

July 7, 2023

California Air Resources Board
1001 I Street
Sacramento, CA 95814
Via Online Submission

Comments on June 14, 2023 Joint Cap-and-Trade Program Workshop

Dear California Air Resources Board (CARB) Low Carbon Fuel Standard Program Staff:

Thank you for the opportunity to provide comments in response to the Cap-and-Trade Workshop held June 14, 2023. We appreciate CARB hosting this workshop.

As background, Oberon is an innovative California company founded in San Diego 13 years ago with a focus on decarbonizing the global LPG/propane industry while laying the foundation for low-carbon intensity renewable hydrogen. We are accomplishing this today by producing renewable dimethyl ether (DME) at our Brawley, California production facility. Renewable DME can be made from various in-state waste streams (e.g., dairy manure biogas, wastewater treatment plants, process organics diverted from landfills), which can enable smaller, often stranded, biogas suppliers to create commercial opportunities, avoid waste of low carbon feedstocks and reduce greenhouse gas emissions. Renewable DME can reduce the carbon footprint of transportation when used as a: 1) blending agent with Liquid Petroleum Gas (LPG)/propane; 2) hydrogen carrier to power the growing fuel-cell electric vehicle market; and 3) diesel substitute.

Offset Protocols Update

Oberon is responding to slides 27 and 28 regarding an Offset Protocols Update.

There are major emission sources from manures that are counted under the GHG inventory such as non-dairy cattle and poultry but that are not explicitly included in the Livestock Offset Protocol. We encourage CARB to update and to be inclusive of these additional livestock emission sources under the CARB Compliance Offset Protocol Livestock Projects.

According to ATiP¹ data there are 247 poultry operations in California with 83 million chickens. While site-specific practices vary, many of these farms currently use lagoons to store manure, resulting in emissions similar to those from unabated dairy and swine operations. In fact, CARB's 2022 Greenhouse Gas Inventory

¹ <http://atipfoundation.com/>

suggests that in-state methane emissions from poultry manure in unabated lagoons is 2.5X as much as the methane emissions from in-state swine manure in unabated lagoons. The 2.5X impact factor is the same when considering both CH₄ and N₂O.

Typically poultry manure, particularly from layers, on a pound-for-pound basis holds greater biogas generation potential than dairy or swine manure. Eighty-three million chickens could produce the biogas equivalent of 42 million gallons of diesel fuel per year.² Future projects that capture biogas produced by poultry manure would be consistent with Sb1383, which requires the reduction of methane emissions from livestock manure other than dairy cattle manure, as well as existing state policy. It is a significant opportunity to reduce methane emissions, displace petroleum, and support the ambitious path for greenhouse gas emission reductions presented in the 2022 Scoping Plan.

The LOP uses methane conversion factors taken from Chapter 10 of the 2006 Intergovernmental Panel on Climate Change ("IPCC") entitled *Emissions from Livestock and Manure Management* ("Chapter 10"). Section 10.4 of Chapter 10 (pp. 35 - 52) provides these factors for many types of livestock in addition to dairy and swine, including poultry (both layers and broilers) and beef cattle.

Given that we have a California industry currently responsible for substantial methane emissions stored in uncovered lagoons and given that we have the methane conversion factors for poultry manure from the IPCC, it makes sense for CARB to amend the LOP (and/or create a separate LOP for the LCFS) to address poultry manure. It is also important to send a clear signal in the interim that investments in well-designed poultry manure projects that capture methane for productive use are consistent with the State's Scoping Plan, are recognized under the LCFS, and are encouraged.

Thank you for your time and consideration. Please do not hesitate to contact me at david.mann@oberonfuels.com with any questions.

Sincerely,

David Mann
Vice President, Regulatory and Government Affairs
Oberon Fuels

² Factored from 2006 IPCC Guidelines (Volume 4, Table 10.14) default emission factors for North America assuming layers in wet (lagoon) systems.