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April 17, 2017

Samuel Wade
Branch Chief, Transportation Fuels
California Air Resources Board
1001 I Street
Sacramento, CA 95814
(Comment submitted via email to LCFSworkshop@arb.ca.gov)

RE: Alternative Jet Fuel and Renewable Propane

Dear Mr. Wade,

The Western Propane Gas Association (WPGA) appreciates the opportunity to provide comments regarding the Low Carbon Fuel Standards regulation and the potential acceptance of renewable propane (inclusive of bio-propane or bio-LPG) in the LCFS as an 'opt-in' fuel.

WPGA is a trade and membership service organization that represents propane marketers throughout California. Founded in 1949, the association has grown in its influence while maintaining its core principles of education and safety. WPGA recognizes the important role we can play collectively with other stakeholders invested in a clean energy future. WPGA has set a course for the development of advanced technologies that aid in achieving the climate goals set forth by the State.

One such advancement is the commercial development of renewable propane in California. Renewable propane includes among other processes, propane derived from vegetable oil refining process (a.k.a. bio-propane or Bio LPG), the production process by Nesté Oil, as well as the potential propane derived from a beef tallow refining process. Renewable propane is chemically indistinct from traditional propane and can therefore be used by all existing propane powered vehicles without the need for modification. Renewable propane is a by-product of renewable diesel and/or renewable jet fuel production from renewable sources, making it a lower carbon alternative to conventional propane and petroleum products. In the case of Nesté Oil's production, renewable propane could provide a reduction in GHG emissions1 of up to 84% over conventional blends. Figure 1 shows the comparative GHG emissions from LPG alongside conventional transportation fuels.

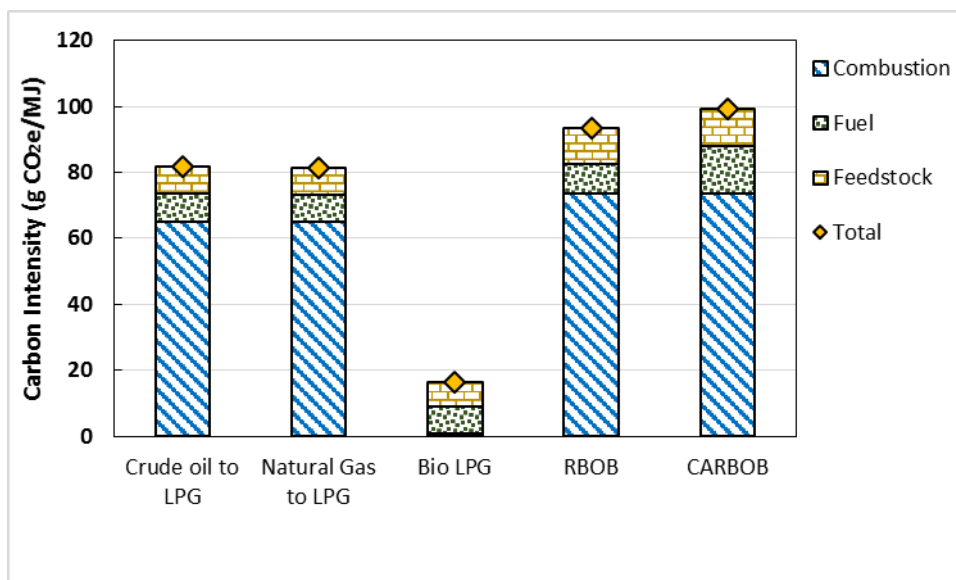


Figure 1. Lifecycle GHG Emissions for LPG compared to CARBOB and U.S. RBOB (Source GREET1_2014)

1 Estimate based on Nesté conversion of used cooking oil to biodiesel.



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Propane is a clean-burning fuel, emitting virtually no soot or Particulate Matter (PM) on combustion. Propane combustion also generates low levels of criteria air contaminants (Carbon Monoxide (CO) and oxides of nitrogen (NO_x)), which are the basic precursors of ground-level ozone, also known as smog.^{i,ii} Equipment manufacturers are now developing engines, and are pending certification on a 6.8L propane-fueled engine, that will meet the 0.05g /bhp-hr levels of the Optional Low NO_x emission standard in California, offering up to 90% NO_x reductions compared to today's most modern diesel engines. Propane vehicles also significantly reduce CO emissions when compared to gasoline alone. Propane vehicles provide a clean, economical option for a broad variety of markets, including school buses, municipal buses, shuttle vans, forklifts, delivery trucks, taxis and pickups. Allowing renewable propane to be included in the LCFS would help encourage greater production of this low carbon intensity fuel.

WPGA strongly supports CARB's consideration to include renewable propane in the LCFS program as an 'opt-in' fuel. Thank you for your consideration and we look forward to further participation in future workshops.

Warm regards,

Joy Alafia
President and CEO

ⁱ U.S. Energy Information Agency, Ground level Ozone Factsheet, available at: <http://www.epa.gov/groundlevelozone/basic.html>, accessed on 10/8/2014.

ⁱⁱ U.S. Environmental Protection Agency, Ground level Ozone Factsheet, available at: <http://www.epa.gov/region1/airquality/>, accessed on 10/8/2014.