



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

Date: March 17th, 2021 | 11:00 am – 3:00 pm

Location: Via phone conference

Attachments: Attachment A - Attendees
Attachment B - Meeting Agenda
Attachment C - Presentation
Attachment D - Assembly Bill 365 Fact Sheet

Meeting Summary

1. Introductions - New SSCAC Members
 - a. Ricardo Hidalgo (International Brotherhood of Teamsters)
 - b. Weston LaBar (Harbor Trucking Association)
 - i. Two new committee appointed members were introduced; each provided additional background on themselves and their organizations.
2. POLA / POLB Opening Remarks
 - a. The ports provided a summary of their operations and conditions during Q1 2021, noting that congestion continues to be an issue at all points of their supply chain, with 38 ships currently at anchor and average dwell times at-anchor of eight days. This is expected to affect their emissions inventories.
 - b. Both ports continue to monitor economic trends closely, and per discussions at the recent TPM conference, cautiously anticipate a return to normal cargo volumes in the summer of 2021. Partnership with the labor unions, city and state agencies have enabled them to move forward with COVID-19 vaccination programs which will help address the congestion.
 - c. The Committee observed that supply chains are not necessarily expected to return to pre-pandemic conditions but rather to evolve with e-commerce normalization, and with a shift in consumer spending as policy levers such as eviction moratoriums are removed.
3. Review & Approve January Meeting Summary
 - a. The meeting summary was approved.
4. Update on CARB Activities (CARB)
 - a. Project 800
 - i. CARB staff summarized Project 800 as a policy initiative to achieve the placement of orders for 800 zero emission (ZE) drayage trucks with manufacturers by the end of 2021, and a key step towards the State's 2035 goal. The initiative is being launched in concert with initiatives at the governor's office of technology and business development (Go-BIZ) to address



infrastructure barriers; at state agencies to address funding barriers; and with policy makers to address the added costs of sales tax. CARB shared that an additional tranche of funding to support ZE truck vouchers is expected to be released in April.

- ii. Looking ahead, the agency will be discussing future years' planning for the first 800 trucks and subsequent orders at board meetings in the late fall or early winter, to ensure that the program supports steady market growth. The agency does intend to count drayage trucks that will be delivered under the joint CARB/CEC ZE Drayage Truck Project towards the 800 goal (project award is pending).
- iii. The Committee and other attendees posed several questions as well as observations to CARB staff:
 - Truck availability: the group observed that most heavy-duty ZE vehicles are in their first demonstration phases, and that initial production volumes will be limited. As a result, there is a lot of uncertainty around the length of time a customer will wait to receive a new truck which creates significant planning and investment risks.
 - a. CARB staff shared that it does not currently have clarity on the manufacturers' lead time to fill truck orders but is asking them to provide more solid commitments on time and cost, which can be shared with the public.
 - b. The City of Long Beach encouraged meeting attendees to support CARB's request, and encourage OEMs to provide these details in the near term.
 - c. The Committee shared that drivers who ordered 100 heavy-duty electric trucks in 2019, using Prop 1B funds have yet to receive delivery of these trucks and don't expect to this year either, while those who are operating delivered battery electric units are finding that they are limited to about 80 miles of operating range and are therefore not suited for drayage service. This exposes fleets, of all sizes, to significant risk, and fleets are reluctant to place orders for critical units without clarity on when they can be successfully used. The Ports added that the OEMs they've engaged with are projecting 200-250 mile ranges on their commercial units, available in 2021 or 2022 - but that current testing is focusing on shorter-range vehicles.
 - Lack of existing, and clear planning for, infrastructure: several Committee members observed that they do not see action or clear plans for developing infrastructure in or around the port complex which can support the vehicles intended under Project 800. Several members noted that port-related trucking companies expect the ports to supply some charging infrastructure if they are requiring those companies to purchase BEVs.
 - a. CARB recognized that the infrastructure deployed to date has been sized to fit the demand of single, small volume projects only, but noted that developing a larger plan is a priority action



item for Go-BIZ, the California Energy Commission and other state organizations. The agency anticipates that once an initial volume is reached, the market will develop infrastructure proactively.

- b. Members suggested that the agency, ports and Committee incorporate measures that reduce grid reliance into its transition planning. Some solutions in early stages today involve additional on-board power supplies, although current on-road weight limits restrict their deployment. Member Harbor Trucking Association noted that it is exploring policy reform on this issue, and, that such reform could open the door for additional charging solutions.
 - c. Land zoning and transportation planning policies were identified as a critical barrier to innovation infrastructure solutions. It was noted that the City of Long Beach does not currently capture zero emission truck needs in its planning efforts, and that this complicates fleets' ability to secure permits for infrastructure development, and appropriately forecast the cost of operating in that area. Staff from the City of Los Angeles responded that they and partners at LADWP are prepared to support policy reform on this issue.
 - d. The Ports said that they are prepared to offer more clarity on plans within the port complex, but that these plans hinge on regional infrastructure development which is a larger issue requiring wider stakeholder involvement. The Port of Long Beach is currently conducting a study to identify sites for initial public fueling infrastructure deployment near the SPBP complex to support heavy-duty truck opportunity charging. The study's criteria include properties that are not waterfront, and where the addition of fueling infrastructure would not increase traffic. The draft results will be published this spring. **Noting the 2021 meeting schedule (agenda item 6.d.), the Ports agreed to present the results to date of its ongoing charging infrastructure study, in May.**
 - i. Members added that the California Public Utilities Commission, the California Energy Commission, the California Transportation Commission, the Southern California Association of Governments, Caltrans District 7, and serving utilities LADWP and SCE are critical stakeholders to invite to participate in this discussion. The Ports added that SCAG's upcoming regional infrastructure study will be an important addition to the group's collective knowledge base and evolving course of action. The award for this project is expected shortly.
- Workforce development: the Committee observed that workforce development needs exist across the supply chain, from driving to



maintenance to infrastructure management, and that there is a lack of clear coordination among stakeholders to ensure that these services are in place.

- a. CARB shared that Go-BIZ is working closely with area colleges and universities as well as industry groups such as electrical workers unions to identify needs and incorporate equity considerations into training plans.
 - b. The Ports added that they are working on developing a comprehensive plan of action as well as communication that addresses the multiple port-specific as well as regional stakeholders and relevant programs - but that this takes time.
 - c. *The Committee has designed Workforce Development as its focus topic for September, and will work closely with several members and stakeholders to prepare this agenda.*
 - iv. Committee members emphasized that importance of staying in regular communication with the ports and each other to stay up to speed on this rapidly-changing landscape of emerging technology, funding and regulations.
- b. Harbor Craft
- i. CARB held a public workshop on March 16th to review changes made its previously-posted draft language and cost assumptions, and is now accepting further comments until April 16th, 2021. The formal rulemaking package will be released in early October, and presentation to the board is scheduled for November 2021.
 - ii. Noting that agency regulations are evaluated for their effects on DACs, the Committee asked whether CARB is evaluating the effects of regulations including this one on workers who reside in DACs and may be disproportionately impacted by the increased cost of operating zero and near-zero emission vehicles and equipment.
 - iii. Noting that the economic analysis currently conducted during rulemaking doesn't look explicitly at this question, CARB staff shared that they are trying to get better information on costs associated with lost work days and similar indicators of community reactions to the transition. The group agreed that this area of impact is most significant in the truck category as that equipment type is often owned by an individual worker, but that similar effects of transitioning the ports' full equipment supply chain must be considered.
5. Deep Dive - Heavy Duty Truck Deployment in the SPBP
- a. Review of Prior SSCAC Drayage Truck Recommendation
 - i. GNA presented a summary of the Committee recommendations that address drayage truck operations and the transition to zero and near-zero emission technologies under the CAAP (**see Attachment C**).
 - b. Ports' Clean Truck Strategy
 - i. Clean Truck Program Update
 - The Ports reported that they are finalizing their fee collection contract and preparing to submit their final recommendation and implementation plan to their boards in April. Once approved, they



anticipate that approximately 6-months will be required to get the system set up. During this time the Ports will be developing and presenting incentive programs.

- In light of Project 800 and rulemaking under the ACT Regulation and upcoming Fleet Rule, the Ports are revising their long-term truck transition strategy, and will share details as they become available.
- ii. Port Feasibility Assessments - 2018 Findings and 2021 Edition
 - The Ports presented a summary of the results from their 2018 drayage truck technical feasibility assessment (**Attachment C**), and announced that it recently launched the research effort to produce a 2021 update. The updated study is expected to be published by the end of the year.
 - The City of Los Angeles observed that many of the parameters used to define feasibility amount to the trucks meeting the minimum operating requirement - and asked that the ports be reasonable in defining that requirement. The City noted that transit agencies recognize that a 1:1 replacement ratio is not reasonable given their transition targets, and, the availability of commercially-sold technologies and routes that must be covered. The Ports advised that willingness to sell ZE drayage trucks does not necessarily signal commercial availability in this particular market, at this time.
 - Committee members advised that competitiveness must play a central role in the Ports' evaluation of feasibility, and its adoption strategy. The goal of climate change policy should not be to eliminate emissions only, but rather, to create as many jobs and move as much cargo as possible through the cleanest ports in the country, i.e. the SPBP complex. This definition was provided to emphasize the risk of cargo volumes shifting as the SPBP raises costs to operate or loses system efficiencies through enforcing a premature transition in its drayage fleet.
 - Committee members also put strong emphasis on the need to address resiliency in the 2021 study. Pointing to summer 2020, and recent mass power outages in Texas, the Ports commented that they are taking resiliency very seriously and are currently working through a power resiliency assessment to understand the boundaries of their planning efforts, and how to plan effectively within their domain. The Ports noted that, as with fueling infrastructure, the solution requires regional stakeholder involvement.
 - Addressing CARB, Committee members expressed concern that the agency doesn't appropriately recognize resiliency as their purview even as they establish rules on specific segments of a deeply interconnected network of industries. A lack of attention to infrastructure risks those rules' having limited effects on the industry.
 - GNA shared that demonstration projects are beginning to take meaningful first steps on this issue, and that some of these results could be shared at a future meeting.
 - Addressing the Ports, several members pointed out that the Port Drayage Truck Registry includes thousands of trucks that do not actively



serve the ports. This exposes a risk of ZE trucks being procured and registered to meet the Ports' and CARB's target, without delivering the emissions benefits. The Ports responded that they are working to address that inefficiency, including ensuring that CARB's registry under Project 800 is appropriately scoped.

iii. RFI Response Summary

- In January, the Ports received 17 responses from vehicle manufacturers and other stakeholders engaged on the issue of successful deployment of heavy-duty zero emission technologies and supporting infrastructure in Southern California. Respondents included several manufacturers planning to deploy some of the first commercial units in the region - BYD, Volvo, Daimler, Lion Electric and Toyota. The Ports are preparing to present the findings to their Board in the near term.
- The Committee noted that state agency Caltrans would like to see these results and put them to action as soon as possible, and requested that the Ports and the City of Los Angeles consider the most efficient way to execute RFIs now and in the future to avoid information delays.
- The Ports noted that they are trying to leverage the results to develop an expansion model that suits more entities than just the SPBP.
- The Committee requested to hear the results when ready.

iv. Project 800

- See notes above, under agenda item 4.a.

v. Advanced Clean Fleet Rule

- Drayage Trucks
 - a. CARB provided an overview of the ACT Regulation and its process to develop and implement an associated Fleet Rule this year (**see Attachment C**). The ACT Regulation officially took effect in 2021, and the agency is working towards a presentation of the Fleet Rule to its board in December, with the final rule expected to take effect in 2023.
 - b. CARB shared its assumptions regarding vehicle availability through 2023, noting that six manufacturers have indicated that they will have commercial ZE trucks by the end of this year (BYD, Lion Electric, Peterbilt, Kenworth, Volvo and Tesla) and that funds are and will continue to become available from a variety of state sources, including the Low Carbon Fuel Standard program.
 - c. The upcoming Fleet Rule will define terms under which a truck can continue to support California seaports and railyards with drayage services, potentially including limits on vehicle or engine age, mileage, and frequency of service. CARB is also considering closing the drayage truck registry to non-zero emission trucks after January 1, 2023.
- There was robust discussion amongst the Committee about the proposed CARB Advanced Clean Fleet rule for the drayage sector.



- a. Several members of the Committee asked how feasibility assessments will be used by CARB to monitor and confirm availability and suitability of ZE trucks to meet the requirements of the Southern California drayage market. CARB mentioned that feasibility assessments are not being planned as this will increase the likelihood that companies will not act quickly on making ZE investments, but that some may wish to suggest an interim check-in period to evaluate manufacturing and infrastructure issues.
- b. The Committee expressed concern that grant funding may not be sufficient for early adopters, and therefore may only be used by large fleets, some of which may be dormant registrants providing minimal or no service to the ports. Additionally, those early adopters may also be the most exposed to vehicle failures given the technology's early commercial status - adding risk to the operators which is not clearly covered by available incentives.
- c. Expanding on the funding concern, the members added that without agency direction on a near-zero emission (NZE) standard, and dedicated funds for this equipment, truck owners will take the least-cost route and purchase diesel, as well as operate their vehicles elsewhere, while the ZE technology remains uncertain and unaffordable. As NZE technologies are 99% lower emission than diesel, and fully commercially available, Committee members expressed strong concern that not pursuing a NZE approach will preclude the South Coast air basin from meeting its air quality attainment goals.
- d. CARB pointed out that the Fleet Rule intends to create an environment where fleets can purchase zero emission trucks, noting that fleets had declared during the rulemaking effort that they cannot afford to turn over their fleets and fuel infrastructure twice. The proposed rule is necessary to support the ACT Regulation. CARB also confirmed that it is highly unlikely that neither the CARB board nor the Governor will support anything that deploys NZE trucks, and the technology is therefore not an option for CARB to consider.
- e. The Committee recognized the intent of the ACT rule but requested that CARB acknowledge that the measures remain insufficient to eliminate the use of diesel in the required time frame to meet regional attainment and public health goals. The Committee also pointed out that addressing the negative health impacts from diesel trucks in California is a top priority for all of the air quality agencies, as noted in the first few slides of CARB's presentation. Several Committee members pointed out that the cost reduction assumptions and timelines for a steep ramp up on ZE trucks to 2030 may be overly optimistic. It was also



noted that industry will wait until the very last minute to comply with the regulation. These factors will likely perpetuate the diesel status quo in the interim period and have consequences to public health. CARB reiterated that the Advanced Clean Fleet rule is the other half of the ACT rule and that the agency expects the laws to be followed.

- f. Pointing to recent drayage truck registry figures, the Committee observed that CARB assumes a 5% turnover rate but that the last five years have indicated that the actual rate is closer to 15%. Additionally, while CARB is considering an 18 year or 800,000-mile limit on active trucks, the members advised that some drivers put less than 20,000 miles/year on a truck - allowing them to continue operating dirty trucks longer than 18 years. At this higher rate, there is concern that the drayage population will stall when retired trucks cannot be readily replaced due to the 2023 cutoff, leading to a severe congestion issue along the supply chain. CARB invited specific recommendations for how the agency could address this element in its rule.
- g. Committee members closely involved with the truck driving community shared that a surprising number of drivers who have left the California market in the last year cited California's aggressive push for ZE technologies. The Committee expressed concern about CARB's rule pushing small businesses that operate in the port drayage market, which are largely people of color, out of business and allowing them to be replaced by large corporate trucking companies that will then require increased rates to move freight. This can then have ancillary impacts on the diversion of discretionary cargo from the SPBP.
- h. The Committee asked if CARB could clarify what incentives would remain available for drayage-specific operations after 2023 when zero emission truck purchases are required by law. CARB noted that its funding attorneys are best suited to respond to that, but that it would expect that any precedent for reserving unspent funds in a given year for use in that same sector in the following year(s) would be taken into consideration.
- i. CARB noted that there is precedence in other CARB regulations that allow for finance-based compliance extensions, but that such an extension would only be just that, and not an exemption from a ZE truck purchase requirement.
- j. Committee members discussed the importance of funding recipients being in compliance with California labor laws.
- k. Noting the highly optimistic cost curves in its presentation, CARB shared that it is asking manufacturers to provide updated, firm timelines and costs for new vehicles which it can include in



its rulemaking this year. As the Fleet Rule and reporting requirements take effect, the agency also expects its information can improve over time.

- I. There was also discussion about battery electric vs. hydrogen fuel cell electric trucks being the technology of choice in the future, and what the impact would be on regional infrastructure planning, and thus compliance with CARB's rule. CARB mentioned that the Energy Commission has more information on future ZE infrastructure pathways, and that CARB also assesses such issues.
 - m. Lastly, the Committee noted that there is a disconnect between the CARB Advanced Clean Fleet rule and the Ports' Clean Truck Program. There are concerns about maintaining the capacity to move the freight and that the two Ports remain competitive in the long-term. CARB mentioned that the agency is working to identify the incompatibilities between the two efforts and how they can work together.
- Option for Committee Input
- a. The Committee observed four key issues facing the drayage community as a result of the Fleet Rule:
 - i. Commercial product availability and technical feasibility
 - ii. Product cost and equity issues (i.e. not displacing the current drayage workforce)
 - iii. Availability and applicability of sufficient incentives
 - iv. The availability of appropriate ZE refueling infrastructure throughout the region
 - b. The Committee noted that the price of electricity, and customer education on electricity rates, are also important pieces of the transition cost issue. Although large utilities have developed unique rate structures, many smaller ones have not yet made this change. This presents a particular challenge for fleets operating across multiple territories. The Committee and the City of Los Angeles' staff agreed that this is an important topic for future conversation.
 - c. The Committee determined that it would be best suited to advise on the rule, and the ports' actions in response to the rule, following a deep dive on infrastructure, in May.

6. Conclusion & Next Steps

- a. Next Meeting: May 19th, 11 am - 3 pm, Zoom
- b. Progress Update on SSCAC Recommendations
 - i. The Ports confirmed that they will deliver an update on their progress against the Committee recommendations every six months, starting in May 2021.
- c. Legislative Update - Assembly Bill 365
 - i. Port staff presented a summary of a bill currently being co-sponsored by the Harbor Trucking Association and both ports, which aims to remove additional



point-of-sale costs (taxes) from NZE and ZE trucks (**see Attachment D**). The purpose of the bill is to support the accelerated adoption of this technology. The City of Los Angeles was expected to take a support position, as was the Port of Long Beach's board. The staff requested a letter of support from the Committee.

- ii. Committee members requested clarification on whether the bill defined “near-zero” with the 0.02 g/bhp-hr or the 0.05 g/bhp-hr standard. The Teamsters also noted that they are currently working to insert worker protection language into this bill, and would appreciate the group's support for that measure as well.
 - iii. GNA was tasked with coordinating between the Teamsters, the Port legislative team, and the members to respond to these questions and determine whether the Committee or a subset of its members can issue a statement of support, noting that this is needed before May 2021.
- a. 2021 Agenda:
- i. May - ZE Fueling Infrastructure & Funding (*guests: utilities, SCAG, Caltrans D7, CTC, CEC*)
 - ii. July - Cargo Handling Equipment (*guests: terminal operators demonstrating NZE and ZE equipment*)
 - iii. September - Workforce Development (*guests: TBD*)
 - iv. November - Locomotives (*guests: TBD*)
 - v. GNA was tasked with coordinating with various members who expressed interest in supporting the agenda development for upcoming meetings.



Attachment A
List of Meeting Participants

SSCAC Committee Members	
Marnie Primmer	FuturePorts
Thomas Jelenic	PMSA
Matt Miyasato	South Coast AQMD
Heather Arias	CARB
Joe Lyou	CCA
Stella Ursua	Grid Alternatives
Ray Familathe	ILWU-13
Adrian Martinez	EarthJustice
Ricardo Hidalgo	International Brotherhood of Teamsters
Weston LaBar	Harbor Trucking Association
Los Angeles Port & City Staff	
Chris Cannon	Port of Los Angeles
Tim DeMoss	Port of Los Angeles
David Libatique	Port of Los Angeles
Erick Martell	Port of Los Angeles
Michael Samulon	City of LA, Mayor's Office
Lauren Faber O'Connor	City of LA, Mayor's Office
Julia Thayne	City of LA, Mayor's Office
Jacob Haik	City of LA, Councilman Buscaino's Office
Long Beach Port & City Staff	
Heather Tomley	Port of Long Beach
Sam Joublat	Port of Long Beach
Wei Chi	Port of Long Beach
Morgan Caswell	Port of Long Beach
Jacqueline Moore	Port of Long Beach
Rick Cameron	Port of Long Beach
Leela Rao	Port of Long Beach
Justin Ramirez	City of Long Beach, Mayor's Office
Meeting Facilitation Staff	
Erik Neandross	GNA
Eleanor Johnstone	GNA
Patrick Couch	GNA
Other Stakeholders	
Regina Hsu	Earthjustice



Andre Freeman	CARB
Cari Anderson	CARB



Attachment B

Meeting Agenda

1. Introductions - New SSCAC Members
 - a. Ricardo Hidalgo (International Brotherhood of Teamsters)
 - b. Weston LaBar (Harbor Trucking Association)
2. POLA / POLB Opening Remarks
3. Review & Approve January Meeting Summary
4. Update on CARB Activities (CARB)
 - a. Project 800
 - b. Harbor Craft Regulation
5. Deep Dive - Heavy Duty Truck Deployment in the SPBP
 - a. Review of Prior SSCAC Drayage Truck Recommendations
 - b. Ports' Clean Truck Strategy
 - i. Clean Truck Program Update
 - ii. Port Feasibility Assessments - 2018 Findings and 2021 Edition
 - iii. RFI Response Summary
 - iv. Project 800
 - c. Advanced Clean Fleet Rule
 - i. Drayage Trucks
 - ii. Option for Committee Input
6. Conclusion & Next Steps
 - a. Next Meeting: May 19th, 11 am - 3 pm, Zoom
 - b. Progress Update on SSCAC Recommendations
 - c. 2021 Agenda:
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 - iv. November - Locomotives (*guest: TBD*)



Attachment C
Presentation

Sustainable Supply Chain Advisory Committee Meeting

March 17th, 2021



Agenda

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 3. RFI Response Summary
 4. Project 800
 3. Advanced Clean Fleet Rule
 1. Drayage Trucks
 2. Option for Committee Input

6. Conclusion & Next Steps

1. Next Meeting: May 19th, 11-3, Zoom
2. Progress Update on SSCAC Recommendations
3. Legislative Update
4. 2021 Agenda:
 1. May – ZE Fueling Infrastructure & Funding (*guest: utilities*)
 2. July – Cargo Handling Equipment (*guest: operators*)
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 4. November – Locomotives (*guest: TBD*)

1. Introductions – New SSCAC Members

Ricardo Hidalgo, Western Region Organizing Coordinator
International Brotherhood of Teamsters



Weston LaBar, CEO
Harbor Trucking Association



2. POLA/POLB Opening Remarks



3. Review & Approve January Meeting Summary

4. Update on CARB Activities

1. Project 800
2. Harbor Craft Regulation

5. Deep Dive –

Heavy Duty Truck Deployment in the SPBP

5(a) Prior SSCAC Drayage Truck Recommendations

Truck Recommendation	Approval Date
ZE Drayage Trucks	October 2016
Clean Truck Program Acceleration	November 2016
Clean Truck Program Acceleration 2.0	June 2017
Fueling Infrastructure	September 2020
Other Relevant Recommendations	Approval Date
POLA LADWP	February 2017
Multi-Port Clean Technology RFI	April 2017
Funding Allocation	August 2017
Funding Prioritization	July 2019

5(a) Prior SSCAC Drayage Truck Recommendations

October 2016 – ZE Drayage Truck Recommendation

Evaluate, demonstrate ZE drayage trucks in preparation for a feasibility report in 2020 or sooner.

- Survey and summarize the status of currently funded ZE drayage truck projects in CA.
- Assess the likely timeframe that POLA could begin to develop a “second wave” ZE drayage truck deployment based on developments and outcomes from ongoing ZE truck projects.
- Identify potential additional needs in ongoing projects pertaining to types of drayage truck operations, demonstration scale and feasibility, and/or other factors.
- Provide a publicly available report documenting the assessment and identifying additional needs.
- Based on findings, support a “second wave” deployment of a meaningful number of units (50-100, if not more) in the 2018-2019 timeframe.
- Document in the 2020 report next steps for additional ZE drayage truck deployments and feasibility reports in 2025, 2030.
- Support scaled deployments of ZE drayage trucks in 2020 to achieve goal of 100% penetration by 2035.

5(a) Prior SSCAC Drayage Truck Recommendations

November 2016 – Clean Truck Program Acceleration Recommendation

Implement a new Clean Truck Program with the following elements no later than April 1, 2018.

- Leverage SSCAC to further build and lead a coalition of businesses (including cargo owners, shipping companies, terminal operators and others), environmental, community, regulatory agency, and other stakeholders to advocate for a NZE and ZE drayage fleet, including allocation of existing and new financial resources required to implement this vision by the end of 2023.
- Develop and implement a series of new measures to replace older, higher emitting drayage trucks with ultra-low emission and/or zero emission technology.
- Require replacement trucks that receive funding to use a low carbon fuel that achieves at least a 40 percent well-to-wheels based carbon reduction from CARB diesel.
- Utilize existing and new port resources, public funding, incentives, grants, bulk purchasing collaboratives, and innovative financing to lower the cost to the truck owner to transition to NZE and ZE trucks that are commercially available and viable for commercial deployment as fully-capable heavy-duty drayage trucks in a port application.
- Provide meaningful support for public, private, and joint ventures to develop low carbon fueling and charging infrastructure projects that enhance and/or accelerate the efficacy of NZE and ZE trucks.
- Ensure that the San Pedro Bay Ports' competitiveness is increased based upon the sum of actions taken.

5(a) Prior SSCAC Drayage Truck Recommendations

June 2017 – Clean Truck Program Acceleration 2.0 Recommendation

Ensure the following during the Clean Truck Program implementation, per the 2016 Recommendation

- Improve system efficiencies to eliminate unproductive truck moves and lifts where possible
- Aggressively seek public funding to support goal of a 100% NZE/ZE drayage truck fleet by 2023, and pursue innovative financing to ensure that the burden does not solely fall on the truck owner
- Implement the transition in an even and measured manner over an initial 5-year period to ensure sustainable investment, product supply chains, and market stability, and, address “growing pains”

5(a) Prior SSCAC Drayage Truck Recommendations

September 2020 – Fueling Infrastructure Recommendation

Take prompt, tangible action to facilitate investments from vehicle and fueling industries in support of the CAAP and the CTP.

- Within 90 days, release an illustrative model of various deployment scenarios, capturing vehicle type, volume and deployment year under the CTP.
- Within the subsequent 90 days, release a proposed structure for the CTP incentive that helps stakeholders identify milestones, establish timelines, and fund clean trucks.
- Survey existing fueling/charging locations in the port complex vicinity for opportunities to co-located NZE/ZE infrastructure
- Share findings from a multi-scenario infrastructure assessment with regional stakeholders
- Leverage existing data to identify truck use patterns that inform future fuel infrastructure planning, while protecting trucker privacy.

5(a) Prior SSCAC Drayage Truck Recommendations

Other relevant recommendations:

February 2017 – POLA LADWP Recommendation

- Convene a task force with port's Executive Director, LADWP General Manager, and other appropriate staff and partner agencies, to identify infrastructure needs.
- Publish a preliminary report within 180 days of the first meeting identifying, need, opportunity, cost, timeline and development process

April 2017 – Multi-Port Clean Tech RFIs Recommendation

- Seek information from manufacturers and current, future availability of NZE and ZE drayage trucks, CHE, marine engine/fuels, LED lighting, and other potential equipment

August 2017 – Funding Allocation Recommendation

- Mayor of L.A. to aggressively communicate with relevant federal, state, local agencies and elected officials to prioritize funding for NZE and ZE goods movement technologies in California

July 2019 – Funding Prioritization Recommendation

- Monitor, extract lessons learned from ongoing ZE demonstration projects
- Pursue NZE and ZE truck deployment in ports fleets
- Engage truck OEMs, regional dealerships, finance and leasing companies, BCOs, drivers and their associations to develop innovative approaches that do not risk the ports' economic competitiveness

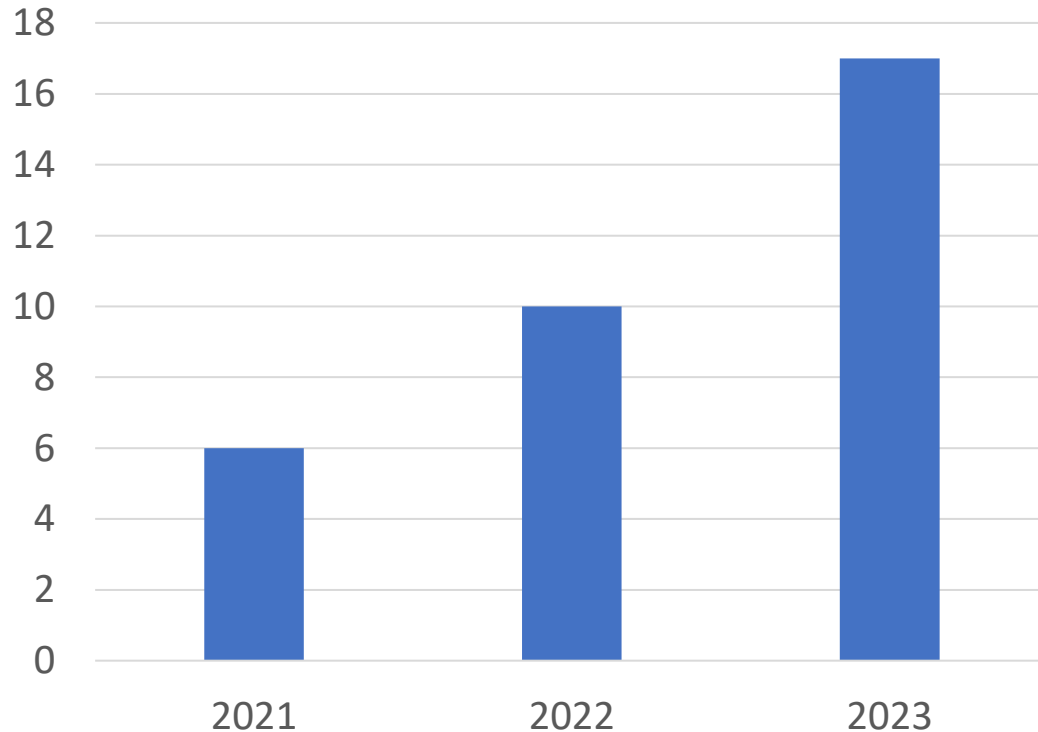
5(b) Ports' Clean Truck Strategy

1. Clean Truck Program Update
2. Port Feasibility Assessments – 2018 Findings and 2021 Edition

ZE Drayage Trucks



Projected Growth of ZE HD Class 8 Models in N. America*



Drivers for ZE HD Trucks

- CAAP 2017 Update
- CARB Regulations
 - Advanced Clean Trucks
 - Advanced Clean Fleets
- State Initiatives
 - Governor's EO N-79-20
 - Full transition to ZEV short-haul/drayage by 2035
 - Project 800 – incentive push for 800 ZE drayage truck orders in 2021

*Data from HVIP and CALSTART (2020): Drive to Zero's Zero-emission Technology Inventory (ZETI) Tool Version 5.9.

Current State of Technology



Demonstrations

- POLB ZANZEFF – 15 Peterbilt BE trucks
- POLA ZANZEFF – 10 Kenworth H2FC trucks + 2 fueling stations

Partnerships:

- ZECT II (6 BE trucks)
- SCAQMD Volvo LIGHTS (70 BE Trucks)
- SCAQMD Daimler (15 BE trucks)
- SCAQMD 50-100 ZE truck demonstration proposal

Battery Electric vs. Fuel Cell

- SPBP 2018 Feasibility Assessment:
 - BE – TRL 6-7 (advanced pilot demonstration)
 - FC – TRL 5-6 (development/early demonstration)
 - BE truck costs \$320K-\$725K depending on capability
 - Fuel Cell trucks more expensive, at least initially
- CARB estimates drayage fleet will be 90% BE, 10% FC based on 2013 CALSTART Drayage Driver survey (81% of trips < 60 mi)

Truck Feasibility Assessment: Structure

PURPOSE: To assess the overall feasibility of zero-emission (ZE) and near-zero emission (NZE) drayage trucks to perform drayage service at the San Pedro Bay Ports.

Key qualitative parameters:

1. Technical Viability
2. Commercial Availability
3. Operational Feasibility
4. Infrastructure and Fuel Availability
5. Economic Workability

Fuel Technology Platforms:

1. ZE Battery electric
2. ZE Hydrogen fuel cell electric
3. NZE Advanced diesel internal combustion
4. NZE Advanced natural gas
5. NZE Hybrid-electric

2018 Truck Feasibility Assessment Findings



Feasibility Parameter / Criteria	Overall Achievement* of Criteria in 2018 (Commercially Available / Technically Viable Truck Platforms)	
	ZE Battery-Electric	NZE NG ICE
Commercial Availability		
Technical Viability	TRL 6 to 7 (moving to 7 or*8)	TRL 8 (moving to 9)
Operational Feasibility		
Infrastructure Availability		
Economic Workability		
Legend: Achievement of Each Noted Parameter / Criteria (2018) 		

* The TRL rating of NZE natural gas engine technologies was updated in early 2020 after new data demonstrated achievement of TRL 9.

2021 Truck Feasibility Assessment

- Kicked off in March 2021
- Update to the 2018 report
- Consistent structure, utilizing the five key feasibility parameters
- Expected timeline:
 - Research, stakeholder outreach and report writing – Spring/Summer 2021
 - Release draft for public comment – Late Fall/Winter 2021
 - Release final report – Winter 2021

5(b) Ports' Clean Truck Strategy cont'd

1. Clean Truck Program Update
2. Port Feasibility Assessments – 2018 Findings and 2021 Edition
3. RFI Response Summary
4. Project 800

5(c) CARB's Advanced Clean Fleet Rule

1. Drayage Trucks
2. Option for Committee Input / Recommendation
3. Next Steps?



Sustainable Supply Chain Advisory Committee CARB Drayage Truck Activity

March 17, 2021

Executive Order N-79-20

 **100% ZEV sales** by 2035

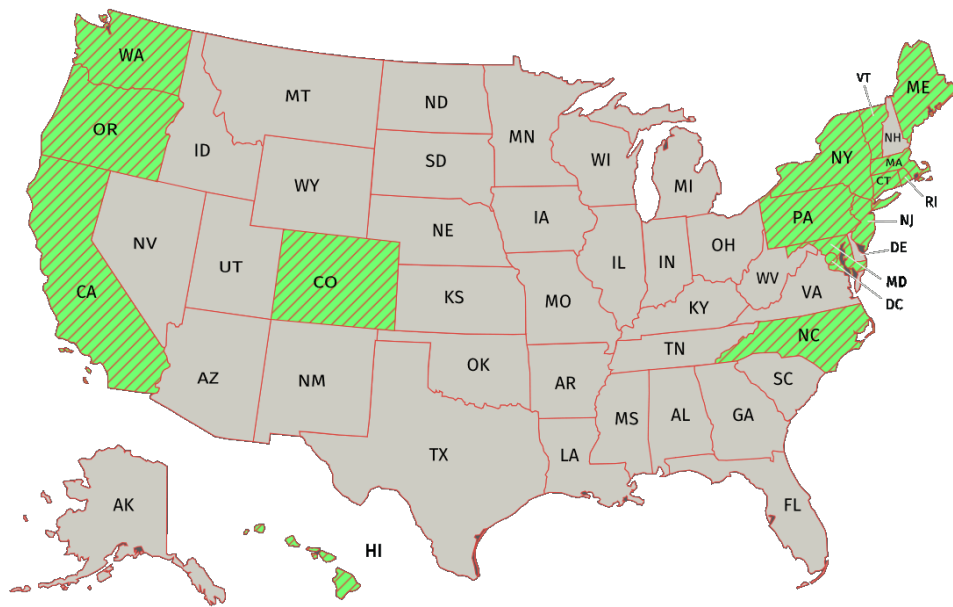
Full transition to
ZEV short-haul/drayage trucks 
by 2035

Full transition to **ZEV buses & heavy-duty long-haul trucks**  
by 2045*

Full transition to
ZE off-road equipment
by 2035* *where feasible

Multistate ZEV Truck Targets

- 15 states and the District of Columbia signed a memorandum of understanding to support rapid expansion of ZEV truck market
- Sets ZEV sales targets
 - 30% sales by 2030
 - 100% sales by 2050
- Develop truck ZEV action plan



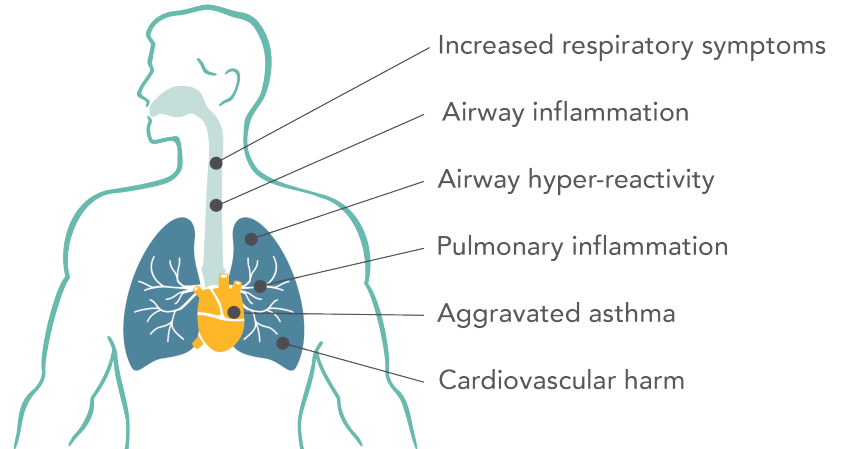
Community Focus: Cumulative Exposure to Air Pollution



Health Impacts

Reducing NO_x emissions is so important because NO_x is a precursor to ozone, a smog-forming pollutant.

Health Risks from Ozone Pollution



Increased respiratory
& cardiovascular
hospitalizations



Premature
death



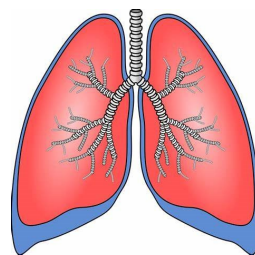
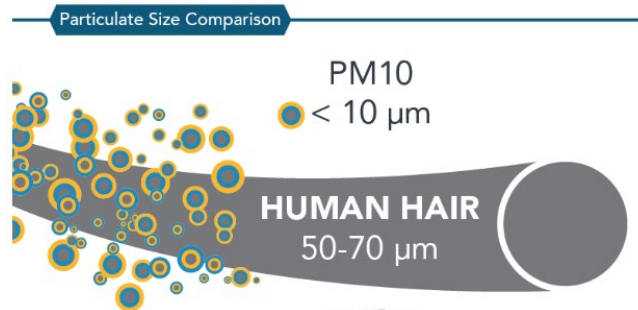
Developmental
harm



Reproductive
harm

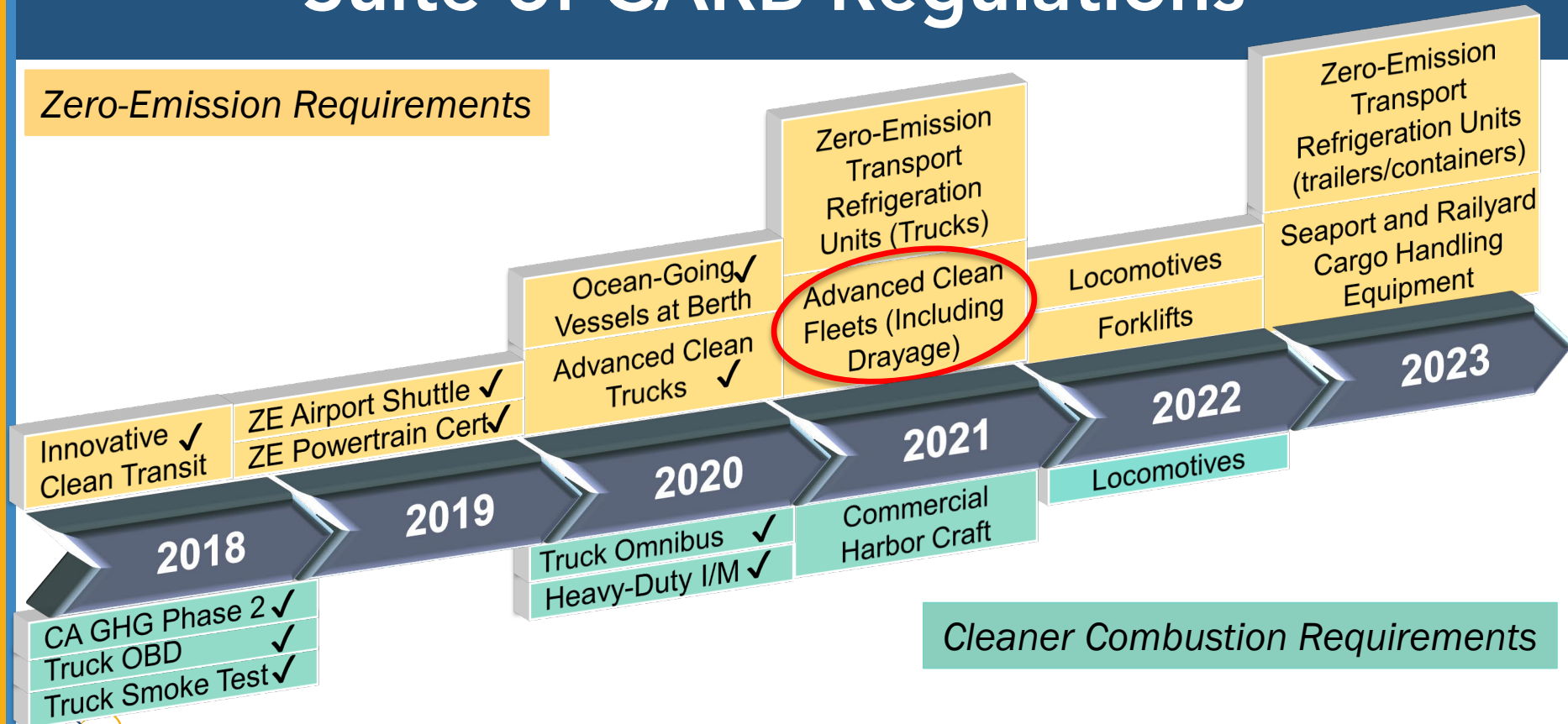
Health Impacts of PM_{2.5}

- PM_{2.5} health effects are widely studied. Exposures lead to:
 - Acute respiratory symptoms
 - Asthma exacerbations, ER visits for asthma
 - Bronchitis, chronic obstructive pulmonary disease (COPD)
 - Heart attacks
 - Nervous system effects (e.g., cognitive deficits)
 - Lost work days
 - Premature death
- The Children's Health Study found reduced lung development from high PM_{2.5} levels.



Suite of CARB Regulations

Zero-Emission Requirements



Cleaner Combustion Requirements

ACT Regulation - Manufacturer ZEV Sales

- Zero-emission vehicles as a percentage of annual sales*
- Begins with 2024 model year
- Credit for sales start in 2021
- Minimum tractor sales
- Flexibility to shift sales between categories

Model Year (MY)	Class 2b-3	Class 4-8	Class 7-8 Tractors
2024	5%	9%	5%
2025	7%	11%	7%
2026	10%	13%	10%
2027	15%	20%	15%
2028	20%	30%	20%
2029	25%	40%	25%
2030	30%	50%	30%
2031	35%	55%	35%
2032	40%	60%	40%
2033	45%	65%	40%
2034	50%	70%	40%
2035+	55%	75%	40%

Zero-Emission Truck and Bus Market

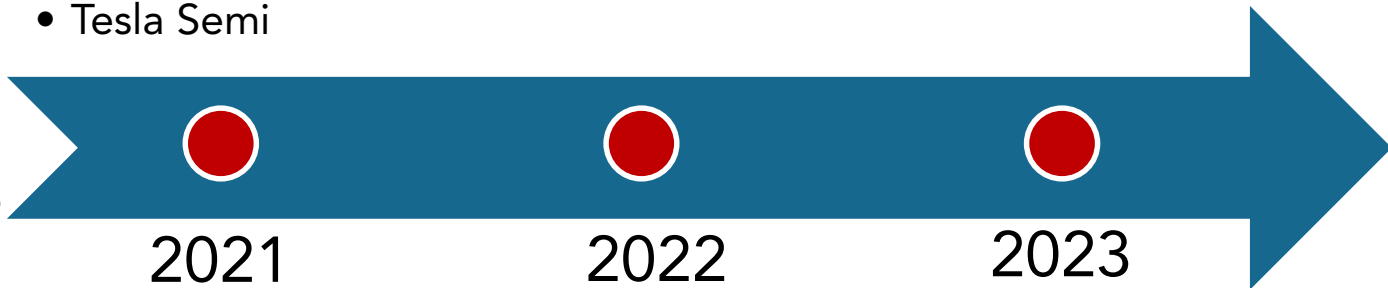
- Wide variety of zero-emission trucks and buses available
 - New and start-up manufacturers lead the way
 - Major manufacturers entering market
 - Major parts suppliers introducing commercial components
- Continued improvements expected
 - Technology advancement
 - Continued incremental cost reductions
 - Infrastructure build-out

ZEV Tractor Commercial Availability

- Peterbilt 579EV
- Kenworth T680E
- Volvo VNR Electric
- Tesla Semi
- Freightliner eCascadia
- Nikola One/Two

Today

- BYD 8TT
- Lion Electric LION8



2021



2022

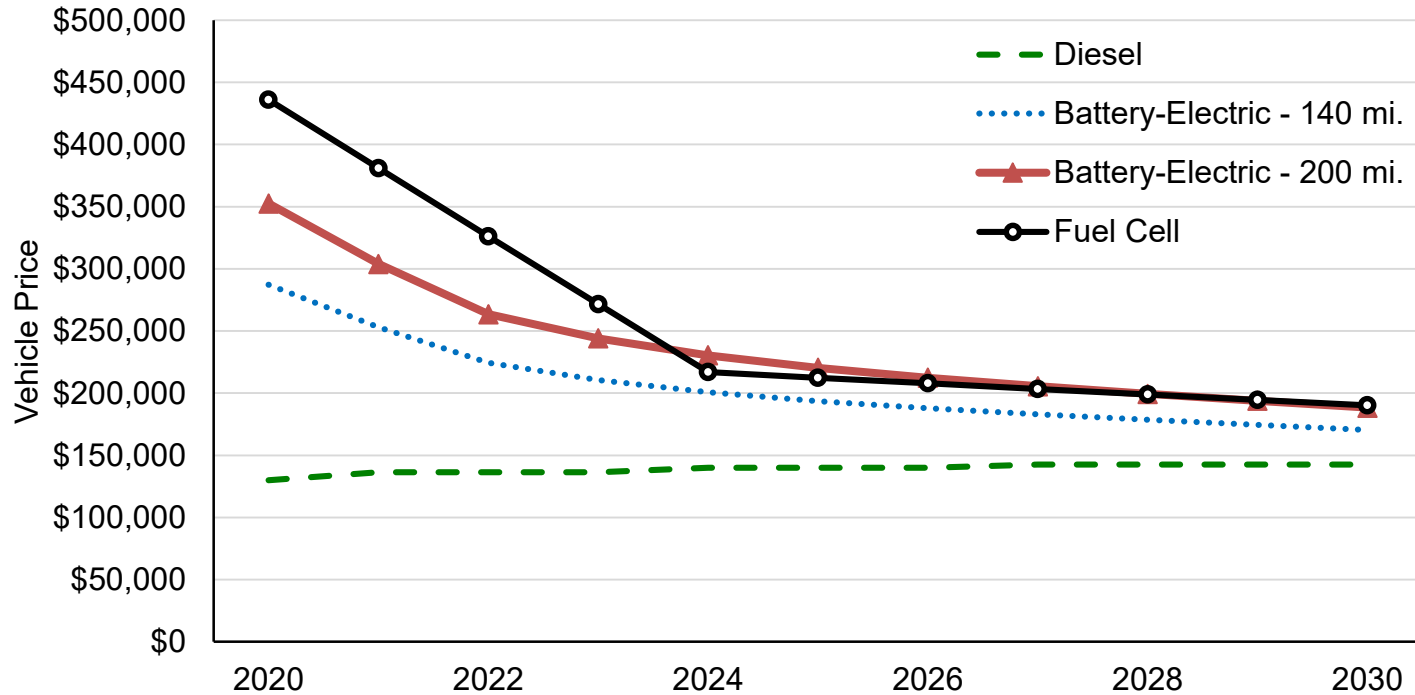


2023



2019 ACT Analysis

Tractor Cost



LCFS Can Lower ZEV Fuel Costs

- Low-Carbon Fuel Standard (LCFS) regulation
 - Market driver for low carbon fuels
- Credit goes to station owner/operator
 - Charging station
 - Hydrogen station
- Credits sales offset fuel costs



Example Battery Electric Fuel Cost Saving



Electric vs Diesel	Airport Shuttle	Package Delivery	Local Drayage
Fuel Savings w/o LCFS	\$1,200	\$4,000	\$9,400
Fuel Savings w LCFS	\$2,700	\$8,400	\$27,900

Note: Example assumes average fuel prices of \$3.40/gal. per EIA 12/28/20, \$0.18/kWh (includes transmission, energy, fixed fees, and demand charges), and LCFS credit value at \$125 per credit

- Airport Shuttle at 25,000 miles/yr, 0.6 kWh/mile BEV compared to 22 mpg diesel
- Package Delivery at 25,000 miles/yr, 1.0 kWh/mile BEV compared to 10 mpg diesel
- Local Drayage at 50,000 miles/yr, 2.1 kWh/mile BEV compared to 6 mpg diesel

Funding Opportunities

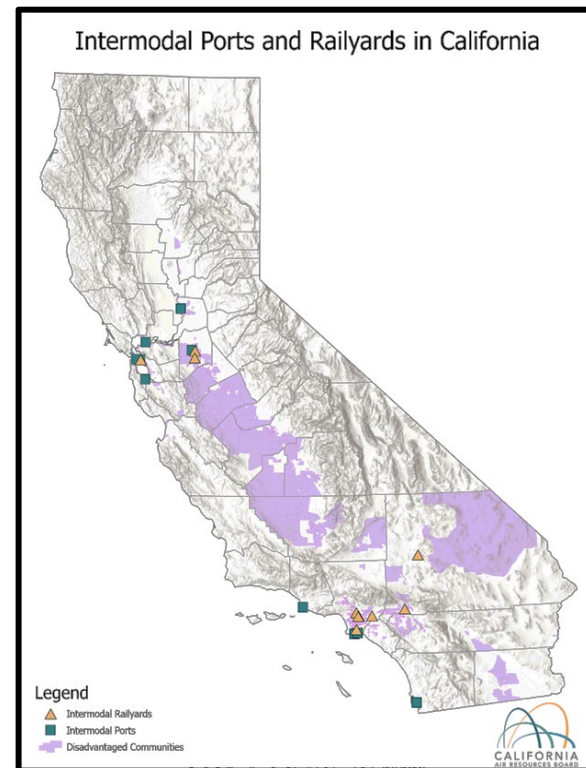
- HVIP – Truck and Bus Purchase Incentives
 - \$150,000 voucher amount for drayage truck early adopters*
- Zero-Emission Drayage Truck and Infrastructure Pilot
 - Joint CARB-CEC funding project
 - Awards expected March 2021

Infrastructure Coordination

- California Energy Commission
 - Biennial statewide charging infrastructure assessment (AB 2127)
 - Light-duty, heavy-duty, off-road
 - Spatially model future infrastructure and energy demand
- California Public Utility Commission
 - Developing Transportation Electrification Framework
 - Support SB 350 and other transportation electrification goals
- Go-BIZ coordinating infrastructure support and deployment

New Drayage Truck Regulation

- Current drayage truck regulation sunsets in 2022
- The intermodal seaports and railyards under the current Drayage Truck Regulation are all located in or within ~1 mile of a disadvantaged community
- Ongoing concerns from labor and community members regarding driver misclassification and minimizing costs to small businesses/owner-operators



2035 Zero-Emission Drayage Goal

- Transition all Class 7 and 8 drayage trucks operating at California's intermodal seaports or railyards to full zero-emission by 2035

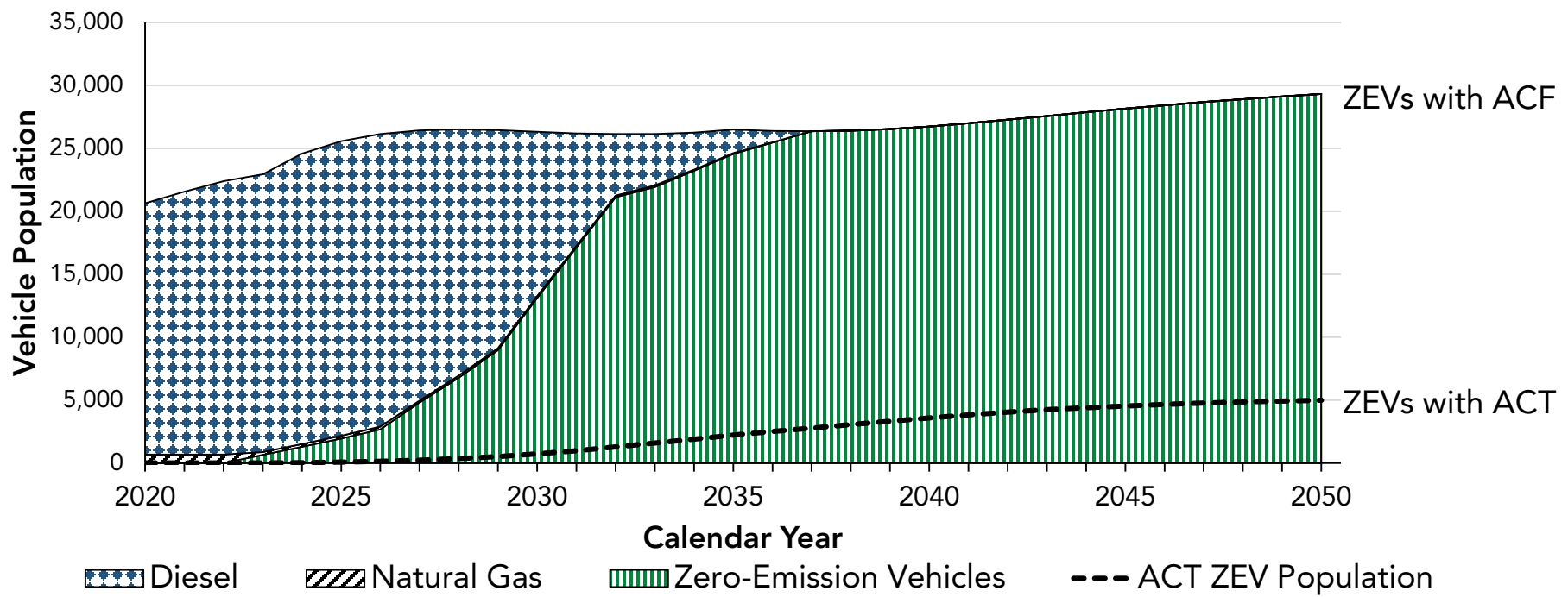


Zero Emission Drayage Trucks by 2035

2035 Zero-Emission Drayage Transition

- Truck must meet the following requirements to continue drayage operations:
 - Report odometer annually for vehicles with a model year engine older than 13 years
 - Have <800,000 miles and be less than 18 years old
- Trucks must visit a California seaport or railyard at least once in 2023, to remain in CARB Drayage Truck Registry
- After January 1, 2023, only zero-emission trucks are eligible to be added to the CARB Drayage Truck Registry

Drayage Truck ZEV Population



Port and Rail Reporting Requirements

- Truck Reporting
 - Owner information
 - VIN, engine MY, license plate
 - Odometer reading if engine is over 13 years old
- Seaport and Railyard Reporting
 - Report truck visit information annually
 - VIN, license plate, and visit frequency
 - Reporting for 2023 will establish baseline drayage fleet

Next Steps

- Continue workshops/workgroups throughout this year
 - Infrastructure Workgroup – ~April 2021
 - Cost Workgroup – ~April/May 2021
- Document Release
 - Regulation Language – ~June 2021
 - SRIA – ~Q3 2021
 - Staff Report – ~October 2021
- Board Meeting – ~December 2021

6. Conclusion & Next Steps

1. Progress Update on SSCAC Recommendations (May & September)
2. Legislative Update
3. 2021 Agenda:
 1. May – ZE Fueling Infrastructure & Funding (*guest: utilities*)
 2. July – Cargo Handling Equipment (*guest: operators*)
 3. September – Workforce Development (*guest: TBD*)
 4. November – Locomotives (*guest: TBD*)
4. Next Meeting – **Wednesday, May 19th, 11 am – 3 pm**, Zoom



Attachment D
Assembly Bill 365 Fact Sheet



FACT SHEET

AB 365 (O'Donnell)

Sales tax exemption for clean drayage trucks

SUMMARY

AB 365 will exempt the purchase of new and used zero- and near-zero-emission drayage trucks from the state sales and use tax. This will help to grow the clean technology industry and ensure that individuals and small fleets can afford to do their part to meet the state's ambitious emissions reduction and clean vehicle goals.

BACKGROUND

Drayage trucks are heavy-duty trucks that transport containers and other material to and from ports and rail facilities. An estimated 30,000 drayage trucks serve California's ports, most of them used.

Drayage operations are crucial to both California and the nation's economy, with our ports responsible for handling 40% of the country's containerized imports and 30% of exports. More than one million jobs in California and three million jobs nationwide are linked to trade traveling through California's ports, and truck driving is consistently ranked as one of the best paying careers for workers without a college degree. However, the drayage operations driving this tremendous amount of economic activity have been powered primarily by diesel fuel.

California's diesel-fueled heavy-duty truck fleet is a significant contributor to statewide greenhouse gas (GHG) emissions and air pollution containing particulate matter, carbon monoxide, sulfur dioxide, and toxic air contaminants. These chemicals can lead to serious health consequences, including eye, throat, and lung irritation; exacerbation of asthma, allergies, and cardiovascular disease; neurological and reproductive disorders; cancer; and premature death. This pollution disproportionately affects disadvantaged communities, which are frequently located along major transportation corridors.

To mitigate the effects of these vehicles and other sources of GHGs, California has set itself apart as a worldwide leader in climate policy, committing to ambitious emissions reduction goals that the state must meet over the next few decades. For example, in 2016, the Legislature passed SB 32 (Pavley), which set a target of reducing GHG emissions to 40% below their 1990 level by 2030. In addition, the federal government has designated the South Coast Air Basin and the San Joaquin Valley as "nonattainment areas" that must meet specific short-term air quality targets between 2023 and 2025. More recently, Governor Gavin Newsom signed Executive Order N-79-20, which requires all drayage trucks to be zero-emission by 2035, and all other medium- and heavy-duty trucks to be zero-emission by 2045, where feasible. Reducing emissions from heavy-duty vehicles in the short term will be critical in meeting all of these targets.

NEED FOR THE BILL

Despite advancements in clean truck technology, the transition to clean drayage trucks will be an uphill battle due to the price differential between diesel and these newer, cleaner technologies. Used drayage trucks cost around \$50,000 while new zero-emission drayage trucks cost around \$350,000.

A \$350,000 truck will be subject to approximately \$80,000 in federal, state, and local taxes and fees, about \$21,000 of which will constitute state sales and use tax.

Unless the state offsets the cost of new and used zero- and near-zero-emission drayage trucks, it will be nearly impossible for individuals and small fleets to transition to cleaner technology. Even if the state provides funding to support these purchases, the taxes on the full price of the truck will be cost prohibitive for smaller operators.



FACT SHEET

AB 365 (O'Donnell)

Sales tax exemption for clean drayage trucks

SOLUTION

AB 365 will ease the transition to clean drayage trucks by exempting the purchase of new and used zero- and near-zero-emission drayage trucks from the state sales and use tax. Drayage trucks that qualify for the Hybrid and Zero-Emission Vehicle Incentive Project (HVIP), the Carl Moyer Memorial Air Quality Standards Attainment Program, or the Volkswagen Environmental Mitigation Trust on or after January 1, 2021 will qualify for this tax exemption. This will ensure that cleaner technology will be available to operators across the state's entire fleet.

SUPPORT

- Port of Los Angeles (Sponsor)
- Port of Long Beach (Sponsor)
- California Association of Port Authorities (Sponsor)
- Harbor Trucking Association (Sponsor)

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