Sustainable Freight Advisory Committee

Cargo Handling Equipment Recommendation

The members of the Sustainable Freight Advisory Committee have reached agreement on proposing the following process for identifying opportunities for air pollution and greenhouse gas emission reductions from cargo handling equipment. Initial positions on cargo handling equipment recommendations varied widely and many members made significant compromises and accommodations to reach a consensus on this proposal. As such, this recommendation may not represent the preferred alternative of any individual member of the committee but a reasonable and viable process on how to address this complicated and controversial issue upon which all committee members could agree.

1. **Opportunity Study**
    a. Complete a detailed study of the terminals within the Port to identify the best potential opportunities for the deployment of zero and/or near-zero emission cargo handling technology and supporting fueling infrastructure.
    b. Work with each Port terminal to identify the equipment to be replaced with zero and/or near-zero emission technologies. Such equipment could include, but is not limited to:
        (1) Ship to Shore cranes
        (2) RTGs
        (3) Forklifts
        (4) Yard hostlers
        (5) Pickup trucks
        (6) Top picks
        (7) Other TBD
    c. Review the Port emissions inventory to confirm which groups of equipment represents the largest sources of emissions.
    d. Work with fuel providers and LADWP (via POLA/DWP committee) to understand the requirements, costs, timelines and other key considerations to develop the necessary refueling / charging infrastructure, and the anticipated delivered fuel costs to the end-user
        (1) Provide an infrastructure development plan to document the total costs for each Port terminal facility to transition to zero and/or near-zero emission alternatives

(2) Determine the total potential fuel and/or electrical power load for each facility and identify a pathway to serve this fuel/power demand

(3) Study how integration of renewables and energy storage could aid in reducing rates and lifecycle emissions

e. Determine the estimated costs, emission benefits, efficiency improvement, and estimated implementation timeline for a transition to zero and/or near-zero emission alternative technologies, fueling infrastructure and fuel within each terminal facility and overall for the Port.

f. Develop concepts, cost structures and incentives required to facilitate the aggressive transition of CHE to zero and/or near-zero emission alternatives.

2. Multi-Port Clean Tech RFIs

a. Work with industry representatives to develop an "equipment requirements" document for each major piece of equipment.

b. Coordinate with other ports to develop and issue an RFI for zero and/or zero emission equivalent technology (prioritize the RFI based upon the findings from Task 1.a., 1.b. and 1.c.).

3. Project Development

a. Advocate to have CARB, CEC, SCAQMD, others allocate funding for port / goods movement zero and zero emission equivalent deployment.

b. Aggressively seek funding for projects that show promise via Task 1 –Opportunity Study.

c. Use the Opportunity Study (above), “Score Board” (below) and “gap analysis” to identify best opportunities for new deployments of zero and near-zero emission equipment in on-road and off-road port applications.

4. Share Success Stories & Best Practices

a. Develop and publish a "Score Board" for funded zero and/or near-zero emission truck and CHE projects in on and off-road applications. In the scorecard, confirm:

(1) Which are port related and which are not.

(2) Status: funded; on order; operational; other.

a. Measure data and showcase projects like Green Omni, Everport and other demonstration efforts to encourage regional learning and replication (i.e. share results).
   (1) Develop "Best Practices" guide based upon results; POLA to update annually.
   (2) Uses data from this task to assist in the development of the 2020 and 2025 CHE feasibility studies noted in the Draft CAAP Discussion Document.

b. POLA to host an annual event on zero and/or near-zero emission deployment efforts in order to share the latest information and successes with Port terminals, equipment providers and other stakeholders. The event should:
   (1) Showcase success stories and best practices
   (2) Showcase technology and innovation
   (3) Share info among terminals