

The Honorable Liane Randolph, Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95814

July 9, 2021

Subject: Comments on the 2022 Climate Change Scoping Plan – June, 2021 Workshop Presentations

Dear Chair Randolph,

Anaergia Services LLC (Anaergia) is a global leader in diverting organics from landfill-bound waste and converting them into renewable energy and soil amendments. Based in Carlsbad, CA, Anaergia is actively expanding California's capacity to divert organics from landfill into carbon-negative fuels by developing multiple facilities that are capable of processing over 300,000 tons per year of diverted organics. This is expected to produce approximately 2,000,000 MMBtu/year of Renewable Natural Gas (RNG) with negative Carbon Intensity (CI) scores. Our Rialto Bioenergy Facility (RBF) – the largest landfill diverted organics to renewable fuel facility in California – 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 30 jobs along with 500,000 hours of construction work.

Anaergia submits these comments on the Climate Change Scoping Plan presentations made at the June 8 – 10 workshops. Anaergia strongly supports the state's climate goals to achieve carbon neutrality by 2045. We are committed to developing facilities that divert organics from landfill, produce carbon negative fuels, and generate fertilizers that improves soil quality, and believe that bioenergy is a key factor to help the state achieve its climate neutrality goals. In particular, we encourage the California Air Resources Board (CARB) to:

- Meet Short-Lived Climate Pollutants (SCLP) reduction requirements of SB 1383;
- Include RNG in the Transportation Sector's 2022 Climate Change Scoping Plan;
- Incorporate bioenergy into the Electricity Sector's 2022 Climate Change Scoping Plan; and
- Continue supporting bioenergy and carbon capture programs.

Continued Focus on Short-Lived Climate Pollutants

Anaergia encourages CARB to prioritize the reduction of SCLP in its 2022 Climate Change Scoping Plan. SCLP are potent climate forces with significantly larger potentials to warm the atmosphere. As climate change continues to happen more quickly and destructively, SCLP reductions have been identified as key near-term steps that must be taken to mitigate climate change. Dr. Ramanathan, of UC San Diego and the Scripps Institute, has commented that SCLP reductions are the only lever left to make a significant difference on climate change mitigation.¹

In 2017, CARB began implementing a SCLP Reduction Strategy to reduce methane emissions by 40%. As part of the 2022 Scoping Plan, **it is imperative that CARB prioritizes reduction of SCLP emissions.** In

¹ Presentation by Dr. Verrabhadran Ramanathan, UC San Diego, on June 24, 2021, at MoveCA's symposium on SCLP Reductions.

its kick-off presentations, CARB estimated that 39.8 MMTCO_{2e} of methane were emitted in 2018. Of this, CARB estimates that 22%, or 9.8 MMTCO_{2e}, were emitted from landfills. 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.² It is critical that CARB implements a more comprehensive SCLP Reduction Strategy to reduce the state's significant SCLP emissions. Doing so would also align with state policy, as SB 1383 requires that 22M tons of organic waste be diverted from landfills per year to either compost or anaerobic digesters. We recommend that CARB do the following to mitigate SCLP emissions:

- Divert organics from landfills;
- Expand organics recycling and recovery infrastructure; and
- Prioritize the Low Carbon Fuel Standard Program.

RNG Needs to Be Included in Transportation Sector Plan

Anaergia supports the Governor's Executive Order N-79-20 to achieve 100% ZEV and specifies that a full transition to ZEV buses and heavy duty and long-haul trucks by 2045 "where feasible." However, waiting until 2045 to remove diesel trucks from the road is not acceptable from a climate change and public health perspective. Anaergia recommends that CARB **prioritizes elimination of diesel-powered vehicles and power medium- and heavy-duty trucks with biomethane from organic waste.** Doing so will cut emissions by 50-500% compared to diesel emissions and immediately reduce GHG emissions in the sector while fuel cell and battery electric trucks are in development. As these ZEV fleets might be decades away from commercial viability, as made clear by the Governor's Executive Order, it is important that CARB addresses reduce GHG emissions now by including carbon negative fuels derived from organic waste in the Transportation Sector's 2022 Climate Change Scoping Plan.

Bioenergy Needs to Be Included in Electricity Sector Plan

Anaergia is **very concerned that the CEC's presentation on the electricity omits biogas entirely from its 60% RPS and SB 100 Core scenario assessments.** Excluding biogas ignores the CPUC's proposed biomethane procurement program – pursuant to SB 1440 (Hueso, 2018) – and stands in contrast to numerous state laws that call for increased usage of biogas production and use, such as:

- AB 1900 (Gatto, 2012) requiring that "the commission shall adopt policies and programs that promote the in-state production and distribution of biomethane. The policies and programs shall facilitate the development of a variety of sources of in-state biomethane."³
- SB 1122 (Rubio, 2012) requires the CPUC to "encourage gas and electrical corporations to develop and offer programs and services to facilitate development of in-state biogas for a broad range of purposes."⁴
- AB 2313 (Williams, 2016) requires the CPUC to consider options to increase in-state biomethane production and use.⁵

² 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>

³ Public Utilities Code § 399.24(a).

⁴ Public Utilities Code § 399.20(f)(2)(D).

⁵ Public Utilities Code § 784.2.

- 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.”⁶
- SB 1383 (Lara, 2016) requires state agencies to “consider and, as appropriate, adopt policies and incentives to significantly increase the sustainable production and use of renewable gas, including biomethane and biogas.”⁷
- SB 1383 also requires the Commission 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.”⁸
- SB 1440 (Hueso, 2018) requires the CPUC to consider adopting a biomethane procurement program.⁹

As part of its presentation, the CEC recommended that CARB implement “diversity in energy resources and technologies” that have the added benefit of “lowering overall costs.” Biogas and hydrogen from organic waste increase resource diversity, which allows for increased reliability and prevents reliance on intermittent resources.

Biogas and hydrogen generated from organics diverted from landfills can also provide long duration energy storage for California as climate change increasingly causes multi-day grid outages due to extreme weather events and prolonged periods of drought, wildfire smoke, or rain. California must have long duration storage that can provide sufficient power when grid impacts take place concurrently. Biogas can provide an alternative resource that ensures an uninterrupted power supply and storage without relying on fossil fuels.

Anaergia urges CARB to include biogas in the Electricity chapter of the 2022 Climate Change Scoping Plan.

Bioenergy Offers a Cost Effective Program to Achieve Carbon Neutrality

As part of its 2021 Annual Report to the Legislature, CARB determined that the California Department of Resources Recycling and Recovery’s subprogram “Organics and Recycling Manufacturing Loans” offered one of the most cost-effective projects to reduce GHG. By its own analysis, investing in bioenergy projects from landfill-diverted organics required a minimal cost of \$10 per GHG reduction (\$/MTCO₂e).¹⁰

Bioenergy with carbon capture and storage (BECCS) has also been found to provide a tremendous opportunity for negative carbon emissions in the state. Lawrence Livermore National Laboratory’s report titled “Getting to Neutral” explores various options for negative carbon emissions in California, identifying

⁶ Senate Bill 840 (Budget), Statutes of 2016, SEC. 10, §§ (b) – (i).

⁷ Health and Safety Code § 39730.8(c).

⁸ Health and Safety Code § 39730.8(d).

⁹ Public Utilities Code § 651(a).

¹⁰ California Air Resources Board, *California Climate Investments*, 2021 Report to the California Legislature, Table 2, pages 15-20.



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BECCS as one of the three pillars to achieve negative emissions and to help achieve 84Mton/yr of negative emissions.¹¹

Anaergia encourages CARB to continue investing in these programs and achieve carbon neutrality by maximizing BECCS in the 2022 Climate Change Scoping Plan.

Thank you for your consideration of these comments.

Respectfully,

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¹¹ *Getting to Neutral – Options for Negative Carbon Emissions in California*, Lawrence Livermore National Lab, January 2020, at page 2.