

Submitter: Jeff Earl
On Behalf Of:
Committee: Joint Committee On Transportation
Measure: HB4090

Patrick,

I've attached additional data and citation below from the information I provided in my remarks today. Please feel free to share with the members of the joint committee.

Biodiesel reduces GHG engine emissions by nearly 100%.

- The lowest carbon intensity of biodiesel certified in CA is 8.63 gCO₂e/MJ from used cooking oil by New Leaf Biofuels in San Diego, CA (see Pathway T2N-116, row 255, https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/fuelpathways/current-pathways_all.xlsx). Compare that to the CA Average Grid Electricity CI of 75.93 gCO₂e/MJ (https://www.arb.ca.gov/fuels/lcfs/fuelpathways/comments/tier2/2021_elec_update.pdf). When you adjust the grid electricity carbon intensity (CI) by the energy efficiency ratio (EER) for electricity powertrains in heavy duty vehicles (5.0), you get an EER-adjusted CI for HD electricity of 15.19 gCO₂e/MJ. There are at least 8 different biodiesel pathways with CI at or below the EER-adjusted grid average electricity.

Biodiesel reduces engine-out particulate matter emissions by 70%. Biodiesel reduces engine-out hydrocarbon emissions up to 60%.

- The PM and hydrocarbon emission levels and reductions associated with biodiesel can be found in CARB's 2011 biodiesel characterization study (other studies are available as well). See values for B100 in Tables ES-2 and ES-3 in https://www.arb.ca.gov/fuels/diesel/altdiesel/20111013_carb%20final%20biodiesel%20report.pdf (even higher PM reductions noted for various test runs elsewhere in the report). The data can be found in the Executive Summary (xxviii).

Thanks again for the opportunity to talk about the benefits of biodiesel and its immediate benefits.

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