September 17, 2021

Ms. Rajinder Sahota,
Deputy Director for Climate Change
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Comments on Cap & Trade Investment Plan 2022 – 2025

Dear Ms. Sahota:

The Bioenergy Association of California submits these comments on CARB's September 2 presentation on Cap & Trade investments for the fiscal years 2022-23 through 2024-25. BAC has long been a supporter of the state's Cap & Trade program and, in particular, the use of Cap & Trade revenues to further the state's climate, public health and equity goals. In developing the multi-year Cap & Trade Investment Plan, BAC urges the Air Board to prioritize:

- Short-Lived Climate Pollutant reductions, which are the most urgent and the most beneficial of all carbon reductions;
- The most cost-effective investments based on cost per ton of carbon reductions;
- Investments that pay the biggest dividends for public health and safety; and
- Investments that increase community resilience against climate change impacts.

The Bioenergy Association of California (BAC) represents more than 80 local governments, public agencies, private companies, environmental and community groups, investors, utilities, research institutions and others. BAC's public sector members include local air districts, environmental agencies, waste and wastewater agencies, publicly owned utilities, and public research institutions. BAC's private sectors members include energy and technology firms, project developers and investors, investor owned utilities, waste haulers, food and agricultural producers.

BAC submits the following comments on the Cap & Trade Investment Plan presentations on September 2, 2021.

1. **SLCP Reductions Should Be the Highest Investment Priority.**

BAC urges CARB to prioritize investments in SLCP reductions for the next several years. There is nothing more urgent or more immediately beneficial California can do to

address climate change. The IPCC highlighted the role of SLCP's in its most recent climate assessment and its "Code Red" report, calling for urgent SLCP reductions. Closer to home, climate and energy experts around the state recently issued a paper calling on California to step up its efforts to reduce SLCP emissions and saying that the failure to do so is costing California its leadership on climate issues.[1]

Dr. V. Ramanthan, a climate and atmospheric scientist at UC San Diego, has stated that reducing SLCP emissions is "the last lever we have left" to avoid catastrophic climate change.[2] Not only are SLCPs ten to thousands of times more damaging to the climate than the CO_2 emitted from fossil fuel burning, but they only stay in the atmosphere for a few hours to a few months. Reducing them, therefore, benefits the climate right away. Unfortunately, fossil fuel reductions don't benefit the climate for decades and we simply do not have decades left to avert catastrophic climate changes.

Scientists at Environmental Defense Fund also recommend focusing much more on SLCP reductions since SLCP's have caused half of all the global warming to date and will cause more warming in the coming years than carbon dioxide.[3]

BAC urges CARB to make SLCP reduction its highest priority in the Cap & Trade Investment Plan as well as the state's climate plans generally. This includes not just opportunities to reduce methane, but black carbon as well. Black carbon is more prevalent in California and many times more damaging to the climate (and public health) than methane. It is critical, therefore, to focus on measures to reduce black carbon as well as methane to meet the requirements of SB 1383 (Lara, 2016). This means that the Investment Plan should include opportunities to convert forest biomass and agricultural waste to reduce black carbon emissions from open burning, in addition to opportunities to reduce methane from other forms of organic waste.

BAC also urges CARB to consider the recommendations in the *California Forest Carbon Plan* adopted by CalEPA and CNRA, *Forest Biomass Utilization Plan* adopted by the Board of Forestry, and plans to phase out open burning of agricultural waste, all of which recommend converting agricultural and forest waste to bioenergy to reduce black carbon emissions.

2. CARB Should Prioritize the Most Cost-Effective Investments.

The over-arching goal of the Cap & Trade program is to reduce climate pollution. CARB should, therefore, prioritize investments that are the most effective overall and the most cost-effective. CARB's 2021 report to the Legislature on the state's climate investments makes clear that the most cost-effective of all Cap & Trade funded investments are investments in converting organic waste to energy. The state's investments in dairy

[1] Kammen, Ramanthan, Matlock, et al, "*Accelerating the Timeline for Climate Action in California,"* submitted to Environmental Research Letters, 2021. Available at: https://arxiv.org/abs/2103.07801 [arxiv.org].

[2] Presentation of Dr. V. Ramanathan, UC San Diego and Scripps Institute, Presentation June 24, 2021 at MoveLA Symposium on Short-Lived Climate Pollutant Reductions.

[3] Ilissa Ocko, EDF, Presentation June 24, 2021, to MoveLA symposium on Short-Lived Climate Pollutant Reductions.

digesters and diverted organic waste projects are the two most cost-effective of all Cap & Trade investments, reducing carbon at the tiny cost of $9 and $10 per ton.[4]

Cap & Trade funding is not limitless so it is important to prioritize the investments that provide the biggest bang for the buck. By CARB's own analysis, that means investments in organic waste to energy because those investments reduce SLCP emissions and often provide carbon negative emissions.

In determining priorities, CARB should prioritize the most cost-effective investments to achieve the greatest carbon reductions possible.

3. CARB Should Prioritize Investments that Provide the Biggest Benefits for Public Health and Safety.

In addition to maximizing the most urgent and cost-effective carbon reductions, CARB should prioritize those investments that provide the biggest benefits for public health and safety. In particular, CARB should prioritize investments to eliminate diesel use and to reduce controlled and uncontrolled burning.

a) Get Rid of Diesel

Eliminating diesel use – by vehicles and power generators – should be one of our highest climate and air quality priorities. Not only is diesel a source of black carbon emissions – one of the most powerful climate pollutants – but it is also the largest source of smog-forming pollution in the San Joaquin Valley and South Coast Air Districts, the two most polluted air districts in the country. In the San Joaquin Valley, diesel trucks cause almost half of all smog. In addition, the use of diesel backup generators is growing quickly to ensure power supplies during grid disruptions.

Getting rid of diesel is both a critical climate change and air quality priority. As Dr. Ramanathan from UC San Diego puts it, we need to move to a "soot free California" as quickly as possible and that means eliminating diesel use everywhere we can as quickly as we can.[5]

CARB helped to fund a feasibility study of a biomass gasification to low carbon fuels, using the biomethane from converted forest, agricultural, and urban wood waste. The study found that using the biomethane generated from biomass waste in place of diesel would cut particulate matter and smog forming pollution by 98 percent and could provide carbon negative emissions if coupled with carbon capture and storage or utilization.[6]

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[4] CARB's Annual Report to the Legislature: *California Climate Investments Using Cap-and-Trade Auction Proceeds*, issued April 2021, Table 2.

[5] Presentation of Dr. V. Ramanathan, UC San Diego and Scripps Institute, Presentation June 24, 2021 at MoveLA Symposium on Short-Lived Climate Pollutant Reductions.

[6] GTI, *Low-Carbon Renewable Natural Gas (RNG) from Wood Wastes,* February 2019, at page 3.

b) Reduce Open Burning and Prescribed Fire

CARB should also prioritize investments that reduce open burning of forest and agricultural waste, as well as wildfires. Wildfires and controlled burns are a significant source of black carbon and methane emissions, as well as particulate matter and smog forming pollution. According to the *California Forest Carbon Plan* adopted by CalEPA and CNRA in 2018, bioenergy cuts black carbon, methane, and CO emissions by 98 percent compared to open burning.[7] Reducing pile and burn of biomass waste, as well as prescribed fire, protects public safety since some amount of controlled burns get out of control.

4. CARB Should Prioritize Investments that Increase Community Resilience.

CARB stated at the September 2 workshop that one of the goals of the next investment plan is to "support a climate resilient and prosperous economic future."[8] Energy supplies are essential for climate resilience and a prosperous economic future. Reliable power is critical for medical services, emergency and essential services, including cooling and heating centers, hospitals and medical offices, fire and police stations, schools, grocery stores, wastewater treatment facilities, waste collection and more.

In considering investments in community resilience, BAC urges CARB to consider investments that reduce SLCP emissions and increase energy reliability. For example, converting organic waste to renewable gas – biogas, biomethane, or hydrogen – reduces SLCP emissions while providing firm, renewable power generation (available when needed to fill in around solar and wind power) and long duration energy storage. Renewable gas can also be used to provide combined heat and power and to provide energy for hard to electrify end uses.

In considering investments in community resilience, CARB should include investments that boost energy reliability while reducing climate pollution.

Thank you for your consideration of these comments.

Sincerely,

Julia A. Levin
Executive Director

[7] *California Forest Carbon Plan* at page 135, figure 19.
[8] CARB presentation on the Cap & Trade Investment Plan, September 2, 2021, at slide 16.