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

August 8, 2022

Subject: Comments on LCFS Program Staff Presentation on July 7, 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:

- Accelerate reduction of CI targets for 2030 and extend program to 2045
- Prioritize fuels that reduce SLCP emissions
- Incentivize in-state low carbon fuels production
- Accurately account for avoided landfill emissions

<u>Accelerate declining CI compliance targets for 2030 and extend program to 2045</u>

The Staff Presentation on July 7 indicated that the LCFS is working and that it has achieved a 9.36% reduction in the overall carbon intensity of vehicle fuels.[1] Reducing the overall carbon intensity of has also helped diversify vehicle fuels utilized within the state. While we appreciate the role LCFS has played in decarbonizing vehicle fuels to date, the program currently lags the carbon reductions achieved in the electricity sector under the state's Renewable Portfolio Standard (RPS) as well as the state's 2030 and 2045 climate goals.

In response to the Staff Presentation's question regarding whether the 2030 carbon intensity reduction should be made more stringent, Anaergia **strongly supports lowering the carbon intensity to at least 30% CI reduction by 2030 and a 100% CI reduction by 2045.** Doing so would significantly lower the Greenhouse Gas (GHG) emissions associated with the transportation sector and would also bring the LCFS program close in line with the state requirements stipulated by SB32 to achieve a 40% reduction in carbon

[1] California Air Resources Board, Staff Presentation entitled "Low Carbon Fuel Standard - Public Workshop: Potential Changes to the Low Carbon Fuel Standard," July 7, 2022, slide 6.

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emissions by 2030. Such a change would also align with Governor Newsom's recent call for a strengthening of the LCFS program.[2]

Anaergia also **strongly supports extending the LCFS program beyond 2030 to 2045.** Doing so would aid the transportation sector in reaching carbon neutrality. Establishing longer term targets beyond 2030 would also send the market signals that the state is invested in achieving carbon neutrality and will help encourage the development of critical in-state carbon negative fuel infrastructure. In particular, extending LCFS to 2045 would facilitate the development of the 160 facilities that CalRecycle estimates are needed to divert 20M tons of organic waste annually from landfill and produce carbon negative RNG and fertilizer. Establishing 5-year interim targets would also provide benchmarks that increase certainty in the market and encourage investment.

Prioritize fuels that reduce Short-Lived Climate Pollutants

Anaergia encourages the LCFS Program to **maintain a performance-based program based on the carbon intensity of fuels.** It is becoming increasingly clear that there is an urgent need to reduce emissions of SLCP such as methane. SLCP are potent climate gases with significant potential to warm the atmosphere. 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[3]" 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."[4]

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.

Incentivize in-state low carbon fuels production

The Staff Presentation on July 7 indicated that biomethane use is increasing in California. However, most of the biomethane enrolled in the program is being generated out of state. As California residents, we feel that greenhouse gas reduction programs – paid for by California taxpayers – should prioritize facilities that reduce greenhouse gas emissions within California. Anaergia **encourages the LCFS Program to introduce prioritization for RNG produced in California.**

Doing so will help build in-state facilities and employ Californians, who then pay taxes to help offset the cost of the program to the government. Alternately, when Californian vehicles use RNG from other states,

[2] https://www.gov.ca.gov/2022/07/22/governor-newsom-calls-for-bold-actions-to-move-faster-toward-climate-goals/#:~:text=In%20a%20letter%20to%20the,plan%20incorporate%20new%20efforts%20to
[3] 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/
[4] *Short-Lived Climate Pollutant Reduction Strategy*, adopted by the California Air Resources Board, March 2017, at page 1.

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the reduction of SLCP, and the job creation benefits all go to another state. The program effectively becomes a tax transfer to other states.

Furthermore, as developing, building, and permitting facilities in California generally takes longer and costs more than in other states, California-based companies are at a disadvantage if there are no preferences for California based RNG. Out-of-state RNG producers do not have to comply with California's pipeline injection standards and benefit from much lower interconnection costs, a situation that could be exacerbated should the California Public Utilities Commission adopt additional standards for pipeline RNG that applies only to in-state producers. Such an update would increase costs for in-state producers to meet while out-of-state producers are held to much lower standards.

Prioritization of California RNG aligns with other state policies which require the adoption of policies and incentives to promote instate production of RNG. These include:

- SB 1383 (Lara, 2016) requires agencies to "consider additional policies to support the development and use in the state of renewable gas, including biomethane and biogas, that reduce short-lived climate pollutants in the state."[5]
- AB 1900 (Gatto, 2012) requires the adoption of "policies and programs that promote the in-state production and distribution of biomethane."[6]
- SB 1122 (Rubio, 2012) requires the adoption of programs "to facilitate development of in-state biogas for a broad range of purposes." [7]
- AB 2313 (Williams, 2016) requires consideration of options to increase instate biomethane production and use.[8]
- SB 840 (Budget, 2016) states that for "California to meet its goals for reducing emissions of greenhouse gases and short-lived climate pollutants, the state must . . . increase the production and distribution of renewable and low-carbon gas supplies."[9]
- SB 1440 (Hueso, 2018) requires the CPUC to consider adopting a biomethane procurement program focused on in-state biomethane or biomethane that is physically delivered to California.[10]

By adopting policies and incentives to support in-state RNG, the LCFS Program would accelerate the reduction of SLCP emissions and help the state meet its carbon neutrality goals.

Accurately account for avoided landfill emissions

The LCFS Program has consistently presented on the importance to update aspects of the LCFS program to "reflect evolutions in technological performance and data availability.[11]" One key area in which there has been a significant update to data availability is that of fugitive methane emissions from landfills.

[5] Id.
[6] AB 1900 (Gatto, 2012) adding Section 399.24(a) to the Public Utilities Code.
[7] SB 1122 (Rubio), Statutes of 2012, Chapter 612, codified at Public Utilities Code § 399.20(f)(2)(D).
[8] Public Utilities Code § 784.2.
[9] Senate Bill 840 (Budget), Statutes of 2016, SEC. 10, §§ (b) – (i).
[10] Public Utilities Code section 651.
[11] https://ww2.arb.ca.gov/sites/default/files/2021-12/LCFS%2012_7%20Workshop%20Presentation.pdf

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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.[12] 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.[13]

The updated estimates were facilitated by the use of direct measurements instead of models. The NASA JPL study, in particular, deployed specialized airborne imaging spectrometers attached to drones, which could rapidly map methane plumes.[14] Deploying this remote sensing technology significantly improved the determination of methane emissions associated with landfills. 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 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

[12] 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

[13] https://environmentalintegrity.org/wp-content/uploads/2021/06/MD-Landfill-Methane-Report-6.9.2021-unembargoed_with-Attachments.pdf

[14] 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

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