November 9, 2020

Ms. Rajinder Sahota, Division Chief
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Renewable Gas in the LCFS and Next Climate Change Scoping Plan

Dear Ms. Sahota:

I am writing on behalf of the Bioenergy Association of California to urge the Air Board to find ways to promote renewable gas, including biogas and green hydrogen, in the Low Carbon Fuel Standard program and beyond. Promoting biogas and green hydrogen is essential to meet California's climate goals since biogas and renewable hydrogen can reduce Short-Lived Climate Pollutant emissions and provide carbon negative emissions needed to reach carbon neutrality. Many laws enacted in the past decade call for policies and incentives to accelerate biogas and green hydrogen development and we urge the Air Board to take the lead in this effort, both under the LCFS and in the next Climate Change Scoping Plan.

The Bioenergy Association of California (BAC) represents more than 75 public agencies, local governments, private companies, environmental groups, research institutions, and others working to promote sustainable bioenergy development in California. BAC's public sector members include air quality and environmental agencies, solid waste agencies, local governments, publicly owned utilities, environmental and community groups, research institutions and more. BAC's private sector members include energy technology providers and developers, waste and agricultural industries, investor owned utilities, food processing companies, investors, and more.

BAC urges ARB to move forward on renewable gas policies that accelerate development of bioenergy and green hydrogen to meet the state's Short-Lived Climate Pollutant, carbon neutrality, renewable energy, and low carbon fuel goals.

1. Many State Laws Call for Increased Bioenergy and Green Hydrogen to Meet the State's Clean Energy and Climate Goals.

Numerous state laws call for additional policies and incentives to promote the instate production and use of biomethane and biogas. Those laws include:

- AB 1900 (Gatto, 2012) requires the CPUC to "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."[1]
- 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." [2]
- AB 2313 (Williams, 2016) requires the CPUC to consider options to increase instate biomethane production and use.[3]
- 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."[4]
- 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."[5] SB 1383 also requires the CPUC 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."[6]
- SB 1440 (Hueso, 2018) requires the CPUC to consider adopting a biomethane procurement program based on biomethane that is generated instate or physically delivered to California.

2. California Law Requires the Development of Instate Biogas and Biomethane to Meet the State's Climate, Waste, and Wildfire Goals.

The laws mentioned above focus on, or are limited to, instate biogas and biomethane production (see underlined phrases above). This makes sense since renewable gas produced and used instate provides many more benefits to California, including:

[1] AB 1900 (Gatto, 2012) adding Section 399.24(a) to the Public Utilities Code.
[2] SB 1122 (Rubio), Statutes of 2012, Chapter 612, codified at Public Utilities Code § 399.20(f)(2)(D).
[3] Public Utilities Code § 784.2.
[4] Senate Bill 840 (Budget), Statutes of 2016, SEC. 10, §§ (b) – (i).
[5] Health and Safety Code 39730.8(c).
[6] Health and Safety Code 39730.8(d).

- Reduction of SLCP emissions from burning, landfilling, or leaving organic waste in place to decay.
- Beneficial re-use of forest waste and other vegetation removed for wildfire mitigation.
- Reduction of landfill waste.
- Reduction of air and water pollution from dairies.
- Creation of local energy supplies.
- Job creation and economic development.
- Displacement of fossil fuel gas, which does not happen with most out of state RNG since it is not actually delivered to California.

BAC urges ARB, therefore, to focus a renewable gas procurement policy on instate biogas and green hydrogen to meet the requirements of state law and maximize benefits for California.

3. Bioenergy, Including Green Hydrogen from Biogas, is Critical to Reduce SLCP Emissions.

SB 1383 calls for policies and incentives to increase biogas and biomethane production in California as an important strategy to reduce SLCP emissions. The *Short-Lived Climate Pollutant Reduction Strategy* underscores the role of instate bioenergy production. The Strategy recommends that **t**he "State's organic waste should be put to beneficial use, such as for . . . electrical generation, transportation fuel, and pipeline-injected renewable natural gas."[7] The SLCP Strategy goes on to say:

> **"**Building infrastructure to better manage organic waste streams could lead to billions of dollars of investment and thousands of jobs in the State. This infrastructure could provide valuable new sources of renewable electricity or biogas, clean transportation fuels, compost as well as other beneficial soil amendments, and other products. Adopting state policies to promote biogas from organic waste would provide a strong durable market signal to industry, agencies, and investors."[8]

The *California Forest Carbon Plan* and the *Forest Biomass Utilization Plan* also call for increased bioenergy and hydrogen generation in California as a way to put California's forest waste to beneficial re-use. The *Forest Carbon Plan* notes that reducing the extensive carbon losses that occur during and after extreme wildfires is essential to meeting the state's long-term climate goals.[9] The plan also found that biomass to

[7] *SLCP Reduction Strategy* at page 3.
[8] *SLCP Reduction Strategy* at pages 28 and 34-35.
[9] *California Forest Carbon Plan – Managing Our Forest Landscapes in a Changing Climate,"* adopted by the California Environmental Protection Agency, California Natural Resources Agency and CalFire in May 2018, at page

energy is preferable to controlled burns from an air quality and climate perspective since biomass energy reduces particulate matter, black carbon, methane and smog forming pollutants significantly.[10] As a result, the plan calls for accelerated bioenergy development, including increased public investment, additional R&D, additional bioenergy procurement, and other policy changes to promote bioenergy from forest waste.

The California Board of Forestry just recently adopted a *Forest Biomass Utilization Plan* that recommends numerous steps to increase conversion of forest biomass to energy.[11] This is particularly important as California and the U.S. Forest Service recently entered into a forest stewardship agreement that calls for forest fuel removal on one million acres per year. That will result in about 10 million bone dry tons of forest waste annually, in addition to all the other vegetation statewide that needs to be removed for wildfire mitigation. To put that forest waste to beneficial re-use, the plan recommends increasing investments in bioenergy, adopting a state procurement program, developing forest biomass facilities for electricity, renewable hydrogen, vehicle fuels, microgrids, pipeline biogas, energy storage, and other end uses, increasing R&D into forest biomass conversion and hydrogen development, and more.[12]

4. Bioenergy and Green Hydrogen Critical to Achieve Carbon Neutrality.

Earlier this year, Lawrence Livermore National Lab released a report that underscores the importance of bioenergy and green hydrogen to reach carbon neutrality by mid-century.[13] The LLNL report found that converting organic waste to energy could provide more than two-thirds of all the carbon negative emissions needed to achieve carbon neutrality, about 84 million metric tons of carbon negative emissions per year out of the 125 million tons needed to reach carbon neutrality.[14] The LLNL report also found that converting organic waste to energy would provide important co-benefits for California, including:

- Air quality improvements, by replacing fossil transportation fuels and reducing biomass combustion and wildfires
- Water quality improvements

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2. Available at: http://resources.ca.gov/wp-content/uploads/2018/05/California-Forest-Carbon-Plan-Final-Draft-for-Public-Release-May-2018.pdf.

[10] *California Forest Carbon Plan* at page 130.

[11] See, https://bof.fire.ca.gov/media/10238/full-12-c-i-joint-institute-wood-and-biomass-utilization-recommendations-for-bof-mtg_11420.pdf. The Board of Forestry adopted the Joint Institute recommendations on November 4, 2020.

[12] The bioenergy specific recommendations begin on page 13 of the plan.

[13] Lawrence Livermore National Laboratory, *Getting to Neutral – Options for Negative Carbon Emissions in California*, January 2020.

[14] LLNL Report at page 2.

- Protection of life and property, by reducing wildfires
- Economic development opportunities for the Central Valley and other parts of the state
- Maintaining California's lead on technological innovation that will have a global impact.[15]

Finally, the LLNL report found that converting California's organic waste to energy would cut carbon emissions at an average cost of less than $60 per ton of carbon, which is less than one-third the cost of carbon reductions under the LCFS and many other programs.[16]

5. California Needs a Renewable Gas Policy.

Both the science and state law, as summarized above, support development of a state renewable gas policy. BAC urges ARB to move forward with a procurement program that includes bioenergy and green hydrogen. The CPUC is also required by SB 1440 (Hueso, 2018) and AB 3613 (Salas, 2020) to consider biomethane procurement, but the CPUC is limited to considering the investor owned utilities' gas portfolios, which is less than half the total gas used in California. ARB should adopt a renewable gas policy that includes the full scope of instate sources and end uses. In particular, BAC recommends that ARB adopt a renewable gas policy that:

- Focuses on instate sources of biogas, biomethane, and green hydrogen to help reduce SLCP emissions, wildfires and controlled burns, and other organic waste impacts.
- Includes renewable gas from all non-combustion conversion technologies - including anaerobic digestion, gasification and pyrolysis - to ensure that waste biomass (urban wood waste, agricultural waste, forest and wood processing waste) will be included consistent with the language of AB 3163 and AB 2196 (Chesbro, 2012)
- Incentivizes renewable gas production and use based on the lifecycle carbon intensity of the gas.
- Includes all potential end uses of the renewable gas, including electricity generation, combined heat and power, renewable hydrogen production, vehicle fuels, pipeline biogas, hard to electrify end uses such as industrial and commercial applications, use in microgrids to provide flexible generation and backup generation, and long-duration energy storage.

ARB could expand the LCFS to address fuels outside the vehicle sector and/or adopt a separate renewable gas procurement program for non-vehicle uses. In either case, it is critical that the program focus on instate production and use of renewable gas to achieve all the benefits described above and called for by state law. Since the LCFS

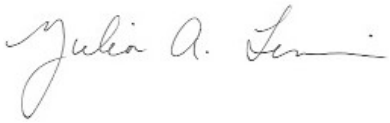
[15] LLNL Report at page 1.

[16] LLNL Report at page 8.

does not prioritize instate sources of biomethane or hydrogen, it probably makes sense to adopt a separate policy on renewable gas procurement that does focus on instate sources, as the laws listed in section 1 above require.

Thank you for your consideration of these comments. We look forward to working with you and other ARB staff to develop a renewable gas policy and would be happy to provide any additional information that would help in that important work.

Sincerely,



Julia A. Levin
Executive Director