

FEBRUARY 15, 2022 - STATE SENATE TRANSPORTATION HEARING

PORT OF LONG BEACH STATEMENT

- Good afternoon. I'm Heather Tomley, with the Port of Long Beach.
- The Port has been deeply engaged for many years with our industry partners on the drive to zero emissions for both on-road heavy duty trucks and off-road terminal equipment.
- Our Clean Air Action Plan outlines our strategies to improve air quality and reduce greenhouse gas emissions in alignment with the state, and we have established goals to get to zero emissions for terminal equipment by 2030 and trucks by 2035.
- But, if we are going to be successful, we cannot underestimate the level of effort and the amount of work still required to get there.
- There are two main areas of focus, each with their own set of challenges.
- First is developing the vehicles and equipment. We must keep in mind that the operating requirements at the Port for traditionally-operated, manned terminal equipment are severe – from carrying heavy containers, operating multiple, non-stop 8 hour shifts through a 24-7 operation, with limited recharge time in between - this zero emission equipment has to be reliable and powerful, with high capacity batteries or adequate fuel storage, and extended range. Fully loaded on-road trucks can weigh up to 80,000 pounds, including battery packs or fuel storage, and will need to be able to travel over inclines, completing multiple turns in a day, and requiring a range of up to 600 miles. Hydrogen fuel cell technologies have promise, but development especially for off-road equipment, is further behind. Currently, 16% of our terminal fleet is electrified and zero emissions, however zero emission vehicle replacements that can meet the rigorous requirements of Port work aren't feasible in most applications today. We have been developing and supporting numerous projects to advance technologies at the terminals and on the roads.

For terminal equipment, we have been focusing our efforts on development of zero emission replacements for yard tractors, rubber tired gantry cranes, top handlers and heavy capacity forklifts, since these represent over 70% of the equipment inventory and over 90% of the nitrogen oxide emissions. Zero emission truck demonstrations have focused on the Class 8 heavy-duty trucks used in drayage. Project partners have learned a lot through these demonstrations. As a result of these projects, some of this equipment is in its third generation, and important improvements have been made, but they aren't fully technically and operationally feasible, or commercially available. Some terminals have handed equipment back after demonstrations conclude, because they don't meet their operational needs. Further, larger scale deployments of all vehicles types need to be conducted to show how these technologies can be produced and operated successfully at scale. We believe it will still be several years before these vehicles are fully feasible. And lastly, the cost for zero emissions terminal equipment is at least three times the cost of diesel on average. And for less well financed independent owner operator (IOO) truckers, they are going to need significant financial support given the cost for zero emission trucks can be 10 times more than what they are used to paying.

- Second is building out the charging and fueling infrastructure. Arguably this will be much more complex and challenging than the equipment development. Infrastructure is expensive and disruptive to install, especially when retrofitting into existing operating terminals. A critical upfront step is to do master planning of the terminals to make sure the design is well thought out to support long term operations. It's also important to recognize that these technologies are still emerging and we don't fully know what will be required to support the equipment, and trucks today are limited in the rate at which they can charge, resulting in long charging times and reduced productivity.

There is a need to future proof infrastructure as much as we can for when fast chargers come online to support trucks with higher capacity batteries that can accept higher rates of charge. Hydrogen fueling will also be needed in the coming years when more fuel cell trucks are commercially available. A regional network of charging and fueling must be built to support the more than 13,000 active drayage trucks currently serving the San Pedro Bay Ports. However, the gap in charging infrastructure is very real today. Two public chargers will come online at the Port of Long Beach in the coming weeks and the Port is aware of only nine planned public chargers in total for our region. We expect 500-1,500 public chargers will be needed in the region to serve zero emission trucks by 2030, and 1,400-4,300 charging stations will be required by 2035. Multiple stakeholders including utilities, OEMs, government, and private industry will need to plan for and develop it, and we know from experience that design and construction of these facilities can take many years. Infrastructure must also be built with equity in mind - public charging and fueling will be essential. Small fleets without access to truck yards for parking today will need a place for overnight charging. Public charging for heavy duty trucks will also need to be subsidized to ensure capital investments are made and to support the operational business case in the early years while initial utilization rates are low and the zero emission truck fleet is growing. Further, reliance on the electrical grid makes us vulnerable to outages and necessitates simultaneous planning for energy resiliency strategies. And finally, development of new regulations and requirements must continue to push for progress, but also set realistic expectations based on the state of the technology and availability of infrastructure so operators can comply and our economy can continue to thrive.



- While these challenges are real and daunting, we can get through them to achieve a zero emissions future, if we work together, and remain clear focused and make a deliberate effort to address them.
- Thank you for the opportunity to speak with you today.