

Ms. Cheryl Laskowski,  
California Air Resources Board (CARB)  
1001 I Street  
Sacramento, CA 95814

January 7, 2022

Subject: Comments on Potential Changes to the LCFS Program Workshop

Dear Ms. Laskowski,

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 large 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 continues developing the 2022 Scoping Plan Update to achieve carbon neutrality by 2045. 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:

- Reflect latest changes in data availability of fugitive methane emissions at landfills and update assumed 75% methane landfill capture rate in Tier 1 Low-Carbon Fuel Standard (LCFS)
- Extend LCFS program beyond 2030 and accelerate declining CI compliance targets
- Implement RNG procurement policies for gas utilities to decarbonize the gas system

#### Global push to accelerate reduction in methane emissions

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<sup>1</sup>” and established a consortium of 90 countries to reduce methane emissions by 30% from 2020 levels.

#### Extend LCFS program beyond 2030 and accelerate declining CI compliance targets

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<sup>1</sup> <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/>

Fortunately, the LCFS program is successful in increasing the diversity and volume of low-carbon fuels. In 2020 alone, fuels supported by the LCFS displaced over 2.4 billion gallons of petroleum fuel and amounted to over \$4 billion in credit transfers.<sup>2</sup> Further, LCFS has helped achieve a 98% RNG blend rate in transportation natural gas vehicles in Q1 2021.<sup>3</sup> As such, RNG has effectively displaced fossil fuel gas in the transportation sector. **We strongly support CARB's effort to extend the LCFS program beyond 2030, accelerate declining CI compliance targets, and strengthen interim pre-2030 targets** to continue reducing SLCP emissions.

#### Reflect Changes in Technology and Data

In the December 2021 workshop, CARB staff presented on the renewed focus to update aspects of the LCFS program to “reflect evolutions in technological performance and data availability.”<sup>4</sup> 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<sub>2</sub>e 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.<sup>5</sup> 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.<sup>6</sup>

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.<sup>7</sup> 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 for additional anaerobic digesters throughout the state that can 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

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<sup>2</sup> Id.

<sup>3</sup> [https://ww2.arb.ca.gov/sites/default/files/2021-09/rng\\_coalition\\_presentation\\_sp\\_slcp\\_september2021.pdf](https://ww2.arb.ca.gov/sites/default/files/2021-09/rng_coalition_presentation_sp_slcp_september2021.pdf)

<sup>4</sup> [https://ww2.arb.ca.gov/sites/default/files/2021-12/LCFS%2012\\_7%20Workshop%20Presentation.pdf](https://ww2.arb.ca.gov/sites/default/files/2021-12/LCFS%2012_7%20Workshop%20Presentation.pdf)

<sup>5</sup> 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>

<sup>6</sup> [https://environmentalintegrity.org/wp-content/uploads/2021/06/MD-Landfill-Methane-Report-6.9.2021-unembargoed\\_with-Attachments.pdf](https://environmentalintegrity.org/wp-content/uploads/2021/06/MD-Landfill-Methane-Report-6.9.2021-unembargoed_with-Attachments.pdf)

<sup>7</sup> 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>

landfill monitoring techniques can have an outsized impact on minimizing fugitive emissions of SLCP at landfills.

#### Implement and export LCFS model to encourage RNG procurement in other sectors

It is very exciting to see that additional jurisdictions – either other states or regions throughout the world – are interested in implementing LCFS-type programs to help decarbonize their transportation sectors and agree that there is a great opportunity to expand the influence of the LCFS program. **We encourage CARB to develop policies to export the LCFS model to other sectors in California to promote the decarbonization of the state's gas system.** CARB should develop policies that promote the creation and utilization of RNG beyond the transportation and power sectors, particularly the largest gas demand sectors including residential, commercial, and industrial. One avenue includes the CPUC staff's recommendation of a mandatory biomethane procurement program for Investor-Owned Utilities (IOUs) to procure on behalf of their core customers, pursuant to Senate Bill (SB) 1440. We fully support the staff's recommendation and encourage CARB to develop policies that promote decarbonization for IOUs' non-core customers. RNG procurement by utilities is a growing trend in North America that can be emulated in California. Most notably, the Oregon PUC implemented an RNG procurement process in 2020 through Oregon SB 98 (2019).

When crafting such policies, it is important to maintain the LCFS' key metric of "mass of CO<sub>2</sub>e/MJ of gas delivered." Incorporating this metric into lifecycle analyses will encourage lower energy intensive practices, including more energy efficient RNG production methods, minimization of distance of gas transportation, and incorporation of methane leakage rates as part of scoring. Such policies will only continue to encourage the diversion of organics from landfill and reduce the state's SLCP emissions.

#### Using California taxpayer money to benefit California

As California residents, we feel that greenhouse gas reduction programs – paid for by California taxpayers – should prioritize facilities that reduce greenhouse gas emission within California. Doing so will help build 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, 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, Californian based companies are at a disadvantage if there are no preferences for California based RNG. Such an environment serves to hamper growth of building in California for companies like us. As such, for this program to be fully successful for California, **we should introduce prioritization for RNG produced in California.**

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. Under SB 32, California's 2030 Climate Plan relies on SLCP reductions for more than 1/3 of all carbon reductions. Implementing the above changes can have an **immediate impact in reducing emissions from the largest methane emitters in California – landfills** – all while producing carbon negative RNG fuel and natural fertilizer capable of rejuvenating our soils. 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.

Thank you for your consideration of the above comments.



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