



SURVEY QUESTIONS FOR OCEAN-GOING VESSEL OPERATORS, CHARTERS and/or OWNERS*

1. How is your current fleet composition expected to change by 2023, 2030, and 2040 (e.g., Tier level, technology, fuel, vessel size)? What are the main drivers for the changes (e.g., fleet renewal, IMO regulations, any specific regional/national regulations or programs, and/or non-environmental reasons, pandemic)?
2. Will the expected changes affect your current practice of vessel deployment to the Port of Los Angeles and Long Beach? Are there any current or foreseeable barriers for you to deploy cleaner vessels to shipping routes that serve the U.S. West Coast?
3. Are there any specific clean technologies, alternative fuels, or operational improvements that you are currently utilizing, testing, exploring, or planning to deploy that you can share with us? Are they applicable to newbuilds, certain segments of in-service vessel, or more broadly applicable?
4. AQMD is currently engaged in a demonstration project jointly funded with Ports of Los Angeles and Long Beach for demonstration of a water-fuel emulsion technology which is potentially capable of achieving up to 40% NO_x reductions. Are there other retrofit technologies that you may be interested in demonstrating in partnership with AQMD and CARB?
5. AQMD is currently in the process of developing potential new incentive programs for clean vessels which could be implemented in several phases based on availability of clean technologies, funding level, and potential partnerships with other ports and port regions. Do you have any suggestions in developing and designing these programs?
6. Despite significant emission reductions from CARB's At Berth regulation, by 2037, Ocean Going Vessels will be responsible for almost ~20% of mobile source NO_x emissions. How can we increase cleaner vessel visits to California to further reduce emissions from transit, maneuvering and, anchorage?

* If you believe a survey response is a trade secret, as defined in Government Code section 6254.7(d), or otherwise exempt from disclosure, please identify the portions of your responses containing such data as "confidential" when submitting your survey responses. If the South Coast AQMD receives a request to disclose a survey response that is identified as including confidential material, we will follow the procedures outlined in our Guidelines for Implementing the California Public Records Act. Information that is ultimately determined to be a trade secret, or otherwise exempt, under the Guidelines, will not be disclosed. Please note that the South Coast AQMD may also release data in an aggregated manner such that information cannot be traced to an individual ocean-going vessel operator, charter and/or owner.