



## *Meeting No. 2022-58*

### **San Pedro Bay Ports Sustainable Supply Chain Advisory Committee *November Meeting Summary***

**Date:** November 16<sup>th</sup>, 2022 | 1:00 pm – 4:00 pm

**Location:** Via Zoom conference

**Attachments:** Attachment A - Attendees  
Attachment B - Meeting Agenda  
Attachment C - Presentation - Committee Meeting  
Attachment D – Summary of Locomotive Discussion from July 2022

#### ***Meeting Summary***

##### 1. Port Opening Remarks

The ports addressed the below agenda (items 1a–1c) over the course of their remarks. See agenda item references in parenthesis.

- a. Emissions Inventory
- b. Clean Truck Program
- c. GoBIZ Response to Hydrogen Hub Solicitation
- d. Staff reported that cargo volumes have been very low over the last several weeks and that the ports anticipate that these volumes will continue to drop, resulting in overall 2022 volumes being less than or approximately equal to 2021 volumes. Meanwhile, their joint Green Shipping Corridor program has continued to advance, adding a partnership with Singapore to work on data management tools and processes.
  - i. HTA asked whether the drop in cargo was impacting the Clean Truck Program’s (CTP) ability to meet its revenue targets and POLB advised that the program still expects to meet its 2022 ~\$90 million target (~\$45M/port) even with the drop in cargo. **(1b)**
  - ii. POLA staff reported that the CTP’s first disbursement, which opened in October with \$5 million in vehicle vouchers, received no applicants. **(1b)** They are working with partners including the Port of Long Beach to understand this market signal. Member HTA commented that the lack of fueling/charging infrastructure is a leading barrier – the inability to fuel/charge a new vehicle is preventing drivers and operators from placing orders.
- e. Port staff reported that the state’s organizing entity ARCHES submitted California’s concept paper in early November and that while the full details are not available the ports were confident in the focused attention it gave to marine ports. **(1c)**
- f. POLB shared that it received a \$30 million grant to support deployment of 60 battery electric yard trucks at the LBCT terminal.



- g. Member CCA commented that CalSTA has between \$840 million and \$1.2 billion in infrastructure funding currently available, with a proposal deadline of January 13, 2023. CCA asked what the ports were proposing and how they were preparing to secure as much of this as possible.
- i. Port staff advised that 70% of the \$1.2 billion has been allocated to the San Pedro Bay Ports for port and freight infrastructure investments but that the program is intended to support the freight system state-wide, not just port operations. Each port has a list of projects for which they are pursuing funding and their teams will be discussing these projects and opportunities. Meanwhile, broader discussions are also happening, and more are needed across the state to address all components of system efficiency. Staff added that the departments of transportation and energy are trying to “rack-and-stack” projects to address priorities of equity, climate and supply chain concerns, and that deeper discussions on approach and execution are about to begin. Staff noted that there is a lot of competitive interest in this funding.
    - CCA expressed appreciation for the list of priorities, and the ports added that their project efforts anticipate continued cargo volume growth despite the most recent downtick.
  - ii. EarthJustice requested a non-obligatory meeting for the SSCAC members and the ports to understand what specific projects the ports are pursuing. **Port staff agreed to have a separate meeting in the next six-to-eight weeks to provide more information and requested that GNA set up a call open to all members.**
- h. POLB updated the Committee on its three truck charging facilities. It has executed its contracts for two projects, one with WattEV and another with a partnership of 4Gen, Duncan & Sons and Electrify America, and is now working with the utility (SoCal Edison) to prepare the leased sites for installation and operation. These two sites will collectively provide 85 chargers. A third facility will be proposed through a RFP in early 2023, which the port expects to support opportunity and overnight charging needs for drayage trucks. The total number of chargers at that site will be determined in the awarded contract later next year. Separately, the port will host a press event on Friday November 18<sup>th</sup> to open two truck chargers installed under a ZANZEFF grant on the port’s property. Port staff commented that these collective investments are expected to support needs in the near-term but do not address or dismiss the greater need for a broad, regional approach to provide sufficient power for drayage trucks.
- i. Observing that most of the SSCAC audience had attended an in-depth presentation of the 2021 emissions inventory (**1a**) earlier in the quarter, port staff provided a high-level summary of the results (**Attachment C**). The findings showed a significant increase in emissions resulting from the supply chain congestion crisis during the covered time period. Port staff reminded the audience that during 2021 their demonstration projects and investments for clean technologies continued to move forward and they remain committed to meeting their 2030 and 2035 goals under the CAAP. The following metrics were reported:
- i. Compared to 2020, emissions increased for all pollutant categories across the combined ports: DPM by 50%, NOx by 44%, SOx by 75%, and GHG by 37%; cargo volume up 16%.



- ii. Compared to 2005, emissions increased for GHG only: DPM down 86%, NOx down 46%, SOx down 95%, and GHG up 22%; cargo volume up 41%.

The ports commented that the increase in emissions was largely due to increased dwell times by ships-at-berth and at-anchor, and increased activity times for cargo handling equipment (CHE) and drayage trucks due to on-dock stack congestion. Additionally, in the summer and fall, heat wave events had triggered grid instability, forcing ships to rely on their diesel generators for a multi-day period.

2. Review & Approve September Meeting Summary
  - a. Acknowledging that HTA had been unable to participate in the September meeting, representative Matt Schrap commented that the zero-emission drayage truck price referenced in the discussion with the California Trucking Association reflected incentives and did not reflect the most recent out-the-door quotes that its members have received. Rather than costing over \$300,000 per battery electric truck, HTA advised the Committee that truck prices are around \$550,000 “out the door” (including taxes) and that this difference is meaningful for understanding truck industry behavior. **GNA agreed to update the September summary with a footnote to direct readers to this summary.** The September summary was approved with this update.
3. SSCAC Member Priorities & Activities
  - a. HTA invited the group to attend its holiday party in Long Beach on December 14<sup>th</sup>.
4. Review & Approve Recommendations
  - a. POLB Management of the Queen Mary
    - i. Port staff and Committee members discussed and agreed upon several edits to the language for accuracy. GNA updated the draft document.
    - ii. South Coast AQMD observed that the recommendation implied that the port would borrow \$500,000 over 10 years to support the Queen Mary but that the port had not verbalized an equivalent commitment to the Clean Air Action Plan (CAAP). South Coast AQMD asked whether an equivalent commitment needed to be made to emphasize that air quality is a priority concern. PMSA shared that the ports have not published a budget illustrating how they will accomplish their clean air projects and that the recommendation intends to ensure that the CAAP is a clear priority as it considers other large investments.
      - South Coast AQMD expressed concern that other projects that the ports invest in for clean air are dwarfed by non-clean air investments. If the Queen Mary were adopted by the port, these projects might be at risk. South Coast AQMD suggested that the recommendation should explicitly protect the ports’ clean air projects. PMSA agreed that these risks exist but advised that the recommendation would not specify each project because it aims to cover all possible and future projects as well as those existing projects, all of which are considered under the CAAP umbrella. ILWU agreed that naming the CAAP in the recommendation is important to cover all relevant projects.
      - South Coast AQMD remained concerned that the language could be interpreted as indicating that the ports have a choice – to borrow \$500 million for the CAAP or for the Queen Mary. POLB staff advised that their financial team is in the process of quantifying the funds that will be needed to meet their CAAP obligations, but they don’t have a concrete



figure at this time. POLA added that they are in a similar position and are currently evaluating some \$300-\$400 million in electrification projects.

- PMSA clarified for South Coast AQMD that the Harbor Commission would be voting on the proposal to adopt the Queen Mary. EarthJustice and CCA proposed some language revisions to avoid any confusion about how funds may be used or diverted and avoid any perceptions of a tradeoff. FuturePorts commented that it makes sense to clearly present the implications of spending \$500 million or more to make the vessel operable and risking the hard work that the ports have put in on clean technologies. FuturePorts added that it would require approval from its board on the proposed SSCAC recommendation and that it would work to move this forward as quickly as possible.
- iii. GNA agreed to make the edits discussed and coordinate with South Coast AQMD as needed, and then circulate the refreshed draft for member review and approval.

## 5. CARB Update

### a. ACF Rule

- i. CARB staff summarized this rule's progress, noting that it is preparing to submit its final proposal to the board in the spring (date not determined) at which point it plans to ask for a vote. Once approved by the board, the rule will then begin the OAL review and is expected to become effective in January 2024.
- ii. Referring to the drayage truck industry, staff reported that drayage trucks whose engines meet the eligibility terms must register with the state's registry by the end of 2023. These vehicles will be treated as legacy vehicles and allowed to operate until the end of their useful lives. Beginning in 2024, all new trucks submitted for registration must be zero emission. Beginning in 2035, all drayage trucks that are active in the registry must be zero-emission. Further requirements by truck and fleet type were presented in the agency's slides (**Attachment C**).
- iii. Member CCA cited Appendix F of CARB's supporting material for the rule, "Emissions Inventory and Results", and asked CARB to clarify why the total number of diesel trucks expected to be on the road in 2050 (approximately 180,000) is more than half of the amount forecasted for 2024 (approximately 250,000 trucks). CARB noted that the inventory accounts for economic and population growth and the agency identifies that most of the growth will be covered by zero emission vehicles. However, staff shared that CARB's advisory board has asked for a rulemaking after the ACF rule is approved that will resolve the diesel truck population.
- iv. HTA asked how CARB is addressing the delays in public charging infrastructure development. CARB stated that this is not their focus at this point of rulemaking for the ACF, but that they are requesting regular updates from the industry.
- v. Member ILWU commented that efficiency is key for the state and that lots of job opportunities are available in the synergy between truck and rail. ILWU recommended that investments support inland port-supporting projects such as rail projects in Mojave and Barstow. HTA reminded the group that these



investments have to address the fueling and charging needs of trucks moving cargo at each end of the rail operation, even if rail fueling and charging solutions can be met elsewhere. ILWU agreed and passed along a takeaway from a recent hydrogen convention that power supplies are “not there yet” for either electric or hydrogen solutions.

- vi. HTA flagged that end-of-year deadlines are approaching for the pre-2010 engines which currently perform 20% of full container moves in the ports, and that these vehicles will likely be sold or continue doing business in neighboring states and even overseas. HTA noted that drivers are increasingly concerned about being “caught” with engines that may not be considered legal in 2023 under a state program. CARB confirmed that 2007 and 2009 engines will not be considered legal to operate starting in 2023. Mayor Eric Garcetti’s office recommended that CARB create a scrappage program to avoid moving the emissions to other markets.
  - PMSA voiced confusion over the exemption timelines and notification systems between CARB and the ports. CARB clarified that drivers who purchased a qualifying zero-emission truck before September 1<sup>st</sup>, 2022, can notify CARB and will be allowed to operate their current non-zero-emission truck until the new vehicle arrives. However, if an operator has not ordered a qualifying vehicle and continues to operate an ineligible engine after January 15<sup>th</sup>, 2023, then it will be pulled over. CARB will be posting an Excel file listing qualified trucks for the ports on a regular basis until their more sophisticated software-based system is fully launched.
  - Port staff added that they will be operating a red light-green light system starting on January 1<sup>st</sup>, 2023, which will determine trucks’ eligibility based on the list provided by CARB. They are also working with CARB to ensure that the exemption list is accurate. This procedure for knowledge transfer is currently being tested and is on track for deployment at the turn of the year.
  - CCA asked whether the ports have a plan to fill the 20% of truck move requirements that may be lost when the older engine models become ineligible. HTA noted that 80% of the current active fleet of approximately 16,000 trucks still have to be able to do the work to meet the ports’ current load. The dropping cargo volumes have led to mixed indicators from retailers about whether to continue operating through the ports. Meanwhile, those members who have applied for the exemption reported that the process moved very quickly, and that they knew whether they were covered by the exemption often on the same day. Looking ahead, the impact of the state’s rule in the near term on the ports’ drayage activity is expected to be uncomfortable but not severe.
- b. Heavy-Duty Inspection and Maintenance Program
  - i. Beginning in 2023 CARB will begin screening high emitting vehicles with the PEAQS monitoring system to confirm compliance with state emissions standards; compliance will be linked to state registration status. Some



exemption pathways are provided (**Attachment C**). In mid-2023 CARB's rule will enter its second phase of owner reporting. Periodic testing will be introduced in 2024 under phase 3. HTA confirmed with CARB that the rule applied to 2012 and earlier engines as opposed to trucks.

c. Harbor Craft Rule

- i. CARB staff presented a summary of the recently approved rule which requires that all commercial harbor craft (CHC) upgrade to Tier 3 engines and add diesel particulate filters (DPF). Amendments incorporated into the rule also require that new excursion vessels introduced in or after 2025 be capable of zero emission performance and short-run ferries meet a zero-emission standard by 2026. Exemptions for conditions such as delayed infrastructure or limited manufacturer capacity are available, and a credit system can support operators achieving emissions reductions in other areas of their business.
- ii. Harbor craft operators are also required to begin using renewable diesel starting January 1<sup>st</sup>, 2023.
- iii. The rule is currently going through the OAL process but is on track for full adoption by the end of 2022. To support the industry, CARB is preparing fact sheets to help operators comply with the rule but could not provide specifics on when these would be released. Staff said that the board hearing on November 17<sup>th</sup> would likely address several questions that the agency had received about implementation, including details on the distribution of \$60 million in funding support.
- iv. EarthJustice asked whether the Committee could make a recommendation to the ports to work with appropriate companies and entities on developing well-scoped zero emission vessel and infrastructure projects. *GNA agreed to connect with EarthJustice on this topic. GNA added that it would review fact sheets released by CARB to inform this discussion.*
- v. POLA staff reported that they have been unable to support their tenants and harbor craft partners because the fact sheets are not available. In the meantime, staff asked CARB to advise on the timeline for launching an online reporting system and issuing unique IDs.
  - CARB said it has not selected an online reporting system yet but is working to contract with a provider. In the meantime, it will release an excel template for operators to use and submit data as necessary.
  - The unique IDs will be issued before or after the reporting system is posted on March 1, but the exact approach has not been identified. Responding to POLA's comment that wharfingers currently have no way to track the information that is requested, CARB pointed out that they have until January 1<sup>st</sup>, 2024, to display their ID information on their vessels. CARB was unable to advise whether this might impact operators' annual permit application process.

d. Project 800

- i. The appropriate CARB staff was unable to attend this meeting to a scheduling conflict but welcomed the Committee to contact them with any questions. Meanwhile, the group was directed to the posted funding plan on CARB's website.



## 6. South Coast AQMD ISR Update

### a. Port and Rail ISR

- i. South Coast has been conducting site visits, stakeholder meetings, and working groups as part of the early development process for this ISR. It is taking emissions inventories and methodologies into account.
- ii. The first concept has been produced under Rule 2306 and would apply to owners and operators for new intermodal rail yards. Staff flagged that this often overlaps with land use agencies who are the property owners, and so the agency is developing the rule to apply to rail owners and operators as well as land use authorities. Staff outlined several components that it is considering:
  - Facility-specific mass emissions caps that align with the methods used by CARB as well as the ports
  - Fueling/charging infrastructure sufficiency for 100% zero emission operations for CHE, eTRUs, switchers, and other mobile sources
  - Overall, a rule that provides for synchronous reporting and compliance methods for facilities regulated by multiple rules

### b. Warehouse ISR

- i. South Coast AQMD staff reminded the group that 2022 was this rule's first compliance year, and the first three years are designed as phase-in periods where rule stringency increases with each subsequent year.
- ii. In the last year, the warehouse population has increased from 3,320 to 3,476, and South Coast AQMD anticipates that the growth trend will continue. As the population of regulated entities has grown, South Coast AQMD has worked to improve communication and outreach efforts as well as program capacity to handle incoming questions and reports. Many regulated entities were unaware of the rule and their obligations, so flexibility with deadlines and provision of more explicit guidance has been necessary.
- iii. In the first year, use of zero emission yard trucks accounted for the greatest number of "points" (60%). Class 8 truck visits comprised 16% of awarded points.
- iv. Speaking to the ISR efforts broadly, staff notified the Committee that it is developing ISRs for the marine, rail and existing rail segments.

### c. Air Quality Management Plan

- i. South Coast AQMD will bring its strategy to achieve attainment by 2037 to the board in December; its final draft will be released within one week from this meeting. The strategy will be considered by CARB for inclusion in its State Improvement Plan (SIP) before being passed to the EPA for consideration. Per current conditions, an 83% reduction in emissions from the 2018 baseline is required, or 67% from the forecasted 2037 emissions under a business-as-usual scenario. South Coast emphasized that truly innovative methods are required; cleaner liquid fuels, for example, are insufficient.

## 7. Discussion: Committee Action on Locomotives

- a. Pointing to the circulated summary of the Committee's July discussion about locomotives (**Attachment D**), GNA asked the group whether there were additional considerations or actions that the group could take to address the concerns raised by the industry and the ports.





**Attachment A**  
List of Meeting Participants

<b>SSCAC Committee Members</b>	
Marnie Primmer	FuturePorts
Erin Gardner	FuturePorts
Michele Grubbs	PMSA
Thomas Jelenic	PMSA
Aaron Katzenstein	South Coast AQMD
Richard Boyd	CARB
Joe Lyou	CCA
Chris Chavez	CCA
Stella Ursua	Grid Alternatives
Sal DiCostanzo	ILWU-13
Adrian Martinez	EarthJustice
Michelle Vater	CEC
Louis Dominguez	San Pedro Neighborhood Council
Matt Schrap	Harbor Trucking Association
<b>Los Angeles Port &amp; City Staff</b>	
Amber Coluso	Port of Los Angeles
Chris Cannon	Port of Los Angeles
David Libatique	Port of Los Angeles
Erick Martell	Port of Los Angeles
Michael Samulon	Mayor Eric Garcetti's Office
David Ou	Mayor Eric Garcetti's Office
Robert Park	City of Los Angeles
<b>Long Beach Port &amp; City Staff</b>	
Heather Tomley	Port of Long Beach
Henry Senerdjian	Port of Long Beach
Sara Baumann	Port of Long Beach
Sam Joumblat	Port of Long Beach
Rose Szoke	Port of Long Beach
<b>Meeting Facilitation Staff</b>	
Patrick Couch	GNA
Eleanor Johnstone	GNA
Christopher Davis	GNA
Erik Neandross	GNA
<b>Other Stakeholders</b>	



Ian MacMillan	South Coast AQMD
Mei Wang	South Coast AQMD
Hung-Li Chang	CARB
Melissa Houchin	CARB
Tony Brasil	CARB
Regina Hsu	EarthJustice



## **Attachment B**

### **Meeting Agenda**

1. Port Opening Remarks
  - a. 2021 Emissions Inventory
  - b. Clean Truck Program
  - c. GoBIZ Response to Hydrogen Hub Solicitation
2. Review & Approve September Meeting Summary
3. SSCAC Member Priorities & Activities
4. Review & Approve Recommendations
  - a. POLB Management of the Queen Mary
5. CARB Update
  - a. ACF Rule
  - b. Heavy-Duty Inspection and Maintenance Program
  - c. Harbor Craft Rule
  - d. Project 800
6. South Coast AQMD ISR Update
  - a. Port ISR
  - b. Warehouse ISR
  - c. Air Quality Management Plan
7. Discussion: Committee Action on Locomotives
8. Discussion: Committee Agenda for 2023
  - a. Recap of 2022 Meetings
  - b. Outstanding items and topics
  - c. Proposed topics and activities for 2023
9. Conclusion & Next Steps
  - a. 2023 Meeting Dates



**Attachment C**  
Presentation - Committee Meeting

# San Pedro Bay Ports

## Sustainable Supply Chain Advisory Committee Meeting

November 16<sup>th</sup>, 2022



# Agenda

1. Port Opening Remarks
  1. 2021 Emissions Inventory
  2. Clean Truck Program
  3. GoBIZ Response to H2 Hub Solicitation
2. Review & Approve September Meeting Summary
3. SSCAC Member Priorities & Activities
4. Review & Approve Recommendation
  1. POLB Management of the Queen Mary
5. CARB Update
  - a. Advanced Clean Fleets Rule
  - b. Heavy-Duty Inspection and Maintenance Program
  - c. Harbor Craft Rule
  - d. Project 800
6. SCAQMD Updates
  - a. Port ISR
  - b. Warehouse ISR
  - c. Air Quality Management Plan
7. Discussion: Action on Locomotives
8. Discussion: Committee Agenda for 2023
  1. Recap of 2022 Meetings
  2. Outstanding requests from 2022
  3. Proposed topics and activities for 2023
9. Conclusion
  - a. 2023 Meeting Dates

# 1. Port Opening Remarks

- a) 2021 Emissions Inventory
- b) Clean Truck Program
- c) GoBIZ Response to Hydrogen Hub Solicitation





SAN PEDRO BAY PORTS  
**CLEAN AIR ACTION PLAN**

**2021 San Pedro Bay Ports  
Air Emissions Inventory Results**



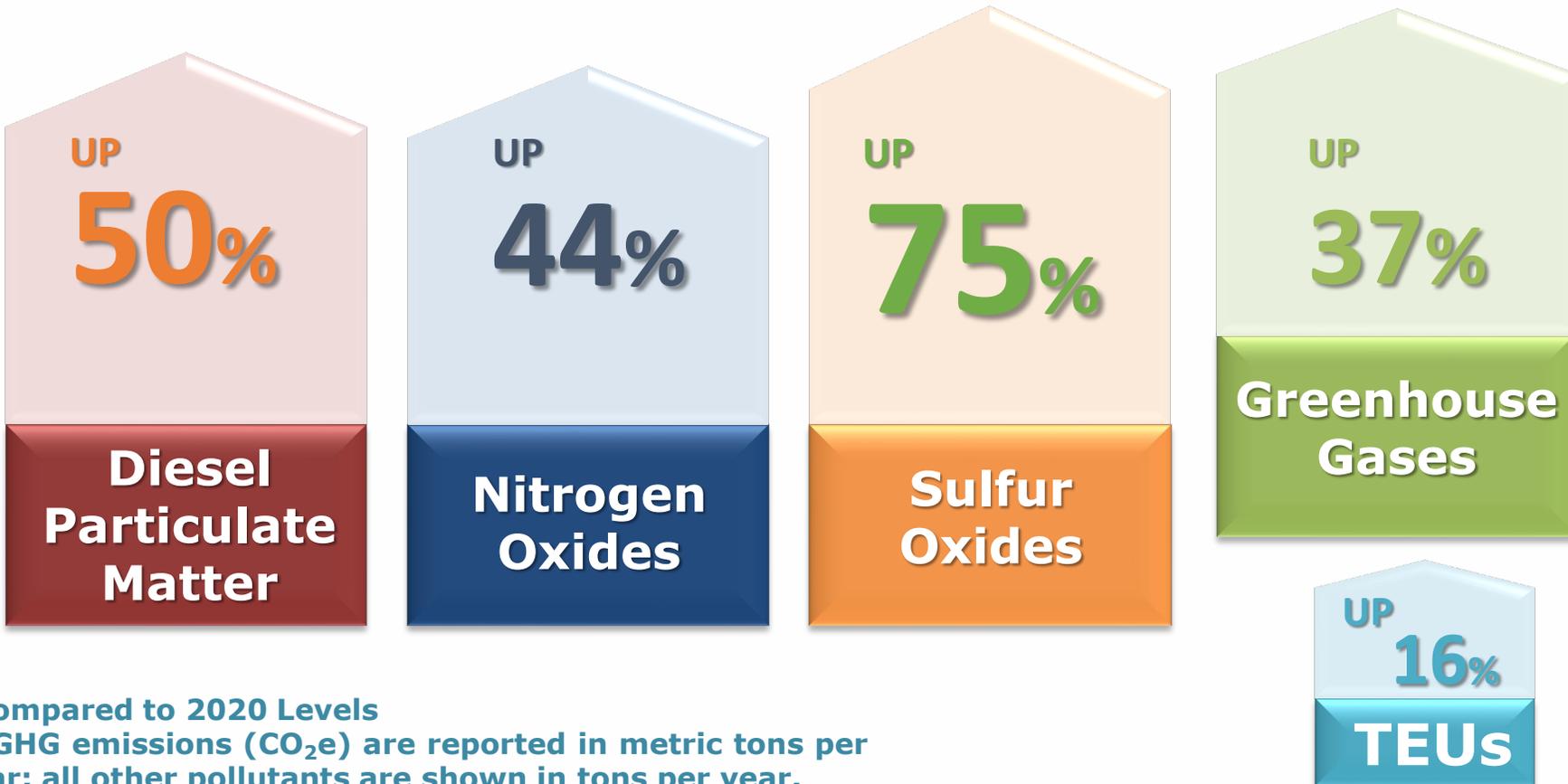
# 2021 Snapshot

Peak disruption to the supply chain, largely due to COVID-19, resulted in:

- Increased cargo throughput
- Large number of vessels at anchorage
- Longer stays at berth and at anchorage
- Increased usage activity of CHE, harbor craft, and trucks
- Other factors affecting 2021 emissions include:
  - Energy Emergency Alert impacting shore power
  - Improved emissions efficiency due to larger ships visiting



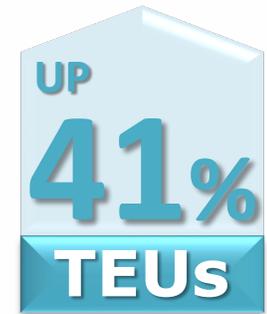
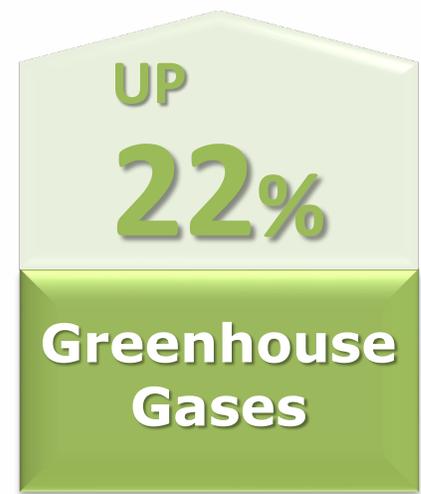
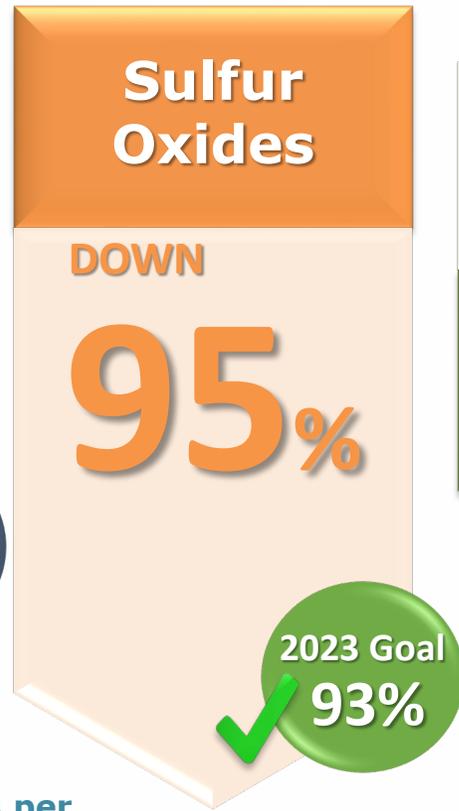
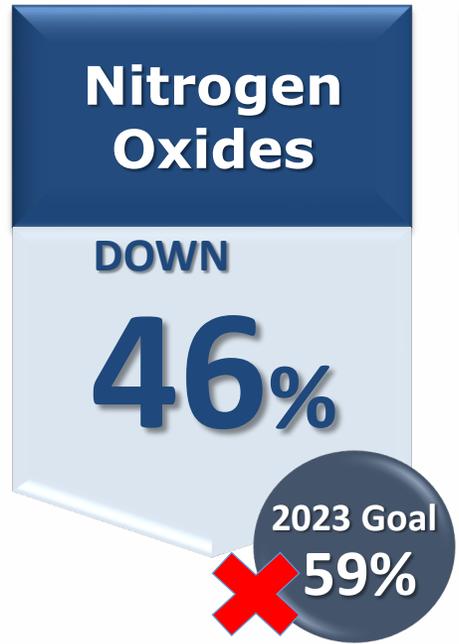
# SPBP 2021 Air Emissions vs. 2020



\*Compared to 2020 Levels  
\*\*GHG emissions (CO<sub>2</sub>e) are reported in metric tons per year; all other pollutants are shown in tons per year.



# SPBP 2021 Air Emissions vs. 2005



\*Compared to 2005 Levels  
 \*\*GHG emissions (CO<sub>2</sub>e) are reported in metric tons per year; all other pollutants are shown in tons per year.

An aerial photograph of the Port of Long Beach, showing a large harbor with numerous piers, docks, and shipping containers. The city of Long Beach is visible in the foreground and background. A semi-transparent teal banner is overlaid across the center of the image, containing the text "Thank you!".

Thank you!

# 1. Port Opening Remarks

- a) 2021 Emissions Inventory
- b) Clean Truck Program
- c) GoBIZ Response to Hydrogen Hub Solicitation



## 2. Review & Approve September Meeting Summary

### 3. SSCAC Member Priorities & Activities

# 4. Review & Approve Recommendation

a) POLB Management of the Queen Mary

# 5. CARB Update

- a. Advanced Clean Fleets Rule
- b. Heavy-Duty Inspection and Maintenance Program
- c. Harbor Craft Rule
- d. Project 800



# Advanced Clean Fleets Regulation Summary

Sustainable Supply Chain Advisory Committee Meeting  
Tony Brasil, Chief, Transportation and Clean Technology Branch  
November 16, 2022

## 100% ZEV Sales by 2040

Starting 2040, all Class 2b-8 vehicles sold into California must be ZEVs

- Provides certainty to the market and supply chain for manufacturers, fleets, infrastructure providers, service technicians, partner agencies, and local governments
- Expands market choice

# Drayage Trucks Requirements

Applies to Class 7-8 on-road trucks operating at California's seaports and intermodal railyards



Legacy Trucks:

- May operate until the end of their useful life
- Must visit a regulated seaport or railyard at least once a year



## High Priority and Federal Fleets

### Affected businesses

Fleets with 50+ vehicles, including common ownership and control

Fleets with >\$50 million in annual revenue

Federal government fleets

Entities that hire or dispatch fleets

### Affected vehicles

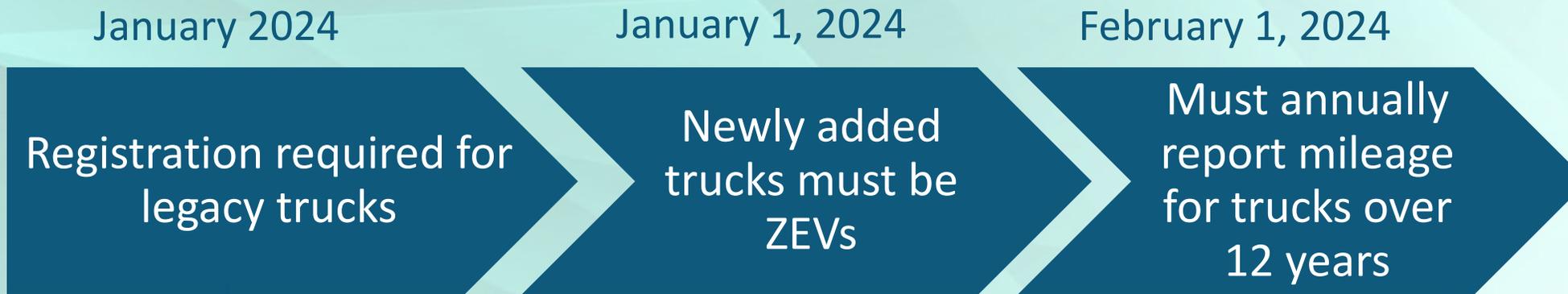
Class 2b-8 vehicles

Off-road yard tractors

Light-duty delivery vehicles



## Model Year Schedule Requirements



### Legacy Trucks:

- May operate until the end of their useful life
- May use certain exemptions or extensions



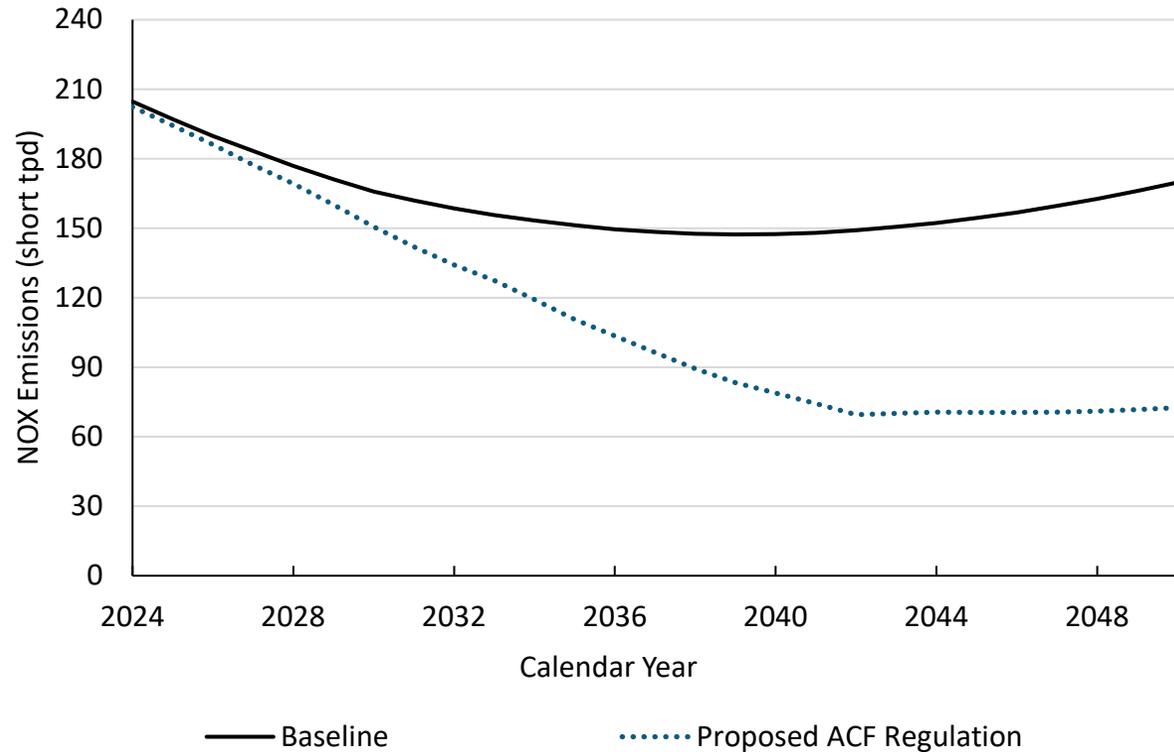
## Optional ZEV Milestone Phase-in

- Meet ZEV milestones as a percent of total fleet
- Phase-in based on vehicle type
- Flexibility to meet with any vehicle type

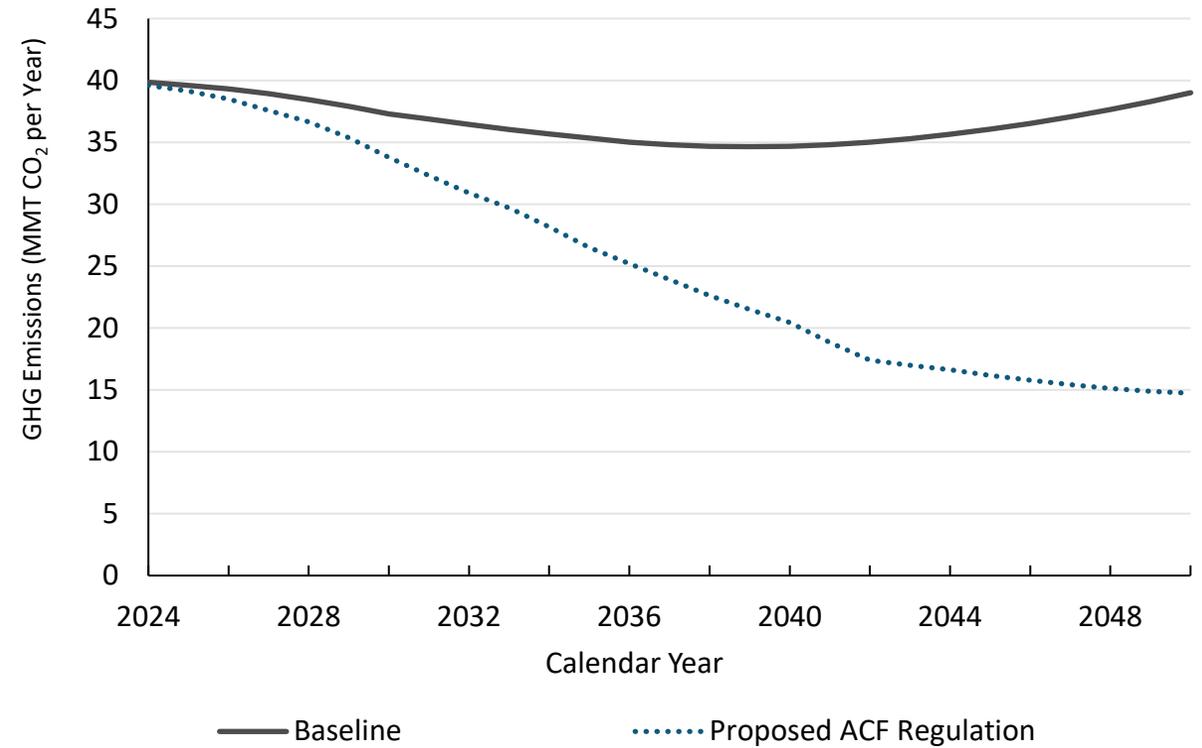
Zero-Emission Fleet Percentage	10%	25%	50%	75%	100%
Box trucks, vans, two-axle buses, yard trucks, light-duty package delivery vehicles	2025	2028	2031	2033	2035
Work trucks, day cab tractors, three-axle buses	2027	2030	2033	2036	2039
Sleeper cab tractors and specialty vehicles	2030	2033	2036	2039	2042

## Emission Results

# NOx Emissions Drop 35% by 2037



# GHG Emissions Drop 41% by 2040



## Extensions and Exemptions

Drayage Fleets

Vehicle Delivery  
Delay

Infrastructure  
Construction Delay

High Priority Fleets

ZEV Unavailability

Daily Usage

Vehicle Delivery  
Delay

Infrastructure  
Construction Delay

Backup Vehicle

Mutual Aid

Rental Vehicles

State and Government  
Fleets

ZEV Unavailability

Daily Usage

Infrastructure  
Construction Delay

Backup Vehicle

Mutual Aid

## Next Steps

Workgroup meetings Winter

Proposed modifications released for comment Winter/Spring

Second hearing in Spring 2023

## b. Heavy-Duty Inspection and Maintenance Program



**Heavy-Duty Inspection and  
Maintenance (HD I/M) Regulation  
Mobile Source Control Division**

November 16, 2022

Sustainable Supply Chain Advisory Committee

# Today's Discussion

- CARB's New Heavy-Duty Vehicle Inspection and Maintenance (HD I/M) Regulation
  - Phase-in implementation starts on January 1, 2023
  - Owners of properly functioning vehicles will not be appreciably impacted at program start-up
- Requirements overview
- Resources for more information



## Vehicles Subject to the HD I/M Regulation

- All non-gasoline heavy-duty vehicles (HDV) operating in California with a gross vehicle weight rating (GVWR) greater than 14,000 pounds
- This includes:
  - Diesel, alternative fuel, and hybrid vehicles
  - California, out-of-state, and out-of-country vehicles that operate within California
- Limited exemptions



## Major Program Elements

### Enhancing Identification & Repair of Malfunctioning Parts

- Expanded applicability to all fleets, including owner-operators
- High-emitter vehicle screening using CARB's Portable Emissions AcQuisition System (PEAQS)
- Revamped compliance tests (On-Board Diagnostics)
- More frequent periodic testing and data reporting

### Improved Enforcement Tools

- Compliance linked to DMV registration
- Freight contractor/ facility requirements
- PEAQS + automated license plate recognition cameras
- Tester training requirements and Referee network

# Phase-in Implementation

High-emitter vehicle screening using PEAQS: follow-up compliance test required



Periodic compliance testing begins



**Phase 1: January 2023**

**Phase 2: Mid-2023**

**Phase 3: 2024**



- Owner/vehicle reporting in HD I/M database
- Pay 1<sup>st</sup> annual \$30/vehicle compliance fee
- Freight contractor and facility requirements start



# High-Emitter Vehicle Screening

- Mobile and stationary units deployed throughout the state
- Screen for vehicles with excessive emissions that suggest mal-maintenance issues may be present
- Flagged vehicles required to submit a passing compliance test within 30 days of notification (called Notice to Submit to Testing; NST)



# Compliance Test Methods and Frequency

- **OBD vehicles:**

- OBD scan
- Streamlined test process and data submission of CARB's required parameters
- Testing performed by credentialed HD I/M tester using scan tools/software that meet CARB's data format requirements, or through telematics systems
- Periodic test frequency begins with 2/year, ramps up to 4/year three years later



- **Non-OBD vehicles:**

- SAE J1667 opacity test
- Visual inspection of the vehicle's emissions controls
- Testing performed by credentialed HD I/M tester
- Periodic test frequency: 2/year



# Freight Contractors, Brokers, and Applicable Freight Facilities

- Compliance verification and recordkeeping requirements
  - Contractor: person/entity who enters into a contract requiring the operation of heavy-duty vehicles
  - Broker: person that arranges shipment transportation for compensation
  - Applicable Freight Facilities: seaports and intermodal railyards
- Requirements for contractors, brokers, and freight facilities are consistent with other CARB regulations
  - Encourage vehicle compliance



# For More HD I/M Program Information

- For more information, visit CARB's website at: <https://ww2.arb.ca.gov/our-work/programs/heavy-duty-inspection-and-maintenance-program>
  - Also visit CARB's TruckStop HD I/M webpage: [HD I&M | TruckStop \(ca.gov\)](https://www.arb.ca.gov/truckstop/)
- Subscribe to receive HD I/M updates delivered directly to your email inbox at: [https://public.govdelivery.com/accounts/CARB/subscriber/new?topic\\_id=hdim](https://public.govdelivery.com/accounts/CARB/subscriber/new?topic_id=hdim)
- Email HD I/M-related questions to: [hdim@arb.ca.gov](mailto:hdim@arb.ca.gov)
- For formal HD I/M rulemaking documents, visit: <https://ww2.arb.ca.gov/rulemaking/2021/hdim2021>

## c. Harbor Craft Rule

d. Project 800

## 6. SCAQMD Update

- a. Port Indirect Source Rule
- b. Warehouse Indirect Source Rule
- c. Air Quality Management Plan

# **SOUTH COAST AQMD UPDATE: 2022 AQMP AND INDIRECT SOURCE RULES**

Sustainable Supply Chain  
Advisory Committee  
11/16/22

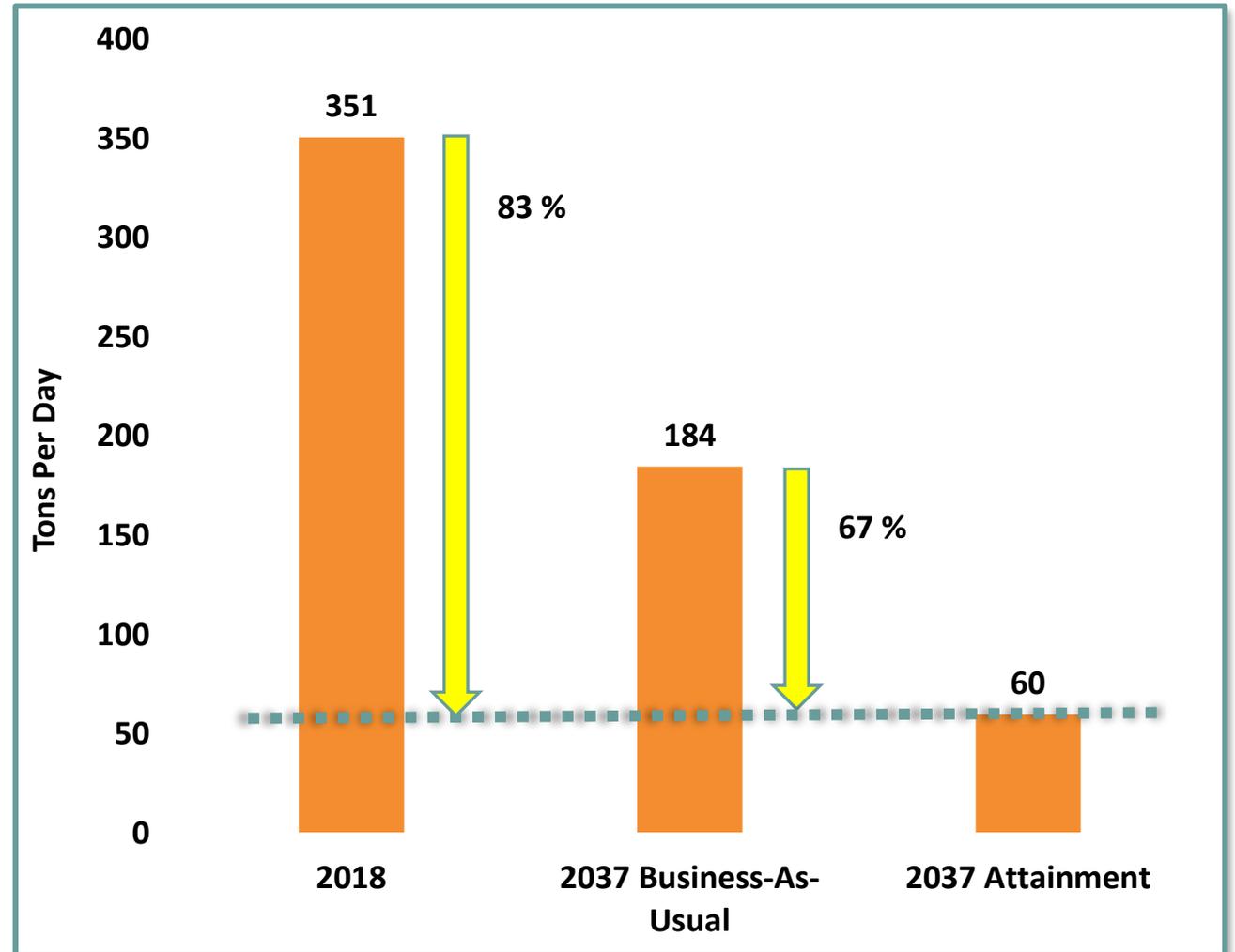
# 2022 AIR QUALITY MANAGEMENT PLAN (AQMP)

- AQMP is a blueprint to improve air quality and achieve federal air quality standards in the South Coast Air Basin and Coachella Valley
- In 2015, the U.S. EPA tightened the ozone air quality standard to 70 parts per billion (ppb), triggering the need to develop an AQMP
- The 2022 AQMP addresses control strategy to meet the 2015 ozone standard by 2037
- The Revised Draft 2022 AQMP and all supporting documents are available online at: <http://www.aqmd.gov/2022aqmp>

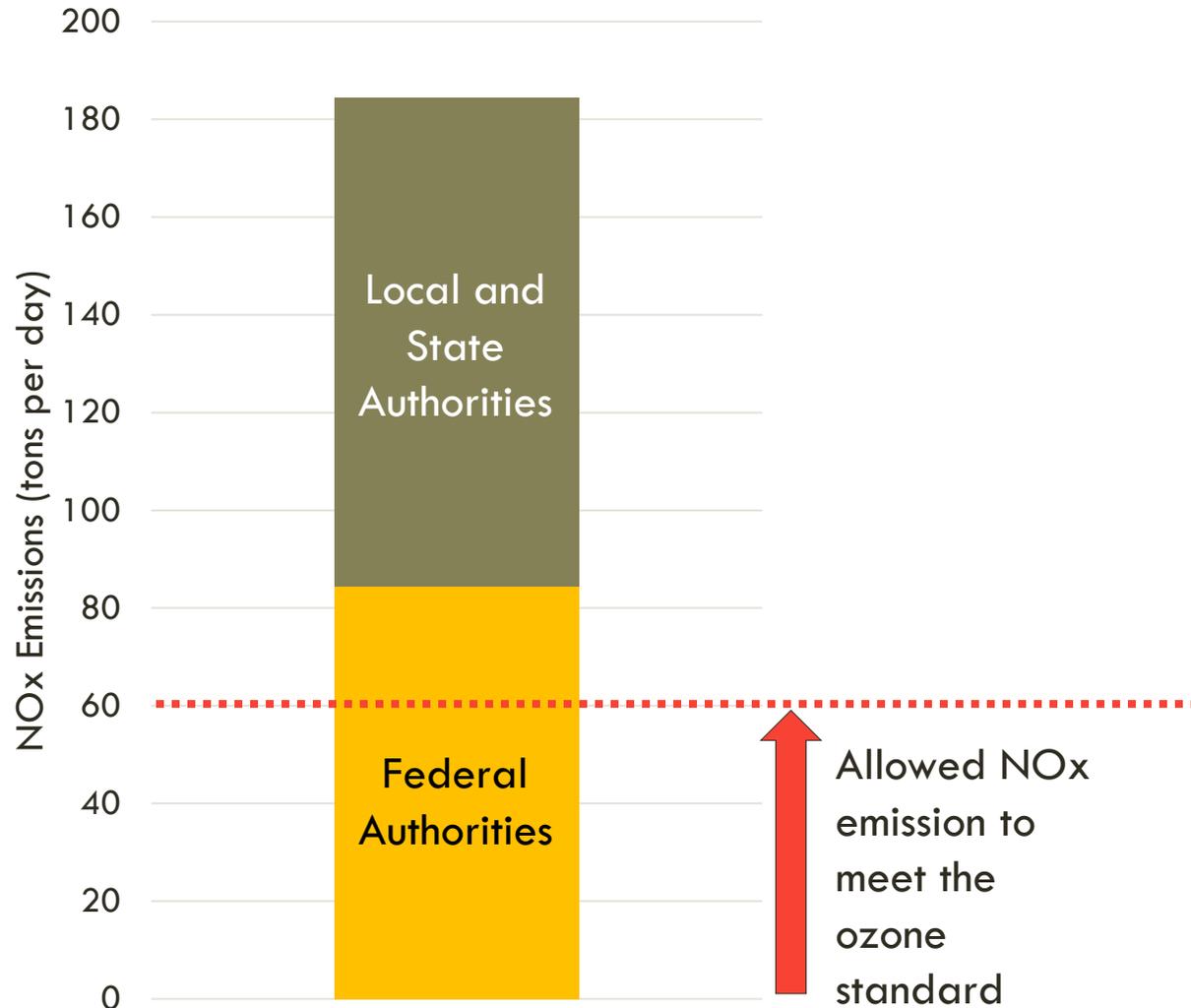


# NEED TO REDUCE NOX EMISSIONS

- The primary pollutant that must be controlled to reduce ozone in our region is nitrogen oxides (NOx)
- NOx is formed during processes that burn fuels
- NOx must be reduced to 60 tons per day to meet the ozone standard
  - 83% below current conditions
  - 67% below baseline (Business-As-Usual) conditions in 2037



# SHARED RESPONSIBILITY FOR EMISSION REDUCTIONS



- More than 1/3 of the 2037 baseline emissions inventory is regulated primarily under federal and international jurisdiction, with limited authority for CARB/South Coast AQMD
  - Ships, aircraft, locomotives, etc.
- Cannot assign responsibility to federal government to reduce emissions, even from federal sources
- Attainment is not possible without significant reductions from these sources

# 2022 AQMP NEXT STEPS

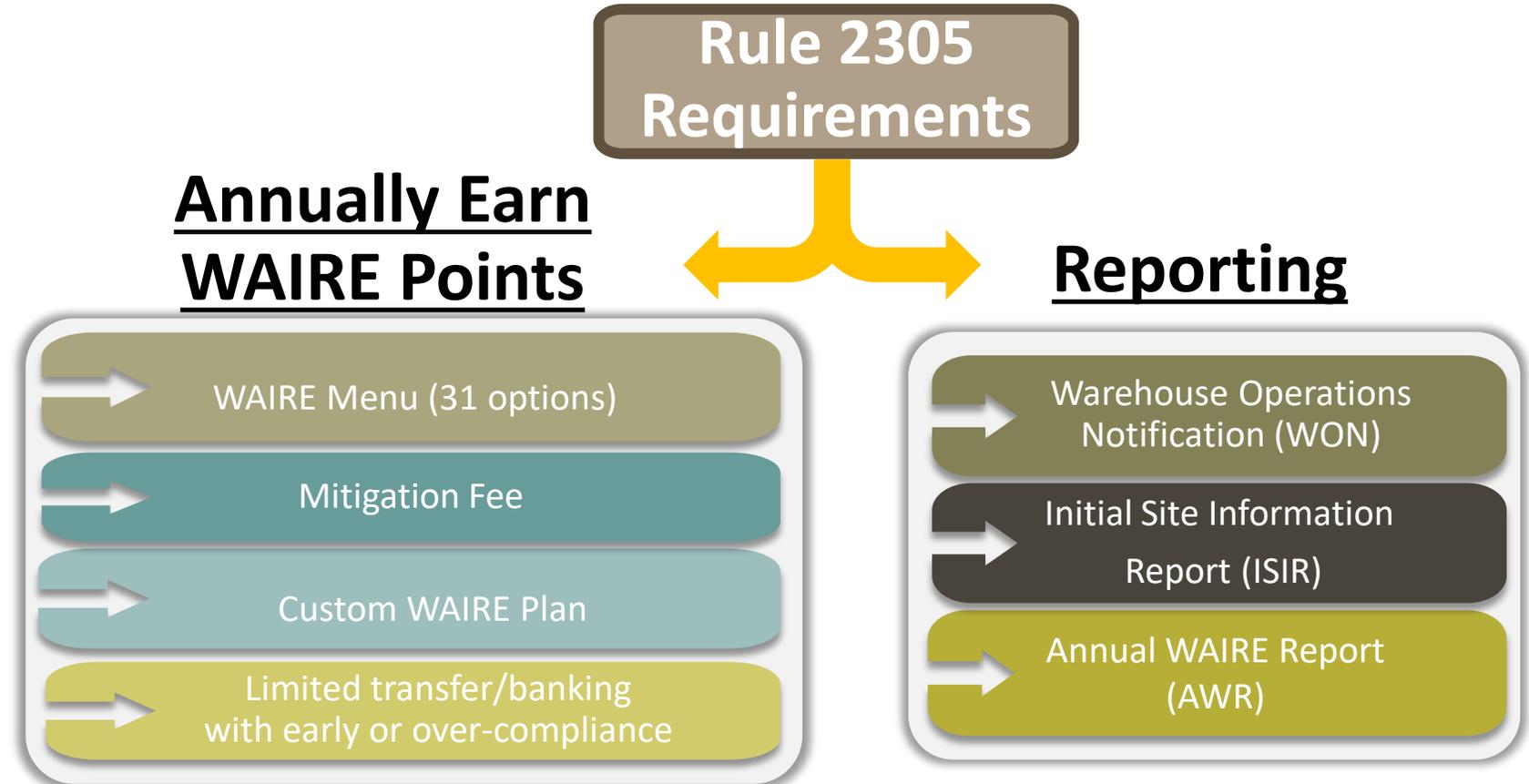


# WAIRE PROGRAM OVERVIEW

- Owners and operators of warehouses  $\geq 100,000$  sq. ft. of indoor floor space

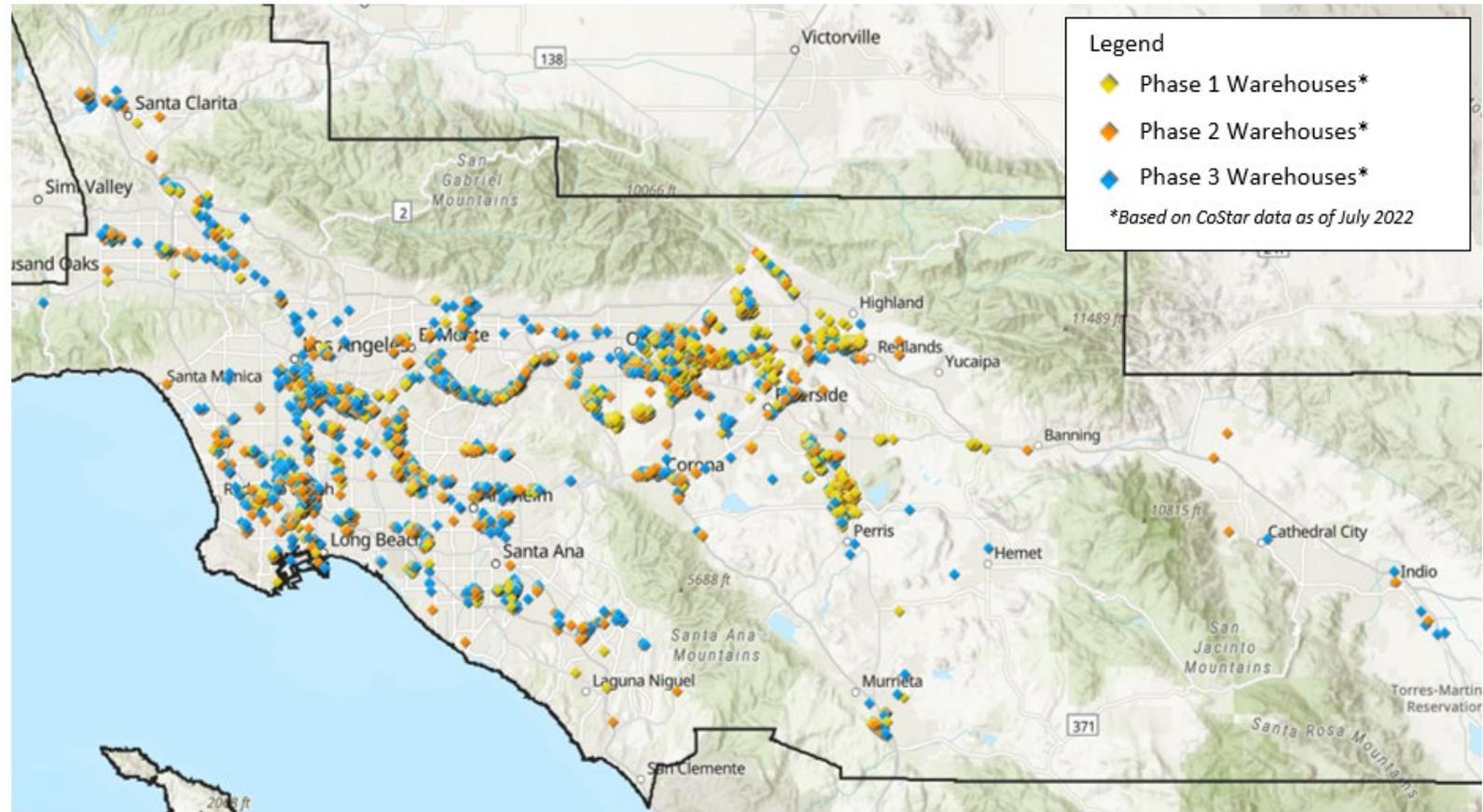
## Phase-In

- Warehouses introduced into program over 3 years based on size
- First compliance year is 2022 for Phase 1 warehouses
- Once in, stringency increases over 3 years



# POTENTIAL POPULATION OF WAREHOUSES SUBJECT TO RULE 2305

- In May 2021, staff estimated about 3,320 warehouses
  - Estimate based on analysis of commercially available databases
- As of July 2022, population grew to about 3,476 warehouses
  - Phase 1 increased by 7%
  - Phase 2 increased by 5%
  - Phase 3 increased by 3%

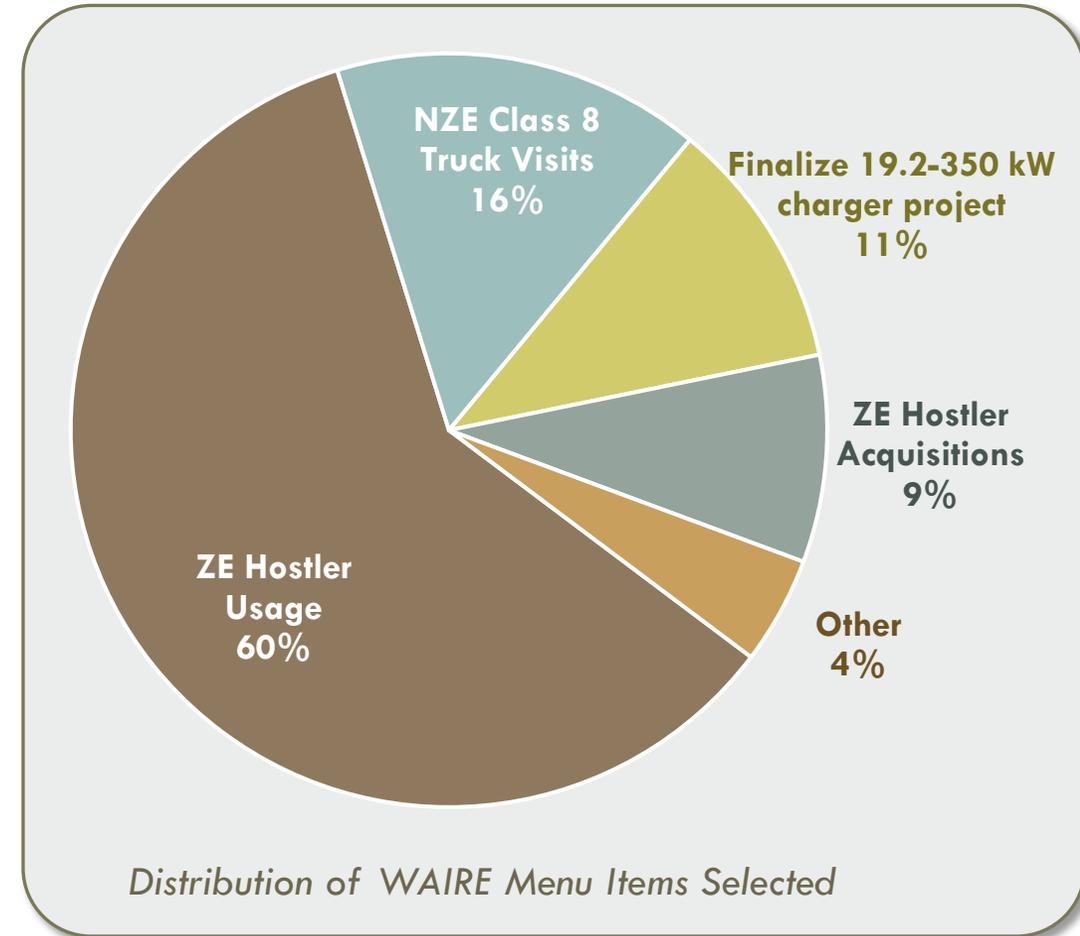


# WAIRE PROGRAM STARTUP

- Vast majority of warehouse owners and operators in WAIRE Program are not permitted with South Coast AQMD
  - Regulated entities are often unaware of program requirements
- Given scale of the program, staff has focused efforts on two key areas
  - 1) Outreach to regulated community
  - 2) Developing program to handle thousands of new regulated entities
- Flexibility critical during Year 1 as WAIRE Program is starting up
  - Short deadline extensions for some first year reports (informational reports only)
  - Developing new guidance
  - Focus on outreach in early stages before enforcement
  - Working with industry to address business confidentiality concerns before posting data

# EARLY COMPLIANCE RESULTS

- Warehouse operators can earn WAIRE Points for "early" actions completed prior to first compliance period:
  - Early actions from May 7, 2021 (rule adoption) to December 31, 2021
  - Must be documented in an Annual WAIRE Report (AWR)
- 97 Early Action AWRs were received
- 24 companies, 97 warehouses
- Phase 1 Warehouses:
  - 73% of reports
  - 61% of actions completed



# NEW RULEMAKING FOR INDIRECT SOURCES UNDERWAY

- Three ISRs in development:

Facility Type	Tentative Schedule for Board Consideration
<b>Marine Ports</b> [PR 2304]	Sept. 2023
<b>New Rail Yards</b> (e.g., SCIG, Colton) [PR 2306]	Mar. 2023
<b>Existing Rail Yards</b> [PR 2306.1]	Q4 2023

# LATEST ACTIVITIES WITH RAIL YARD AND PORTS ISRs



**Emissions inventory work to assist in identifying emission reduction opportunities**



**Visits to intermodal railyard and marine terminals**

*Total container terminals visited: 10*

*Total non-container terminals visited: 6*



**Stakeholder meetings with environmental and community groups**



**Developing rule concepts – priority on new intermodal railyards**



**Working Group Meetings for both rules held November 15**

# NEW RAIL YARD ISR INITIAL RULE CONCEPT

## Proposed Rule 2306

### Initial Applicability:

- Owner or operator of new intermodal railyards
- Local/state government agencies in contractual agreements with facility owner and/or operator

### Initial Rule Concept Components:

- A. Facility-specific mass emissions cap
  - Established based on standardized emission inventory calculation methods
  - Initial compliance plan prior to facility operation
  - Periodic reporting to demonstrate compliance in operation
- B. Sufficient fueling/charging infrastructure to support 100% ZE operation for onsite activities (cargo handling equipment, transportation refrigeration units, switchers)
  - Additional requirements for ZE infrastructure installation for other mobile sources under consideration

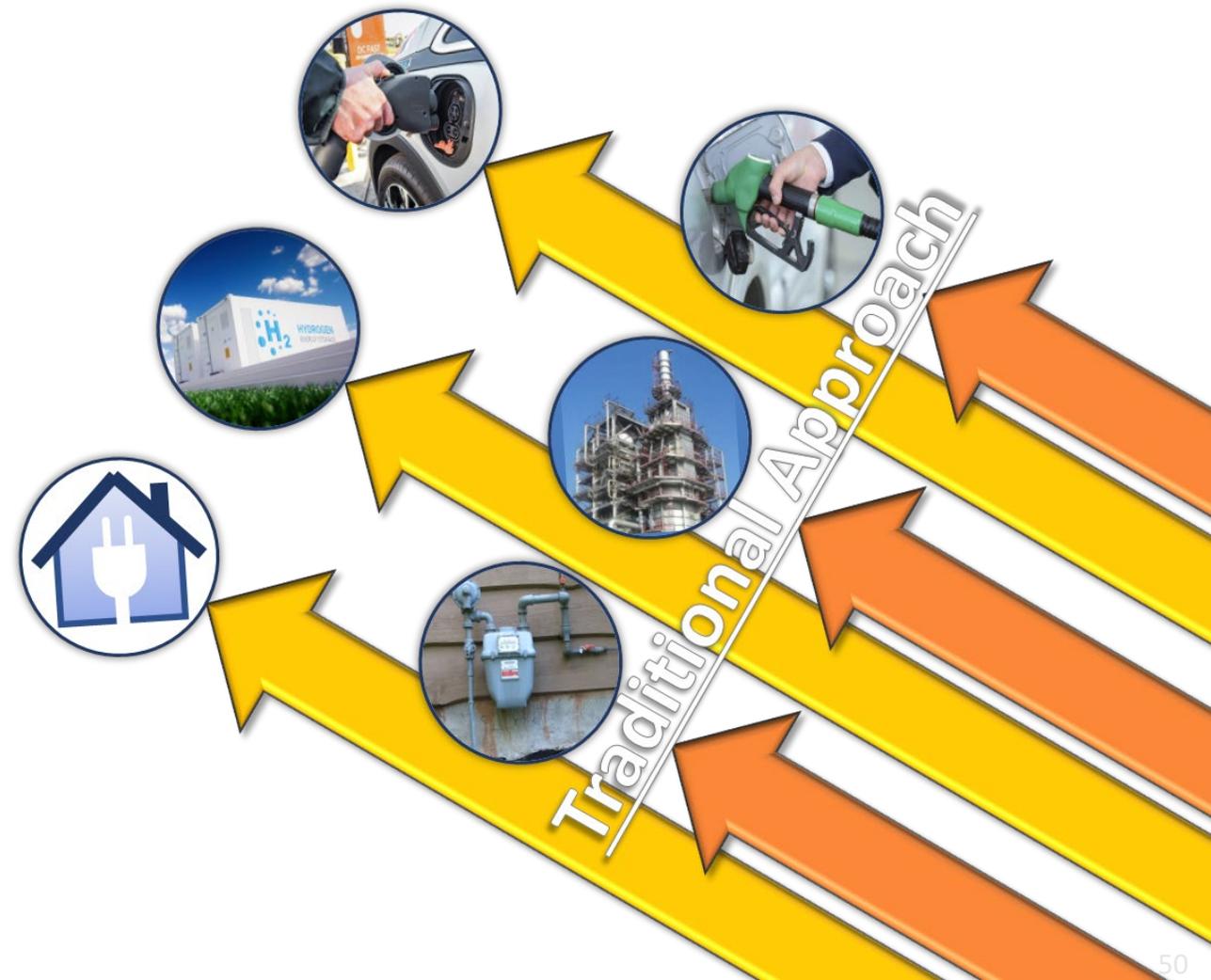
Cap Consistent With  
CARB Statewide  
Targets

# ISR RULEMAKING NEXT STEPS

- Continue meeting with stakeholders
  - Working groups, individual meetings, etc.
- Report to South Coast AQMD Mobile Source Committee
  - Next update December 16, 2022
- Release draft rulemaking documentation
  - Draft rule language, staff reports, environmental and socioeconomic analyses, etc.
  - New rail yards draft documentation to be released first

# INNOVATIVE APPROACHES NEEDED

- Traditional approach relies on additional tailpipe/exhaust stack controls, new engines technology, or fuel improvements tailored to individual use cases
- These traditional approaches will not reduce emissions by the amount needed
- We must turn to zero emission and advanced technologies wherever possible



# 7. Discussion: Committee Action on Locomotives

# 8. Discussion: Committee Agenda for 2023

- a) Recap of 2022 Meetings
- b) Outstanding Requests from 2022
- c) Proposed Topics, Activities for 2023

2022 Meeting	Topics, Updates & Guests	Regulations	Recommendations
January 26 <sup>th</sup>	<ul style="list-style-type: none"> <li>• PMA, Port Vessel Queuing System</li> <li>• Port progress on SSCAC recs</li> <li>• <i>Guest: Marine Exchange SoCal</i></li> </ul>	<ul style="list-style-type: none"> <li>• Low NOx Omnibus (adopted)</li> <li>• eTRU Amendment (development)</li> <li>• HD I&amp;M (development)</li> </ul>	<ul style="list-style-type: none"> <li>• Drayage Truck Infra Standards</li> <li>• Utility Use of LCFS Holdback Funds</li> </ul>
March 16 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Port CTP preparation &amp; container fee results</li> <li>• Port efforts on Green Shipping Corridor, Hydrogen Hub</li> <li>• Emergent funding programs</li> <li>• Trucking deadlines, reporting obligations and exemptions</li> <li>• Volvo LIGHTS Infrastructure study</li> <li>• POLB RFI – Public Charging</li> </ul>	<ul style="list-style-type: none"> <li>• Advanced Clean Fleet (development)</li> <li>• Truck &amp; Bus (adopted)</li> <li>• eTRU Amendment (development)</li> </ul>	
May 18 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Port CTP fund disbursement</li> <li>• Funding programs, NEVI Formula</li> <li>• ACPs within marine vessel regulations</li> <li>• Maersk Lines’ sustainability initiatives</li> <li>• <i>Guests: Maersk Lines, South Coast AQMD</i></li> </ul>	<ul style="list-style-type: none"> <li>• At-Berth (development)</li> <li>• Commercial Harbor Craft (adopted)</li> </ul>	<ul style="list-style-type: none"> <li>• ZE Fueling Infra Permit Readiness</li> </ul>
July 20 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Funding challenges for marine vessel decarbonization</li> <li>• I-710 task force and investment opportunity</li> <li>• Pier B On-dock rail expansion</li> <li>• Proposed transfer of Queen Mary</li> <li>• ZE, NZE technology in short-haul locomotive operations</li> <li>• New Member: CEC</li> <li>• <i>Guests: LA Metro, Progress Rail, BNSF, Union Pacific, CalSTA</i></li> </ul>	<ul style="list-style-type: none"> <li>• eTRU (adopted)</li> <li>• Locomotive (development)</li> </ul>	
September 21 <sup>st</sup>	<ul style="list-style-type: none"> <li>• Port demo project conclusions, transitions &amp; HD charging facility programs</li> <li>• BEV fueling infrastructure forecasts and limits</li> <li>• BEV regulations v. drayage truck business model and BEV supply</li> <li>• Ports’ 2021 Technical Feasibility Assessments</li> <li>• CEC Zero-emissions Infrastructure Plan &amp; grid study</li> <li>• <i>Guests: CTA, CEC</i></li> </ul>	<ul style="list-style-type: none"> <li>• Advanced Clean Fleet (development)</li> <li>• HD I&amp;M (approved)</li> </ul>	<ul style="list-style-type: none"> <li>• POLB Management of the Queen Mary (pending)</li> </ul>

# b. Outstanding Requests from 2022

## Trucks

- Discuss: IOO business model in the emerging business environment
- Present – CEC: New HEVI, EDGE model results in Q1 2023
- Present – SCAG: Regional infrastructure study in CY2023

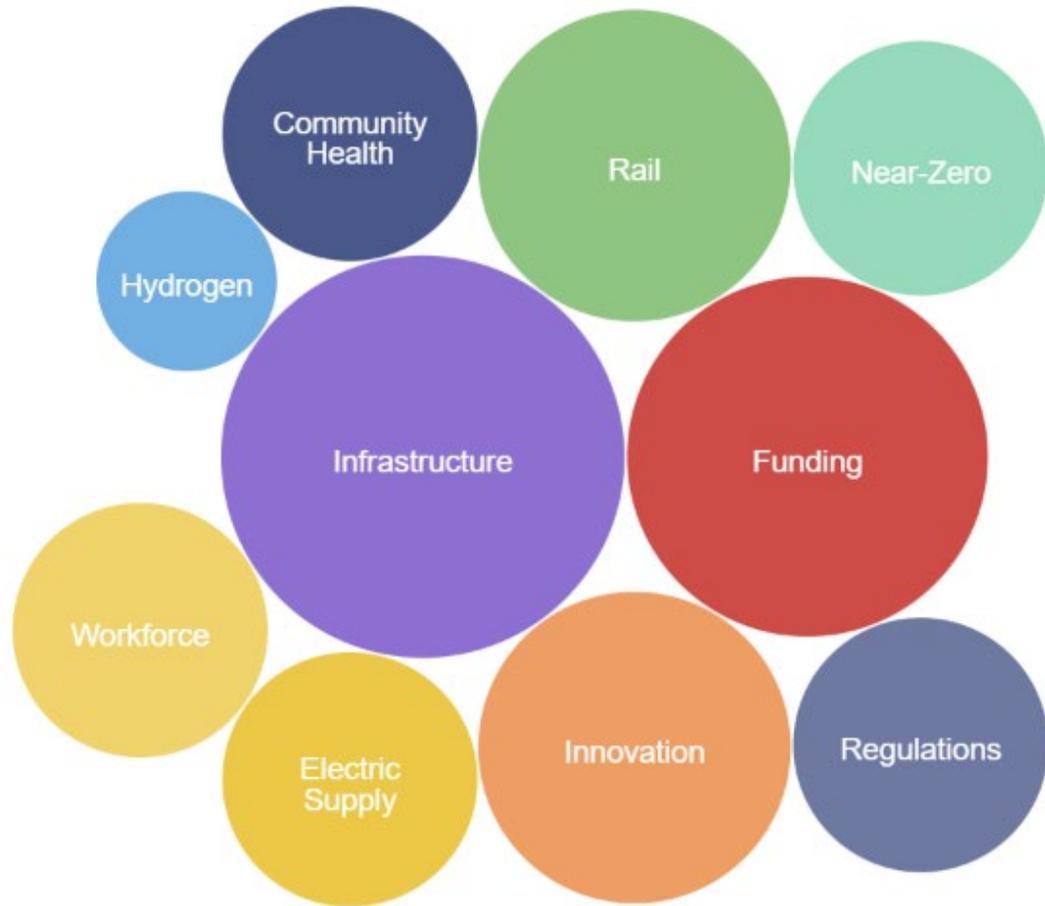
## Marine Vessels

- Discuss: Funding insufficiency for Harbor Craft rule; Bunkering for diverse carriers' alt fuel mix
- Follow-up – CARB: At-berth remediation fund disbursements due to begin in January 2023
- Present – Ports: ZE Harbor Craft requirements under leasing process

## Other

- Discuss: Hydrogen's role in SPBP; lifecycle emissions studies for ZEV fuels and components
- Discuss: Workforce development
- Follow-up – CalSTA: Port and freight infrastructure funds to be awarded in January 2023
- Proposal: Engage partners to support funding activity in Sacramento & DC (i.e. Mobility21, Region 9 Administrator)

## c. Proposed Topics for 2023



- Infrastructure! Infrastructure! Infrastructure!
- Funding – What, When, How
- Rail – Projects’ regional impacts
- Innovation – Keeping momentum in key areas
- Workforce & Community – ENV-ECO Justice
- Regulations & Near-Zero – No solution left behind

## c. Overview of ZE and NZE Grant Landscape

Status and Fuel Type	California	Federal
Open - ZEV	\$2 Billion	\$8.4 Billion
Anticipated - ZEV	\$1.5 Billion	\$9.5 Billion
Open – ZEV and/or NZEV	\$1 Billion	>\$438 Million
Anticipated – ZEV and/or NZEV	\$70 Million	<\$2.5 Billion

- Estimated available funds from November 2022
- Includes totals for multi-year programs where port and port-relevant equipment is eligible
- NZEV programs support array of alternative fuels
- Federal programs emphasize fuel supply and infrastructure

### Committee Questions:

- How can the SSCAC support efforts in Sacramento and D.C. to direct funding to the San Pedro Bay?
- What strategy and advocacy support is most meaningful in 2023?

# 8c. Proposed Activities: Field Trips!

## Charging and Fueling Facilities

- WattEV at POLB
- Einride Charging Hub at POLA
- Shell H2 station
- Tri-Gen H2 station
- Prologis station
- eTRUC station opening (Inland Empire)

## Port Facilities

- SSA Marine Pier J
- LBCT

# 9. Conclusion & Next Steps

## a. 2023 Meeting Dates

- a. January 18<sup>th</sup>
- b. March 15<sup>th</sup>
- c. May 17<sup>th</sup>
- d. July 19<sup>th</sup>
- e. September 20<sup>th</sup>
- f. November 15<sup>th</sup>



**Attachment D**

Summary of Locomotive Discussion from July 2022

# Summary of Locomotive Deep Dive

## CARB Locomotive Regulation

- Presenting to board in November 2022
- Proposed rule based on four key concepts
  - CA railroads would pay per-megawatt hour basis for its operation in California
  - Locomotives 23 yrs+ are prohibited starting 2030, and line haul must be ZE by 2035
  - Implementation of U.S. EPA 30-minutes idle time limit
  - Defining equipment documentation and annual reporting requirements

## Impact of I-710 No-Build Vote

- Earlier this year, Metro voted to cancel the I-710 expansion project, taking into consideration commentary from Caltrans. However, Metro and Caltrans are collaborating to identify more sustainable projects and programs to appropriately support regional growth needs.

### POLB Pier B On-dock Rail Update

- Increase percent of cargo moved by rail from 20% to 35%.
- Adding 5 arrival/departure tracks and infrastructure for up to 30 locomotives to support the forecasted growth in cargo demand (anticipate 7-10 trains/day). Also, some existing tracks will be replaced.
- The project is in the final stages of approval and completion is expected by 2032 for estimated \$1.5 billion.

### POLA ZE Locomotive Activity

- 35% of intermodal containers use POLA's rail network
- 26% of all cargo that travels through POLA uses on-dock rail service for building and sorting double-stack trains.
- UP, BNSF and PHL use the port rail network of 116 miles of track and 11 facilities - five on-dock, five off-dock, and one near-dock.
- POLA has been aggressive in using available funding to meet CAAP goals
  - 2021: U.S. EPA DERA awarded POLA and UP \$2,025,000 to replace one existing Tier 0 switcher with a new BEL
  - 2022: the Ports' joint Technology Advancement Program (TAP) recommended ~\$1.2 million in funding for PHL's ZE switcher demo project

### Progress Rail Advanced Technologies Update

- Plans to deploy the world's largest battery electric vehicle for mining operations in Australia in 2023
- Exploring hydrogen fuel cell technology with BNSF and Chevron
- **Infrastructure is the most critical component of achieving ZE in the locomotive segment**
- **Recommends industry adoption of megawatt charging standard, eliminating single-yard tech and standard issues**

### BNSF's ZE Locomotive Project Update

- 2021: ran a 2.4 MWh linehaul BEL between Barstow and Stockton funded by CARB's ZANZEFF
  - 4,000 miles in 5 months, performing 18 round trips, saving 800,000 gallons of fuel
- **OEMs and utilities have been key partners**; currently working with Progress Rail and WABTEC to identify BEL-appropriate routes

### Union Pacific ZE Locomotive Project Update

- Company-wide goal is to reduce GHG emissions by 26% by 2030 compared to the 2018 baseline
- Using BD and RD, fuel efficiency technologies, and design improvements to reduce emissions.
- Exploring BEL tech in both freight and yard-switching services to accelerate emissions reduction
  - Freight service has zero point source emissions, reduced complexity and maintenance, and is grid-compatible, but has interoperability and cost challenges
  - **Yard switching is ready-to-go, grid-compatible zero point source emissions, with no interoperability challenges, but has high cost and requires growth testing**
  - Green hydrogen option doesn't require catenary, but prices are still too high and there is limited fueling and storage infrastructure options