April 19, 2018

Dear Mr. Wade,

The CHBC appreciates the great work of the Air Board’s (ARB’s) staff to continue to improve the Low Carbon Fuels Program (LCFS). The California Hydrogen Business Council (CHBC) would like to suggest a change to the LCFS Program to increase the adoption of renewable and zero carbon fuels like hydrogen to meet California’s climate and emission reduction goals.

The CHBC is a California industry trade association with a mission to advance the commercialization of hydrogen in the energy sector, including transportation, goods movement, and stationary power systems to reduce emissions and dependence on oil.

The CHBC recommends that ARB recognize a fuel cell battery hybrid electric bus (FCEB) as a battery electric bus (BEB) with the same EER value relative to diesel. FCEB propulsion is provided by an electric motor with energy coming from a battery, exactly like a BEB with the same efficiency. Therefore the EER should be calculated based on the bus energy consumption in kWh/mile like any other electric bus (using Altoona test data) and not based on hydrogen consumption.

The efficiency of the fuel cell module to convert hydrogen into electricity should be part of the electricity generation, transportation and charging efficiency.

The fuel cell module on board the bus is a battery charger; it should therefore be considered as an alternative way to charge batteries like on route opportunity charger or plug-in at a depot. Consequently, it should not be considered as part of the vehicle efficiency calculation but should be part of the charging system of the vehicle.
We appreciate your time and consideration of our comments, and are available to provide further detail, if requested.

Thank you.

Sincerely,

Emanuel Wagner
Assistant Director
California Hydrogen Business Council