

FUEL Awards First Round of Proof-of-Concept Investments

February 21, 2025

Statewide, La. (Feb. 21, 2025) — Future Use of Energy in Louisiana (FUEL) is proud to announce its first-round investments in Proof-of-Concept, awarding nearly \$900,000 in funding to Louisiana Tech University, ApplicaRAD Inc., CodeGig, Inc., Encore CO2, LLC and Cavendish Energy LLC.

FUEL's Proof-of-Concept (POC) Fund provides capital to early-stage companies needing to get past the Valley of Death, using the non-diluted funds to position themselves to receive professional funding and propel the companies to success quicker and more effectively.

"I am excited to bring these early-stage, energy startups forward," said FUEL Director of Technology Commercialization Stephen Loy. "Our committee has done an outstanding job vetting many strong proposals to agree on these first-round awardees. The energy ecosystem is bright in Louisiana, and we have only just started."

Project Highlights

Louisiana Tech University

Investment: \$125,409.00

Investigators: John Matthews

Title: Louisiana Tech's Cement-Free Alkali-Activated Material Compositions as a Sustainable and High-Performance Alternative to Traditional Oil and Gas Well Cements

Industry Innovation: Louisiana Tech's geopolymers technology will develop low-carbon, eco-friendly cement alternatives with the licensed partner BB&M LLC for the oil and gas industry and other applications within construction and the built environment. Louisiana Tech will collaborate with Grambling State University to enhance structural attributes and significantly promote sustainable manufacturing. BB&M will further commercialize and improve the technology and provide more environmentally protective solutions.

ApplicaRAD Inc.

Investment: \$171,000.00

Investigators: William Davis

Title: Intelligent Carbon Sensor Network

Industry Innovation: ApplicaRAD is developing a commercial-grade sensor device with onboard artificial intelligence that can be used in various commercial applications to assist with carbon emissions tracking. The device will be small and low power for strategic placement at locations anywhere there are suspected carbon emissions.

CodeGig, Inc.

Investment: \$200,000.00

Investigators: Kellen Francis

Title: Machine Learning-Based Decision-Making for Sustainable Chemical Manufacturing

Industry Innovation: CodeGig's software will use AI and machine learning to create automated data analytics processing and cohesive, accurate and streamlined reporting of carbon emissions in industrial plants. It will be able to track furnace emissions, identify leak locations, set and create steps to achieve decarbonization targets, track tax incentives and generate state and federal reports.

Encore CO2, LLC

Investment: \$200,000.00

Investigators: William McGehee and Jordan Losavio

Title: Ethanol Production via Electrolytic Recycling of Byproduct CO2

Industry Innovation: This project aims to validate EncoreCO2's electrochemical technology that converts carbon dioxide (CO2) emissions into renewable ethanol. The adaptation of this circular carbon approach not only reduces emissions but also adds economic value, including jobs focused on CO2 recycling.

Cavendish Energy LLC

Investment: \$200,000.00

Investigator: John Fredian

Title: Zero Waste Renewable Green Hydrogen Process Development

Industry Innovation: Cavendish Energy developed and patented a green hydrogen production process involving an exothermic chemical reaction of aluminum in a stainless steel pressure vessel. The Cavendish Process yields two primary products: Green Hydrogen and Aluminum Oxides (Sodium Aluminate or Alumina TriHydrate).

In announcing these first-round POC investments, Executive Director Dr. Michael Mazzola stated, “FUEL is positioned to future-proof Louisiana as a global leader in energy through impactful technology and business development. These investments represent our commitment to energy solutions that produce low-carbon products for global customers while creating economic opportunities in Louisiana.”

About FUEL

Future Use of Energy in Louisiana (FUEL) positions the state as a global energy innovation leader through high-impact technology development and innovation that supports the energy industry in lowering carbon emissions. FUEL brings together a growing team of universities, community and technical colleges, state agencies and industry and capital partners led by LSU. With the potential to receive up to \$160 million in funding from the U.S. National Science Foundation through the NSF Regional Innovation Engines program and an additional \$67.5 million from Louisiana Economic Development, FUEL will advance our nation’s capacity for energy innovation through use-inspired research and development, workforce development and technology commercialization.

For more information, visit fuelouisiana.org.