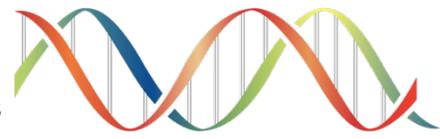




Community BioRefineries
The Epitome of American Innovation



By Scott Hewitt CEO and Vincent R. James Ph.D. CTO
Community BioRefineries,

Subject: Turning Dairy Cheese Waste into a Profitable, Biofuel Under Federal Green Fuel Mandates

An Untapped Goldmine in Dairy Waste

Did you know that the U.S. dairy industry generates over **100 billion pounds of whey waste annually** ([FAO, 2021](#))? This byproduct has long been seen as an **operational burden**—expensive to manage, difficult to dispose of, and a compliance challenge. **But what if this waste could be transformed into one of your most valuable assets?**

I am Vincent James, Chief Technology Officer of The Community BioRefinery. I am relocating from **Berkeley, California, to Caldwell, Idaho**, with a vision to establish a **biorefinery in Idaho that will create 600 high-paying jobs**, offering economic stability while driving the future of sustainable energy. My goal is to integrate **cutting-edge biobutanol technology** into the dairy industry, converting **cheese waste into a profitable renewable fuel** that benefits both local economies and the environment.

The **Community BioRefinery (CBR)** is pioneering an innovative solution that turns **dairy waste into biobutanol**, a next-generation biofuel that meets the **Federal Green Fuel Mandate** ([EPA, 2023](#)). Our technology presents a **win-win scenario** for dairy producers—**eliminate waste disposal costs, generate new revenue streams, and contribute to the clean energy movement.**

The Economic Opportunity for Dairy Processors

For cheese factories, **waste disposal is a silent profit killer**. Wastewater treatment, environmental compliance, and transportation costs **cut into margins without yielding any return**. The **CBR biorefinery model** solves this by **turning whey waste into biofuel**, an innovation that **generates revenue instead of expenses**.

Projected Benefits for Dairy Producers:

- * **Cost Savings:** Reduce or eliminate costly waste disposal fees.
- * **New Revenue Streams:** Sell whey waste as a **biobutanol feedstock** instead of paying for disposal.
- * **Regulatory Compliance:** Meet **Renewable Fuel Standard (RFS) mandates** while improving sustainability efforts ([USDA, 2023](#)).
- * **Long-Term Market Security:** Be part of the emerging **low-carbon energy economy** while securing federal and state **biofuel incentives**.

Bio-butanol: A Superior Biofuel

For years, **ethanol has dominated** the renewable fuel industry, but it has **severe limitations**:

- **Ethanol absorbs water**, making it incompatible with petroleum pipelines.
- **Ethanol has lower energy density**, reducing vehicle fuel efficiency ([DOE, 2022](#)).
- **The ethanol blend wall** limits its role in further decarbonization.

Biobutanol, on the other hand, solves these issues:

- **Higher energy density** results in better fuel efficiency.
- **Pipeline-compatible**, making it easier to integrate into the fuel market.
- **Versatile use cases**—can be blended with gasoline, used in sustainable aviation fuel (SAF), and transported with traditional petroleum fuels ([ACS Sustainable Chemistry & Engineering, 2023](#)).

The Science Behind C12 Sugar Fermentation

Lactose, a **C12 sugar**, is **one of the most difficult carbohydrates to ferment**, which is why dairy waste has been underutilized for biofuel production. However, **CBR has solved this problem through advanced biochemical engineering.**

Key Technological Breakthroughs

- **Enzymatic Hydrolysis:** Using **β -galactosidase enzymes**, we efficiently break down lactose into fermentable monomers ([NREL, 2021](#)).
- **Specialized Microbial Strains:** Our system utilizes **engineered bacteria**, optimized to produce high-yield biobutanol.
- **Fermentation Optimization:** Through **precision pH control, metabolic engineering, and bioreactor design**, we maximize fuel production while **minimizing energy consumption and byproduct formation** ([DOE, 2022](#)).

A Proven Model for Success

CBR has already working with a viability of this model with **Burnett Dairy Cooperative in Wisconsin**, where our biorefinery technology can convert cheese waste into a **renewable energy source** ([Burnett Dairy, 2023](#)).

Recent Media Coverage on CBR & Burnett Dairy:

Could your future flight be fueled by cheese? [startribune.com](#)

- [Burnett Dairy Co-Op Partnership with Community BioRefinery](#)

Burnett Dairy, Community BioRefineries will explore innovative biorefinery partnership September 06th, 2024

- <https://www.burnettdairy.com/burnett-dairy-community-biorefineries-will-explore-innovative-biorefinery-partnership>

Given Idaho's ranking as the **#3 cheese-producing state in the U.S.**, we see massive potential for local dairy processors to replicate this success (IDFA, 2023).

Join the Movement: Transform Your Waste into Value

At **The Community BioRefinery**, we believe that dairy farms and cheese factories **hold the key to the future of sustainable energy**. By converting dairy cheese waste into biofuel, we are **leading the industry toward economic resilience and environmental responsibility**.

Schedule a call today to discuss how your dairy farm can become a leader in **sustainable biofuel production**. Let's work together to make **Idaho's dairy industry more profitable than ever before**.

We look forward to working with you.

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