



Hawaii Military Biofuel Crops Project III

A Climate-Friendly Fuel for Resilient Military Infrastructure in Hawaii

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Offering a climate action solution that supports Hawaii's circular economy, Pacific Biodiesel Technologies, LLC has engaged in a multi-year agreement with the U.S. Army Corps of Engineers (USACE) Engineer Research and Development Center's (ERDC) Construction Engineering Research Laboratory (CERL) for a project that will demonstrate renewable biofuel produced in Hawaii from multiple locally grown oilseed cover crops. The effort will strengthen Hawaii's food security, energy security and supply chain resiliency.



Supporting the U.S. Army Climate Strategy, this project will produce a prototype solution for sustainable biofuel as well as the agricultural model to produce the renewable fuel in Hawaii. The effort will further validate the transition to this drop-in fuel for military and other applications, including transportation and power generation installations.



Building upon Pacific Biodiesel's previous research in its 2011 Hawaii Military Biofuel Crop Project, this new phase will demonstrate farming at a larger scale of 1,000+ acres and will include sunflowers and other crops in rotation with food crops. The production model will include expanded production of culinary oils and other value-added food products, high-protein meal for animal feed, biodiesel and co-products from biodiesel production such as glycerin and potassium salt cake (a potential non-petroleum fertilizer for local agriculture).

Pacific Biodiesel is spearheading this project on Kauai, where its biodiesel is currently a source of renewable energy supporting KIUC's accelerated pathway to 100% renewable electricity production by 2033, which is more than a decade earlier than the State of Hawaii's mandated timeline of 2045.



"Pacific Biodiesel's community-based production is a model for the circular economy and now more important than ever. Hawaii is the most isolated community on the planet and, like other vulnerable island communities around the world, we are on the front lines of climate chaos. Our company, the nation's longest operating commercial producer of biodiesel, created the first retail biodiesel pump in America in Maui County. The deadly, climate crisis-accelerated Maui wildfire disaster last August became the latest example of the increasingly dire state of our planet that will continue unless we support community-based visionary solutions such as locally produced biodiesel."

— Pacific Biodiesel Co-Founder Kelly King

Company Background

Pacific Biodiesel has been producing biodiesel in Hawaii for nearly three decades and is an internationally respected expert in the renewable fuels industry. The company is Hawaii's only commercial producer of liquid biofuels, producing nearly 6 MGY of advanced biodiesel that is sold entirely in Hawaii. The company's founders, Bob and Kelly King, have been sustainably farming sunflowers and other biofuel crops in Hawaii since 2017, at a limited scale. Their company demonstrates regenerative farming practices and currently produces culinary oils for restaurants as well as consumer products. Additionally, meal produced at their crushing mill is sold as a food-grade product for flour production and as a protein-rich ingredient for livestock feed.



Technical Approach

The project scope includes assessing initial production of the multi-feedstock prototype fuel, beginning with biodiesel produced from 100% virgin oil using oilseed cover crops grown and processed in Hawaii. In this effort, the renewable fuel prototype can be validated in meeting military energy requirements and help to verify the economics and viability of supporting community off-grid operations.

This project includes the following two phases:

Phase I:

- 1,000 acres
- Expand crushing mill (new facility on Kauai)
- Prototype fuel development

Phase II:

- 1,000 additional acres
- Validation of prototype fuel

[Scheduled completion in 3 to 4 Years](#)



Expanding the Model

Beyond this project, with additional funding this model can be expanded as follows to maximize energy security and other circular economy benefits for Hawaii:

Achieve 100% local feedstock for local biodiesel production: 2.5MGY Hawaii's used cooking oil (UCO) + 3MGY virgin oil from local ag; also allows for expanded production of culinary oil and meal for livestock. Requires: 15,000 additional acres

[Goal: within 1 to 3 years after this project](#)

Build a second biodiesel refinery in Hawaii: The current Hawaii Island refinery will process all UCO from the state supplemented by virgin oil from local ag operations (10MGY total capacity); a second local biodiesel refinery would process only virgin oil from local ag operations (creating an additional product: food-grade glycerin as a byproduct of biodiesel production). Requires:

25,000 additional acres

[Goal: within 5 to 7 years after this project](#)