



Port of  
**LONG BEACH**

*The Green Port*

August 30, 2018

Samuel Wade  
California Air Resources Board  
P.O. Box 2815  
Sacramento, CA 95812

RE: Port of Long Beach Comments on the Second Proposed Amendments  
to the Low Carbon Fuel Standard Regulation

Dear Mr. Wade,

The Port of Long Beach (Port) appreciates the effort that CARB has given to the second set of modifications to the proposed Low Carbon Fuel Standard (LCFS or Rule). We recognize that you have many stakeholders and we appreciate that several of our recommendations were incorporated into the proposed Rule. The Port has set ambitious zero-emissions goals in its Clean Air Action Plan; full participation in the LCFS program will assist in enabling the Port and its terminal and fleet owners to transition away from diesel. The crediting of shore power for Ocean-going Vessels (OGVs) into the LCFS program will encourage ongoing investment in electrical infrastructure and ensure 100% compliance with the at-berth regulation. Further, the Port believes that allowing the owners of the fueling supply equipment (FSE) to generate credits could help properly incentivize the upgrades of diesel equipment, as this type of upgrade, particularly the costly associated infrastructure investments, is significantly less feasible without the added value and benefit of the LCFS credit. The Port also welcomes the inclusion of electric forklifts, Transport Refrigeration Units (TRUs) and other Electric Cargo Handling Equipment (eCHE) into the LCFS program.

The Port appreciates this final opportunity to offer additional recommendations on the second set of modifications.

1. *The Energy Economy Ratio (EER) should include appropriate EERs for commercialized electric Port equipment, especially yard tractors.* The Port is encouraged by a new EER catch-all category for eCHE in the proposed Rule, however, the current generic value given is 2.7 which seems much too low for many specific types of mobile freight equipment. As published in a 2017 CARB report entitled "Battery Electric Truck and Bus Energy Efficiency Compared to Conventional Diesel Vehicles," yard tractors that travel at an average of 3 mph (as they do at the port) have an EER of 7. The difference between the default EER 2.7 and the EER of 7 for one yard tractor translates into an additional \$15,283 per

year per yard tractor (assuming it is used 1800 hours/year and the LCFS credit price is \$185). Using the default EER, the payback period from LCFS credit revenues for the premium associated with buying an electric yard tractor (which costs approximately \$410,000 instead of \$136,000 for a diesel version) is 46 years. The payback period for this premium using the EER of 7 is just 18 years. The cost premium for electric yard tractors is significant, and the use of the default EER may not incentivize their purchase.

The Port supports the proposal to allow for new EERs to be identified as new technologies emerge; however, the Port is concerned that the extensive work, necessary expertise, and long timeline may deter end users from acting upon this option. While additional EERs have been proposed in the second amended language, these EERs continue to overlook some pieces of port-related equipment, and many of them also seem much too low and require additional CARB Energy Efficiency Reports to confirm their accuracy. The lack of accurately derived EERs could result in fewer credits or could fail to provide enough of an economic driver for equipment conversion; thus, the Port encourages additional EERs to be formally adopted through the Energy Efficiency Report process for specific pieces of eCHE, and the Port is happy to work with CARB to provide information that may be useful in developing more accurate EERs.

2. Allow FSE owners to use the same simplified calculation that electrical distribution utilities (EDUs) use to calculate credits. EDUs are able to simply multiply the number of pieces of electric equipment in the utility's service territory by the daily average electricity use per vehicle by the work days of the year to calculate the credits they can claim from forklifts. FSE owners must either have dedicated meters that serve the forklifts or use a calculation that requires FSE owners to keep track of the depth of discharge, battery capacity rating, charger efficiency rating and charge return factor. Now that electric mobile equipment qualifies for LCFS credits, installing many meters and/or keeping track of all of these factors for each piece of equipment will become cumbersome and cost prohibitive for FSE owners.
3. Smart charging provisions should apply to electricity supplied to equipment at the Port. The book-and-claim and green tariff provisions qualify for electricity supplied to mobile equipment, and the smart charging provisions should also. The Port does not believe that CARB intended for smart charging provisions that are available for electric equipment not be applicable to electric equipment at the port. Smart charging would allow for strategic charging when the grid emission

factors are lower than average, which results in less emissions per charge and more credits.

Again, the Port appreciates that CARB has listened to our comments and in some cases incorporated our recommendations into the proposed Rule. Thank you for your time and attention to these comments, and if you have any questions please contact me at [heather.tomley@polb.com](mailto:heather.tomley@polb.com) or (562) 283-7100.

Sincerely,



Heather A. Tomley  
Director, Environmental Planning  
Port of Long Beach