

# Clean Refineries' GFO Partners with Eden Carbon Solutions to Transform CO<sub>2</sub> Emissions into Sustainable Aviation Fuel

*Revolutionary technology integration creates first-of-its-kind carbon-negative refinery system across North America.*

EDMOND, OK, UNITED STATES, September 2, 2025 /EINPresswire.com/ -- [Green Fuels Operating \(GFO\)](#), a subsidiary of [Clean Refineries Inc.](#), and [Eden Carbon Solutions Pty Ltd](#) announced today a groundbreaking partnership that will transform how refineries convert carbon dioxide emissions into valuable sustainable aviation fuel (SAF). The partnership grants GFO exclusive North American rights to Eden's proven carbon capture and synthesis technology, positioning the companies to revolutionize fuel production across the continent.

The partnership combines Clean Refineries' Net-Zero Emissions Technology (NZET) with Eden's advanced CO<sub>2</sub>-to-fuel conversion system, creating a revolutionary approach to sustainable fuel production.

The patented technology Eden utilizes operates through a three-stage process that captures and converts CO<sub>2</sub> into premium transportation fuels. The system uses Hot Potassium Carbonate (HPC) absorption technology—proven in hundreds of industrial installations—to capture over 95% of CO<sub>2</sub> emissions from flue gases at dramatically lower energy costs than traditional methods.

"Our technology captures carbon dioxide and converts it into high-performance fuels using hydrogen and precision-engineered chemical pathways—delivering a scalable, infrastructure-ready solution for deep decarbonization," explained Gavin Rodel, CEO of Eden Carbon Solutions. "We capture CO<sub>2</sub> from any source—whether it's our partner's refinery or a nearby cement plant—and combine it with renewable hydrogen to create the building blocks for ultra-clean jet fuel."

Clean Refineries' NZET technology provides the ideal foundation for Eden integration. Unlike conventional refineries that boil oil at extreme temperatures over 1,000°F with massive energy requirements, NZET facilities use precision molecular separation in a low-temperature closed-loop, zero-toxic-emission design.

"The NZET system already achieves an unprecedented emission reduction compared to

traditional refining," stated Derek Williamson, CEO of Green Fuels Operations. "By integrating Eden's technology, we're not just eliminating our remaining emissions—we're becoming carbon sinks that actively remove CO<sub>2</sub> from the atmosphere while producing premium fuels."

Consider a typical deployment: A 20,000 barrel-per-day NZET refinery integrated with Eden technology could process CO<sub>2</sub> from a nearby coal plant, converting what would be 2.2 million tons of annual emissions into approximately 220 million gallons of feedstock for high-value SAF production.

## Market Transformation at Scale

With exclusive rights across Mexico, Canada, and the United States, the partnership addresses a massive market opportunity. North America's industrial sector emits over 6.8 billion tons of CO<sub>2</sub> annually, while airlines desperately seek sustainable fuel supplies to meet regulatory mandates and corporate commitments.

"This partnership doesn't just solve one problem—it solves three," noted Williamson. "We help heavy industry manage their carbon liabilities, provide airlines with certified sustainable fuel, and create a profitable new business model for refineries. It's a true win-win-win scenario."

## Immediate Implementation Plans

The first integrated facilities are planned for development within 24 months, with sites under evaluation in Texas, Oklahoma, Louisiana, and Alberta. Each location has been selected for proximity to both CO<sub>2</sub>-intensive industries and aviation fuel markets, ensuring efficient aggregation and distribution.

## About Green Fuels Operations

Green Fuels Operations, a subsidiary of Clean Refineries Inc., specializes in developing and operating next-generation refineries using patented NZET technology. The company focuses on producing asphalt and transportation fuels with near-zero emissions. For more information, visit [www.cleanrefineries.com](http://www.cleanrefineries.com).

## About Eden Carbon Solutions

Eden Carbon Solutions Pty Ltd, based in Adelaide, Australia, is a global leader in carbon capture and utilization technology. The commercially proven systems convert industrial CO<sub>2</sub> emissions into valuable products including sustainable aviation fuel, ultra-clean diesel, and specialty chemicals. For more information, visit [www.edencarbonsolutions.com](http://www.edencarbonsolutions.com).

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