Anaergia Services, LLC
705 Palomar Airport Rd, Ste 200
Carlsbad, CA 92011 USA

Low Carbon Fuels Standard Program
California Air Resources Board (CARB)
1001 I Street
Sacramento, CA 95814

September 19, 2022

Subject: Comments on 2nd Public Workshop to Discuss Potential Changes to LCFS on August 18, 2022

To the LCFS Program:

Anaergia Services LLC (Anaergia) is a global leader in diverting organics from landfill-bound waste and converting them into renewable fuel and soil amendments. Based in Carlsbad, CA, Anaergia is actively deploying anaerobic digesters in California for converting landfill diverted organic waste into carbon-negative fuels. Our Rialto Bioenergy Facility (RBF) – the largest landfill diverted organics to renewable fuel facility in America – can process over 175,000 tons per year of diverted organics and produce 1,000,000 MMBtu/yr of RNG. After 4 years of planning and construction with over $180M invested, RBF is now operational and has created at least 50 permanent jobs, hundreds of construction and service jobs, and over 500,000 hours of construction work. These facilities are part of the 160 CalRecycle estimates are needed to meet California's organic waste landfill diversion goals stated under SB 1383, and which are foundational for achieving carbon neutrality target by 2045.

Anaergia submits this letter as CARB evaluates possible updates to the LCFS Program. Anaergia strongly supports a continued focus on growing the production of low carbon fuels to reduce the impact on climate change from the transportation sector. In particular, we encourage CARB to:

- Prioritize fuels that reduce SLCP emissions
- Accurately account for avoided landfill emissions

<u>Need to incentivize SLCP reductions</u>

Anaergia encourages CARB to include additional incentives for fuels that reduce Short-Lived Climate Pollutants (SLCP). SLCP are potent climate gases with significant potential to warm the atmosphere. It is becoming increasingly clear that there is an urgent need to reduce emissions of SLCP such as methane. In its 2021 report, the Intergovernmental Panel on Climate Change demanded that nations make much more aggressive reductions in methane emissions. In response, US President Joe Biden and European Commission President Ursula von der Leyen issued a statement identifying the reduction of methane emissions as the "single most effective strategy to reduce global warming in the near term[1]" and established a consortium of 90 countries to reduce methane emissions by 30% from 2020 levels. The Air Board's *Short-Lived Climate Pollutant Reduction Strategy* also indicates that "the science unequivocally underscores the need to immediately reduce emissions of short-lived climate pollutants."[2] Including incentives for SLCP

[1] https://www.whitehouse.gov/briefing-room/statements-releases/2021/11/02/fact-sheet-president-biden-tackles-methane-emissions-spurs-innovations-and-supports-sustainable-agriculture-to-build-a-clean-energy-economy-and-create-jobs/
[2] *Short-Lived Climate Pollutant Reduction Strategy*, adopted by the California Air Resources Board, March 2017, at page 1.

Anaergia Services, LLC
705 Palomar Airport Rd, Ste 200
Carlsbad, CA 92011 USA

emissions also aligns with existing state law – Senate Bill 1383 – and would facilitate the 40% reduction of methane by 2030. The Air Board could adopt incentives to reduce SLCP, including:

- Adoption of a bonus credit or adder
- A guaranteed credit price, as suggested by SB 1383

Encouraging the reduction of SLCP emissions would help the Air Board achieve its primary goal of reducing the state-wide carbon intensity of transportation fuels. Such a focus would also align with other state policies, including SB1383's mandate to reduce methane emissions by 40% by 2030.

Accurately account for avoided landfill emissions

Staff highlighted the integral nature of updating CA-GREET3.0 model with the most up to date emissions factors. One key area in which there has been a significant update to data availability is that of fugitive methane emissions from landfills. Previously, CARB estimated that 39.8 $MMTCO_2e$ of methane were emitted in 2018. Of this, CARB determined that 21% of statewide methane emissions were attributed to the decomposition of organic waste in landfills. However, a 2019 study by the NASA JPL estimates that landfills' contribution to the **state's methane emissions is double current estimates – approximately 41% of all methane** point source emissions in California.[3] A conclusion also supported by a report published by the Maryland Department of Energy finding that emissions from landfills were "four times greater" than previous estimates and were the leading source of methane emissions (37%) in the state,[4] as well as a 2022 study conducted by SRON Netherlands Institute for Space Research indicating methane emissions at landfills were double than previously expected.[5]

The updated estimates were facilitated by the use of direct measurements instead of models, using a variety of techniques including specialized airborne imaging spectrometers attached to drones and satellite imagery. It is critical that CARB utilize the improved monitoring techniques to develop and implement policies that encourage the diversion of organics from landfill and prevent continued methane emissions from the largest point source SLCP emitters in the state of California.

We strongly urge CARB to update its 75% methane landfill capture assumption in the LCFS Tier 1 Calculator to reflect the latest monitoring data. Updating the fugitive methane emission factor will more accurately reflect the avoided carbon emissions associated from RNG produced at landfill diverted organics anaerobic digestion facilities. Having a more accurate CI score for the produced RNG will facilitate the financing of such facilities and accelerate the deployment of additional anaerobic digesters throughout the state to act as outlets for landfill-diverted organics. This in turn can help the state achieve its own goals to reduce SLCP emissions, per SB1383. Ultimately, this simple policy update to reflect the latest landfill monitoring techniques can have an outsized impact on minimizing fugitive emissions of SLCP at landfills.

Conclusion

Climate change is a grave threat to our environment and our economy. California has set an ambitious climate strategy programs and laws to reduce greenhouse gas emissions. Implementing the above changes

[3] Duren, R.M., Thorpe, A.K., Foster, K.T. *et al.* California's methane super-emitters. *Nature* **575,** 180–184 (2019). https://doi.org/10.1038/s41586-019-1720-3
[4] https://environmentalintegrity.org/wp-content/uploads/2021/06/MD-Landfill-Methane-Report-6.9.2021-unembargoed_with-Attachments.pdf
[5] https://www.science.org/doi/10.1126/sciadv.abn9683

Anaergia Services, LLC
705 Palomar Airport Rd, Ste 200
Carlsbad, CA 92011 USA

can have an **immediate impact in strengthening the LCFS Program and encouraging reduction of GHG emissions from the transportation sector -** all while encouraging the production of in-state carbon negative fuels and generation of in-state green jobs. We deeply appreciate your leadership in mitigating climate change and hope that our comments will help to make these excellent programs work even better in the future.

Respectfully,

Dr. Yaniv Scherson
Chief Operating Officer
Phone: 949.987.1118
Email: Yaniv.scherson@anaergia.com