San Pedro Bay Ports
Sustainable Supply Chain Advisory Committee

Funding and Resource Prioritization Recommendation

The Committee submits the following recommendations for reducing emissions at the San Pedro Bay Ports to the Mayor of Long Beach, Robert Garcia; the Mayor of Los Angeles, Eric Garcetti; the Executive Director for the Port of Long Beach, Mario Cordero; and the Executive Director for the Port of Los Angeles, Gene Seroka. As the Committee previously adopted in its Mission & Vision, the following values and guidelines have been considered:

- Focus on the largest sources of emissions with near-term and currently available technologies that meet economic and commercial needs
- Near term pilots that are scalable, advance zero emissions targets, and help transform markets
- Cost-effective investments with environmental, economic, and technological sustainability that also drive long-term market transformation
- Protecting human health, especially in port-adjacent communities that are disproportionately impacted by freight emissions, by accelerating the deployment of zero and near-zero emission technologies

The recommendations are anchored in the following key factors identified through extensive analysis and stakeholder dialogue:

- The Committee aims to prioritize emissions categories according to the availability of cost-effective and meaningful reduction solutions and technologies that could be deployed in the near term for an immediate impact, and would also achieve long-term air quality benefits for the ports and their surrounding communities.
- The Committee recognizes that the ports and their stakeholders are constrained by the relationship between their financial resources and operating obligations, the generally higher incremental costs for new technologies that have not yet reached commercial maturity, and the need for significant supporting infrastructure investment for some technologies.
- The Committee recognizes that the availability of commercial zero- and near-zero emission equipment varies widely across the five identified equipment categories.

Technical Analysis

In considering the host of factors described above, the Committee reviewed a consultant's analysis of zero- and near-zero emission technologies and products for a subset of equipment types. The intent of this analysis was to assess potential emissions reductions, technology

availability, costs, and the cost effectiveness of technology investments for each of five identified equipment categories. This analysis included consideration of potential regulatory timelines for emissions compliance and public health obligations.

Committee Recommendations for Near-Term Port Action

The Committee recommends that the joint SPBPs leverage the collective resources from the ports, Mayoral offices, other available financial resources – and work to create new funding sources – to prioritize investment in the following equipment areas where immediate positive impact is achievable.

- **Forklifts** – Replace smaller capacity forklifts with zero emission equipment where such equipment is commercially available and viable.
- **Harbor Craft** – Repower and retrofit tug boats and other harbor craft to the Tier 4 standard, or better, where applicable.
- **Locomotives** –
    - Complete the upgrade of Pacific Harbor Line's (PHL) locomotives to the Tier 4 standard, or better, and explore opportunities to deploy zero emission capable technologies within the PHL fleet.
    - Work with Union Pacific and BNSF to identify strategies and opportunities to maximize use of their Tier 4 or better locomotives into port related activities to allow increased on-dock rail to provide an air quality benefit for communities as measured by a net reduction in port-related locomotive emissions of diesel particulate and nitrogen oxides, regardless of activity levels.
- **Trucks** –
    - Continue to carefully monitor and extract lessons learned from the ongoing zero emission demonstrations at the ports and throughout California.
    - Pursue the deployment of zero and near-zero emission drayage technology in the port fleets with an emphasis on replacing inventory in the pre-2014 model year category.
    - The Committee recommends that the Ports continue to engage truck OEMs, regional dealerships, finance and leasing companies, beneficial cargo owners, truck drivers and their associations, and other relevant stakeholders to develop innovative approaches to accelerate deployment while maintaining the competitiveness of the ports and the jobs of current drayage truck drivers. These approaches will align with the elements identified in the CAAP as critical for meeting the current Clean Trucks Program's 2020, 2023 and 2035 deadlines in a manner that provides tiered incentives starting with zero emission trucks being at the top tier. In parallel, the ports need to aggressively collaborate with the elected officials and agencies able to contribute financial resources towards this goal, including the Governor, the California Legislature, CARB, SCAQMD, CEC,

DOE, EPA, and others, which is necessary to achieve a large-scale deployment in 3-5 years.

While the Committee recognizes that prioritization of certain technologies may suggest a de-prioritization of others, it wants to be clear that this is not the intent of this recommendation. The Committee's intent is to identify areas for immediate action consistent with the above guidelines, while balancing the need to continue to invest in areas where additional research, demonstration and validation of zero and near-zero emission technologies is needed.

These additional areas are:

- **Cargo Handling Equipment** – Continue to carefully monitor and extract lessons learned from the ongoing zero and near-zero emission demonstrations at the ports and throughout California, including a focus on in-use emission levels achievable with each technology. In addition, the Committee recommends that the ports continue to implement the CHE recommendation approved in May 2017.
- **Ocean-Going Vessels** –
    - Continue to support the vessel speed reduction (VSR) program by adapting incentives to maximize participation by all vessels transiting within 20 and 40 nautical miles of Point Fermin.
    - Seek partners to develop and demonstrate new fuels and on-board technologies to reduce OGV emissions in transit, and additional systems to reduce OGV emissions from both auxiliary engines and boilers at berth, beyond the requirements of existing regulations. Continue to assess and invest in fuel supply solutions, and demonstrations and deployment of viable solutions.
    - Continue to work with CARB to inform pending shore power regulations by assessing how to maximize the air quality benefits and minimize the costs of expanded investments in both vessel and terminal infrastructure upgrades that these rulings would require.
    - In parallel, continue to assess the needs and development opportunities for alternative emissions capture systems for OGVs.