



4-19-2023

Dear CalBio Team,

As we prepare to enjoy a company holiday and commemorate Earth Day on Monday, it's important we all reflect on our planet's escalating environmental challenges and, more importantly, the important role we play at CalBio in addressing these issues.

The United Nations body for assessing the science related to climate change, the IPCC, supported by thousands of scientists, reports there is no longer any conjecture or doubt, it is a scientific "fact" that the warming of our global system is due to human activity. They also report that the methane level in our atmosphere has grown three times faster than carbon dioxide, contributing to 30% of global warming to-date.

On Monday, we will celebrate Earth Day. Yes, I say celebrate, despite the facts that:

- 2023 experienced the highest average global temperature since pre-industrial times.
- We are experiencing more frequent extreme weather events.
- We see rising sea levels and shrinking ice caps and glaciers.
- Acidifying oceans are impacting our coral reefs and other marine systems.

We can celebrate Earth Day despite the climate crisis because we (the planet) have proven solutions, one of which is that aggressively reducing methane emissions can transform methane's global warming effect into a global cooling effect, yes, a global cooling effect. This is due to methane's incredibly short life once released into the atmosphere compared to carbon dioxides near perpetual life, thus if we reduce methane emissions it simply fades away in the atmosphere!

Agriculture is the largest source of global methane emissions, so farmers present the largest opportunity to deliver this climate cooling effect. However, it is not a solution to simply have farmers produce less food. The world needs more food, for example, global dairy production will increase 50% by 2030 to meet demand which grows unabated despite emerging "non-dairy" alternatives.

CalBio exists to address this problem. We reduce methane emissions while improving the sustainability of dairies through a simple but effective technology—dairy digesters that capture methane from cows on partner dairies to profitably replace fossil fuels.

As a result, California's dairies are well on their way to reducing their methane emissions by a whopping 40% by 2030 as documented in a recent UC Davis study and report.

Dairy methane capture thus contributes toward global cooling, but it also recycles a waste into an energy. It allows dairy farms to sustainably maintain their dairy cows, which themselves are important and major recyclers. Dairy cows transform significant quantities of inedible agricultural waste into nutrient-rich dairy.

CalBio alone operates over half of the digesters in California with 54 currently in operation, and we are aggressively working to add 22 by the end of 2024 and 25 more digesters in 2025. By the end of

2024, we will be on a run rate to achieve reductions of 4.2 million MMBTUs of methane and capture ~1.7 million metric tons of CO₂e, tackling ~43% of California's manure methane reduction goal.

Our digesters also reduce odors by removing over 350 tons per year of hydrogen sulfide emissions, and in doing so also reduce 670 tons of small damaging PM_{2.5} particles that contribute to residents' respiratory illnesses. Our digesters are the equivalent to removing ~4 million cars from California's Central Valley roads. This is a great start. However, another 100 digesters need to be built, and this is the focus of our CalBio mission in the coming years.

The California Air Resources Board is also stepping up to help us and dairy farmers by stepping down and steepening the carbon reduction compliance curves and making other changes to support dairy renewable natural gas pathways to emerging electricity and hydrogen fuels.

Dairy methane recycled into fuel accomplishes the following environmental objectives:

- Displaces fossil fuel consumption and reducing exhaust pipe emissions.
- Improves local air and water pollution in surrounding communities.
- Supports local clean economies through emission reductions.
- Generates high-quality, organic fertilizer for sustainable agriculture.
- Creates jobs.
- Increases investment in disadvantaged communities.
- Is one if not the most affordable way for the state to reduce GHG emissions.

The time for debate and half-measures has passed; the time for even more action is upon us. Our California family farm partners remain committed and "all in" on their important role of producing the majority of the nation's dairy (and the much of world's) economically and sustainably, creating a cleaner, more reliable and more affordable food future for generations to come.

Our significant progress is a testament to your hard work and dedication. Looking ahead, we aim to expand our efforts, further reduce methane emissions, and continue to support the sustainability of farming communities. We have much more to do. Your ideas and innovations are the backbone of our progress. I encourage each of you to share your thoughts on how we can enhance our impact and implement new sustainability initiatives. Together, let's renew our pledge to advance sustainability, reduce our environmental footprint, and work towards a healthier planet for future generations. Your commitment and actions make a difference. Thank you for your continued dedication to our shared mission.

Thank you.

Ross Buckenham
CEO, California Bioenergy LLC