Phycal LCC

Pilot Facility for Producing and Extracting Algae Oil

Phycal, an algae fuel company, hired SSOE to perform preliminary engineering design for its new, 30-acre pilot algae farm in Central Oahu, Hawaii. The facility, which was funded through a Department of Energy (DOE) grant, will house an integrated production system for growing algae and extracting algal oil. Once complete, the facility is expected to produce over 100,000 gallons of oil per year, which can be converted into biodiesel, fuel oil blends, and other energy products.

SSOE's strength in designing custom processes and experience in the biofuels industry made them the firm of choice for this unique project. The firm worked with Phycal behind the scenes on portions of this project to help ensure financing from the DOE, provide a solid feasibility plan and construction estimate, and work with local interest groups and authorities to assure a smooth project. Specific responsibilities included developing a mass balance and designing the algae feeding, cleaning, dewatering, and oil extraction and purification systems. SSOE also provided design support for the site utility systems, and preliminary design for instrumentation and controls.

value promise

SSOE created more than $1 million in construction and operational savings by making process improvements and suggesting alternative equipment. Also utilized its staff in China to help decrease the engineering fee and schedule.

size 30 acres

location Central Oahu, Hawaii

highlights

Facility will produce 100,000 gallons of algal oil per year

Provided complete feasibility plan and capital cost estimate

Provided DOE grant application assistance