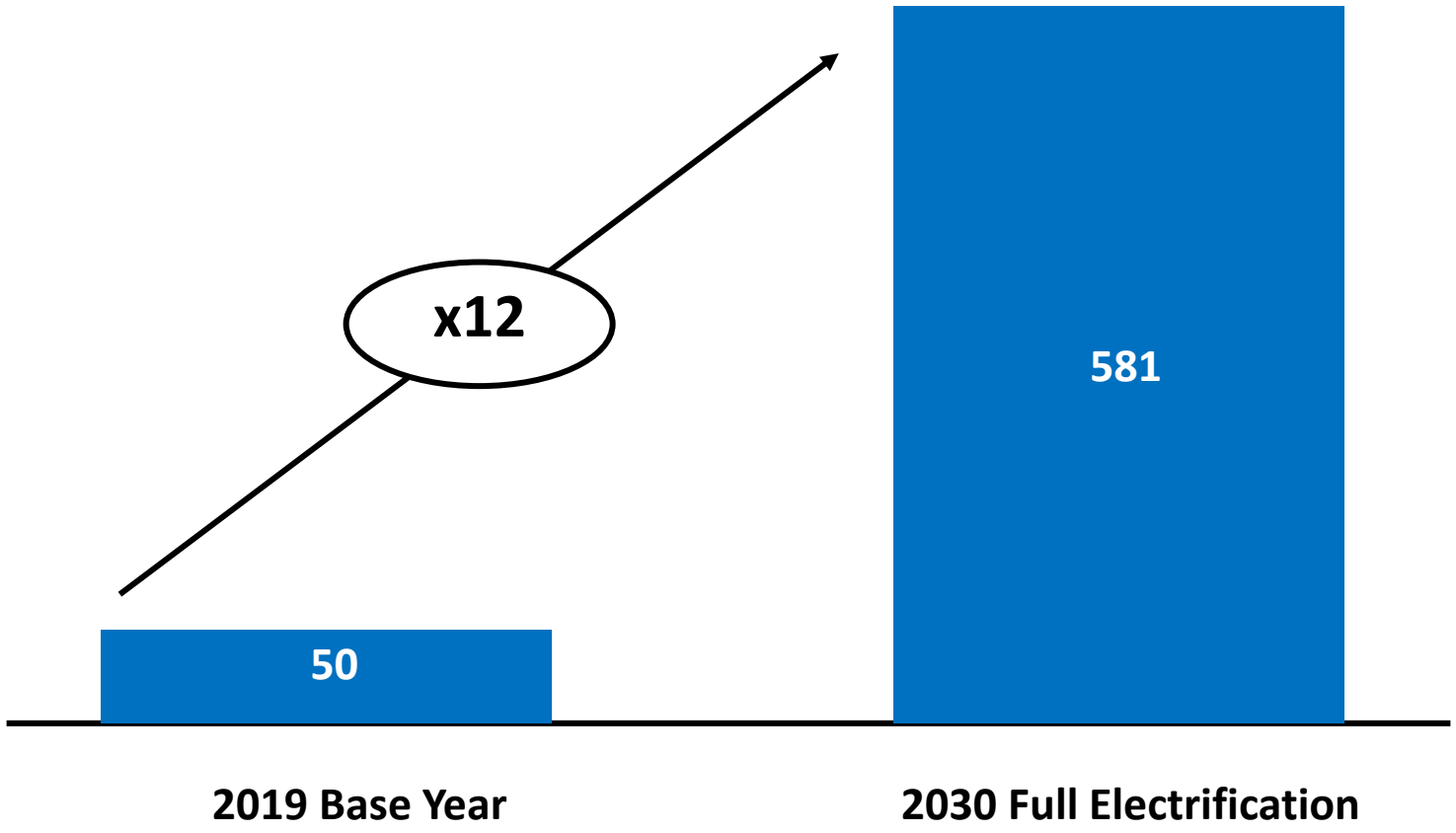
PREDICTED TOTAL ANNUAL ENERGY CONSUMPTION

2030 ENERGY CONSUMPTION (MWh per YEAR)



Port of LONG BEACH THE GREEN PORT

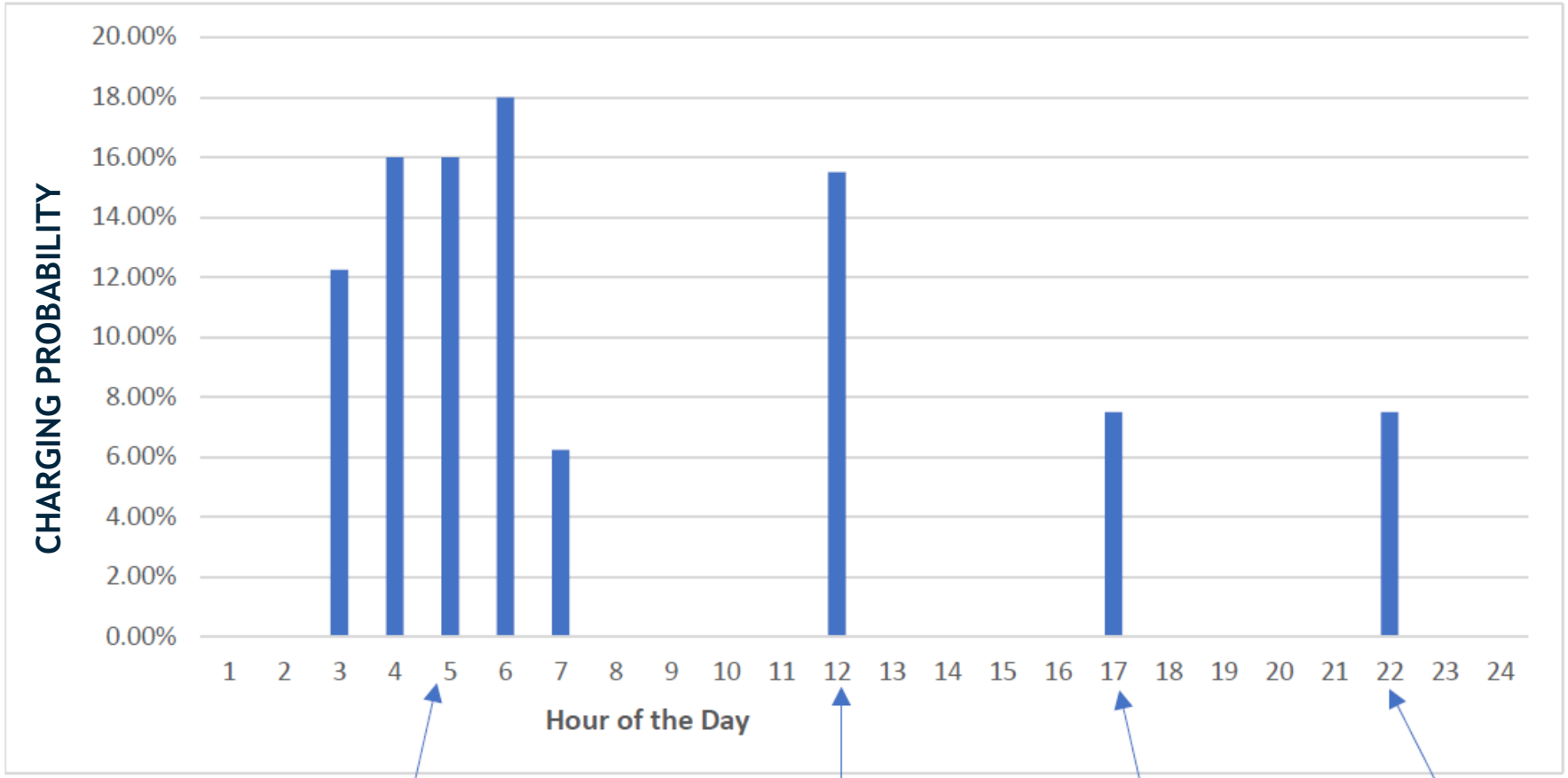
COINCIDENT PEAK POWER DEMAND (MW)



Port of LONG BEACH
THE GREEN PORT

PREDICTED LOAD PROFILES FOR CHE CHARGING*

**Reflects ILWU's contractual work schedule*



Port of LONG BEACH
THE GREEN PORT

2b. Horizon for EV Equipment Adoption

3. CARB Regulatory & Compliance Updates

a. ACF

b. Truck Registrations & Populations

c. Clean Truck Check Requirements

d. ZE Cargo Handling Equipment

e. Commercial Harborcraft and CHE Discrepancies

CALIFORNIA
AIR RESOURCES BOARD

Sustainable Supply Chain Advisory Committee Advanced Clean Fleets Updates

October 2024

CARB Enforcement Notice

- On December 28, 2023, CARB issued an enforcement notice for ACF Regulation
  - CARB will not take enforcement action on drayage or high priority fleet reporting requirements or registration prohibitions until U.S. EPA grants a preemption waiver or determines a waiver is not necessary
  - CARB encourages fleets to voluntarily report and comply while waiver request is pending and reserves all of its rights to enforce ACF Regulation in full for any period for which a waiver is granted or determined to be unnecessary

CARB

Notice Text (https://ww2.arb.ca.gov/sites/default/files/2023-12/231228acfnotice_ADA.pdf)

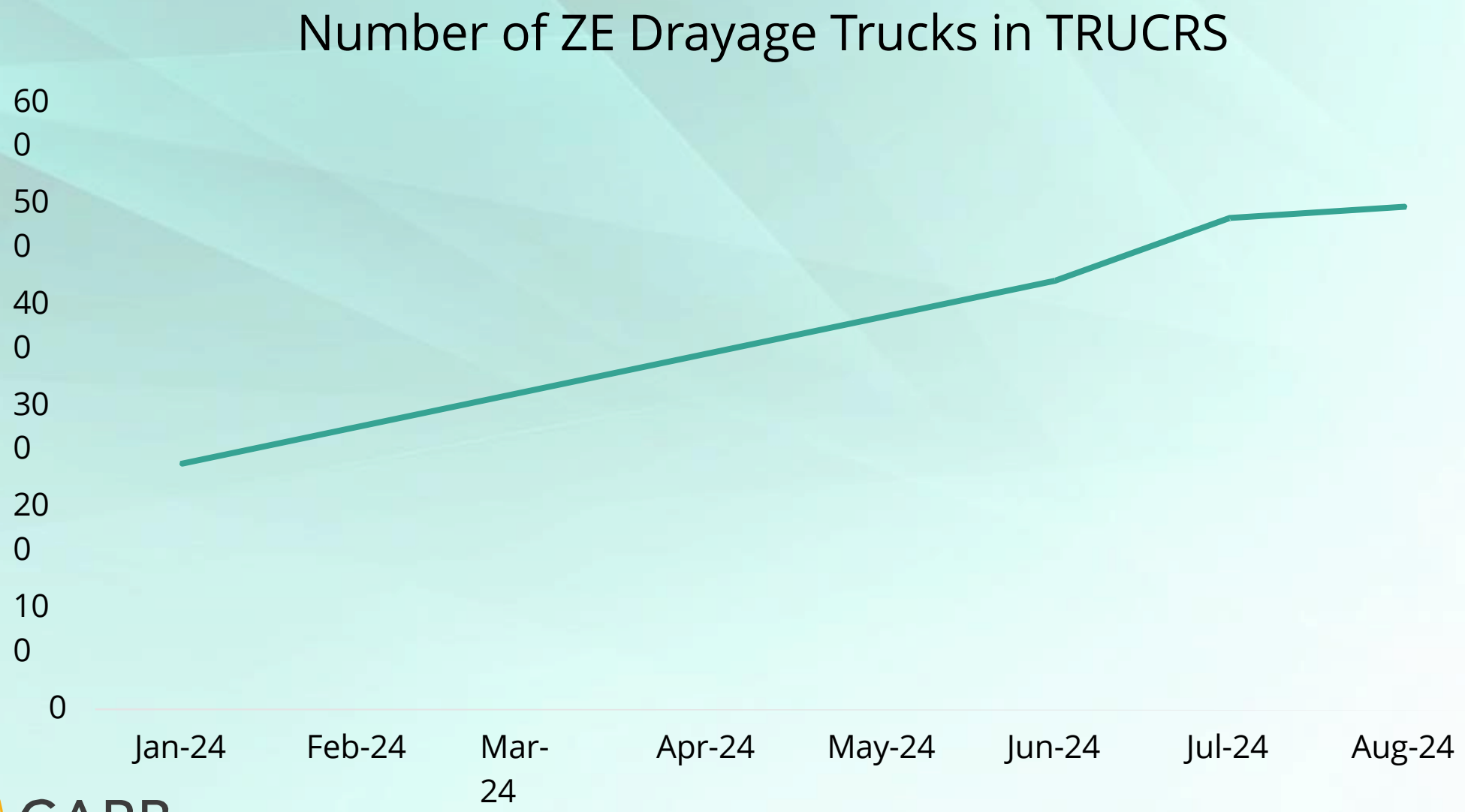
ACF Implementation Progress

- Truck Regulation Implementation Group (TRIG) meetings
  - Border Communities, Infrastructure, Outreach, Rule Provisions
  - Work through implementation issues
  - 16 meetings since January
- Staff are processing exemption and extension requests as they come in
- Reporting system is still open for fleets to report initial California fleet

Statewide Outreach

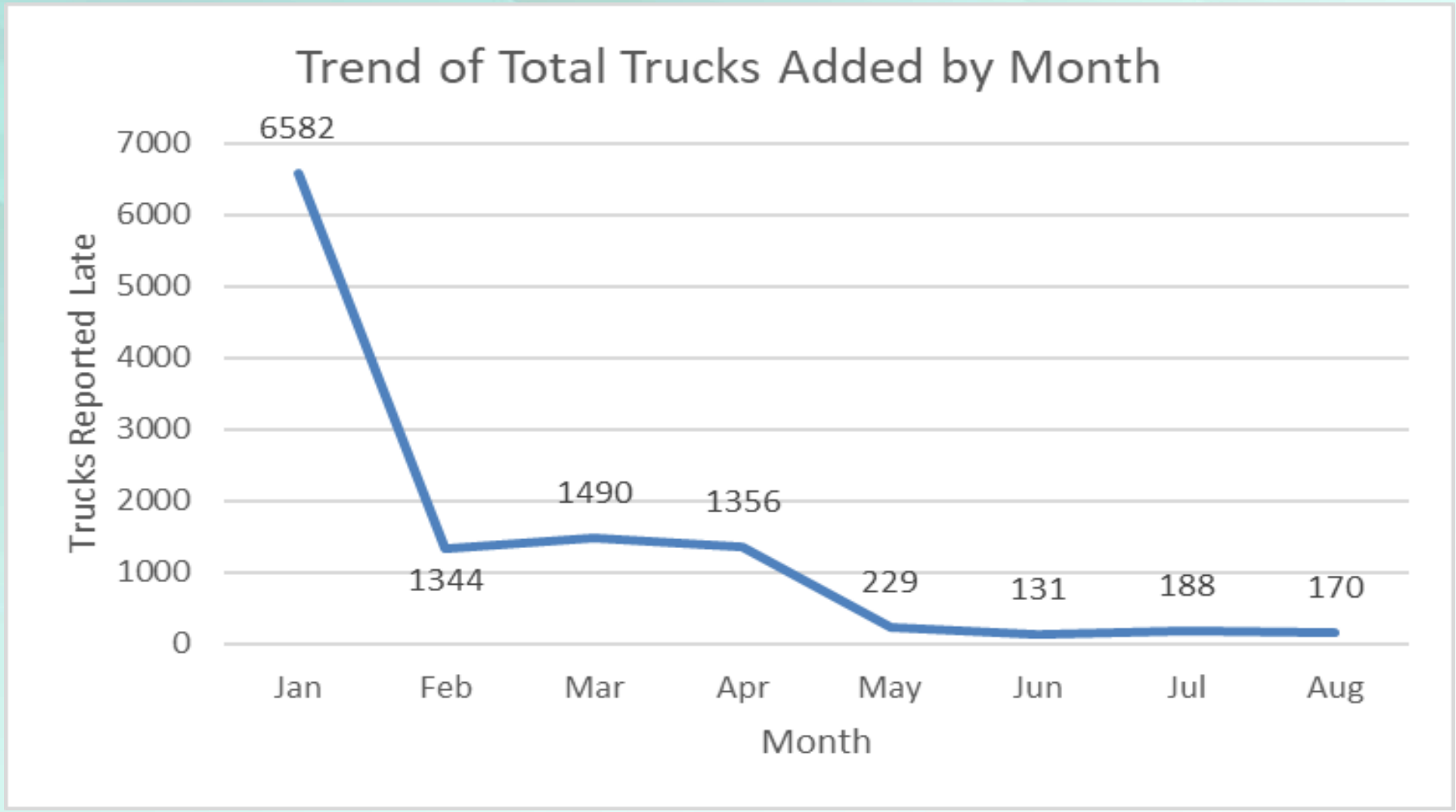
- Truck owners, fleets, ports, and railyards
- One Stop Events
- Presenting at various meetings upon request (e.g., industry associations, community meetings, port outreach committees)

Drayage Progress



CARB

2024 Drayage Truck Additions



CARB

HVIP Voucher Status

Battery Electric Trucks	Total*
BYD 8TT Battery Electric Truck	32
Freightliner eCascadia Battery Electric Truck	120
Kenworth T680E Battery Electric Truck	86
Lion8T Battery Electric Truck	10
Nikola TRE Battery Electric Truck	114
Peterbilt 579 Battery Electric Truck	29
Volvo VNRe Battery Electric Truck	376
	767

Fuel Cell Trucks	Total	Total*
Nikola TRE FCEV Fuel Cell Electric Truck		346
Hyzon HyHD8 Fuel Cell Electric Truck		2
	Total	**348**

*Total number of redeemed and unredeemed vouchers.

CARB

EPA Waiver Status

- CARB submitted waiver on November 17, 2023
- Waiver status still pending
- U.S. EPA public hearing on August 14, 2024
- Public comment period closed on September 16, 2024

CALIFORNIA
AIR RESOURCES BOARD

Clean Truck Check Requirements Overview

Sustainable Supply Chain Advisory Committee

October 22, 2024

Beth White
Clean Truck Check Implementation Oversight

Clean Truck Check Timeline

JANUARY 2023

High Emitter Vehicle Screening

Potential high-emitter vehicle screening using REMD and CARB Enforcement

OCTOBER 2023

Reporting in Clean Truck Check Database

Complete owner and vehicle reporting in database (CTC-VIS)

Pay annual vehicle compliance fee

APRIL 2024

CA DMV Registration Holds

Resolve all vehicle registration holds (DMV/CARB enforcement)

OCTOBER 2024

Emissions Testing Requirements

Emissions compliance testing deadlines start January 2025

Passing test can be submitted up to 90 days before a vehicle's compliance deadline

CLEAN TRUCK CHECK

Freight Facilities (Ports & Railyards)

- Required to check compliance of vehicles or fleets prior to entry
- Good compliance rate (data)
- Non-compliant vehicles risk being denied entry
  - Launch November 19
  - Implementation Plan

CARB

Emissions Compliance Testing

- Effective Date: October 1, 2024
- Deadlines begin January 1, 2025

- Testing Deadlines shown in CTC-VIS
- Testers can now create accounts

CARB

CLEAN TRUCK CHECK

Clean Truck Check Test Submission

- OBD test results uploaded to CTC-VIS through OBD device
- Non-OBD test result submissions
  - non-obd-test-submission@arb.ca.gov
  - Rejected if not use current visual inspection form
    - April 2024
  - Goal to integrate into CTC-VIS in 2025

CARB

Resources

- Clean Truck Check Program Page
- hdim@arb.ca.gov
- Hotline (866) 634-3735

Questions

CARB

4. Conclusion & Next Steps

a. Member Updates

b. Topics and Goals

c. 2025 Schedule

4b. Topics and Goals

a. Hydrogen Infrastructure

b. Funding Landscape

c. Rail projects' regional impacts

d. Workforce & Community Engagement

e. Near-Zero Solutions

f. Regulatory Landscape