
California Sustainable Freight Action Plan: Pilot Project Ideas

Joint Bay Area Project Submissions

Bay Area Air Quality Management District

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Project Title: Shore power for non-regulated berths/vessels (e.g., bulk and automobile delivery vessels)

Project Location: Ports of Richmond, Redwood City, Benicia

Project Summary:

Shore power infrastructure has been installed at many California ports, including the Ports of Oakland and San Francisco. While the CARB Shore Power regulation will help achieve significant emission reductions from ships at berth, the regulation does not apply to all ocean-going vessels. The regulation currently applies to container, passenger, and refrigerated cargo vessels that make a minimum number of visits to the California ports of Los Angeles, Long Beach, Oakland, San Diego, San Francisco, and Hueneme. The bay area Ports of Richmond, Redwood City, and Benicia are not covered by the regulation, and represent additional opportunities to reduce emissions from freight activities. Grid-based infrastructure can be installed at berths that have vessels that call with regular frequency. Capture-control systems and shore-side generator units could be used at berths that do not have the same frequency of ship calls or have vessels that have not yet been retrofitted to accept grid-based power. This project will provide an opportunity to reduce emissions from vessel types that are not subject to the CARB regulation (e.g., bulk carriers and automobile delivery vessels).

Project alignment with goals and components of the Sustainable Freight Action Plan:

- Air quality improvement and toxic risk reduction
- Greenhouse gas reductions
- Reduction in fuel consumption
- Promotion of advanced technologies

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Project Costs:

The cost for installing grid-based shore power infrastructure is about \$4.5 million per berth. The cost for a ship emissions capture and control system estimated capital cost is approximately \$6 million for the current standard design of one 12,500 scfm unit with single bonnet.

Project Timeline:

The technologies identified for this project are currently available and can be installed and operational in the 2016-2025 timeframe.

Means for measuring progress toward meeting goals over time:

The success of this project will be measured by the increase in the number of ocean-going vessels that reduce their emissions while at berth, and the additional bay area ports that offer options for reducing these emissions.

Description of the potential roles of the interagency partners:

The Bay Area Air Quality Management District, CARB, and U.S. EPA could all be approached for project co-funding. The local ports or terminals would be involved as the equipment recipients, and operators of the equipment. PG&E would be involved in the testing and commissioning of the grid-based shore-power systems.