

BioJet sets new record; Air New Zealand announces Dec. date for 747-400 biofuel flight



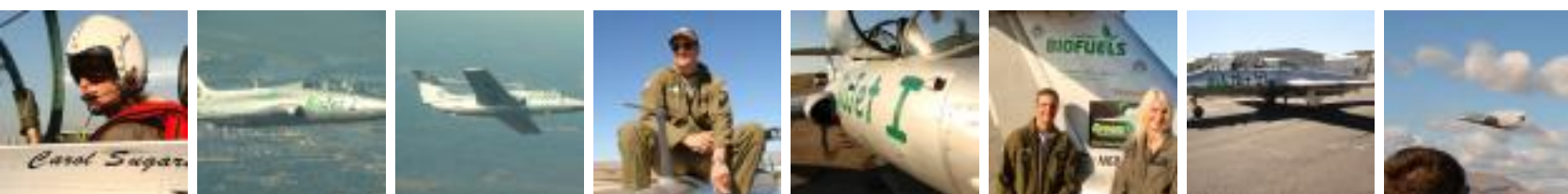
By [Sebastian Blanco](#)  

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A year ago, the Biojet I made a [successful flight over Nevada using 100 percent biodiesel](#). This week, [Green Flight International](#) is back with the announcement that the BioJet I, an old L-29 military aircraft, flew across the U.S. burning pure biodiesel. Well, 1,776 miles of the 2,486-mile trip were on B100, the rest were on a 50/50 blend of biodiesel and standard jet fuel. This sets the stage for the BioJet I's round-the-world biodiesel flight [sometime next year](#).

The other good story this week concerning biofuel flights comes from Air New Zealand and [Boeing](#). The two companies said they would fly out of Auckland on December 3rd with a 747-400 jetliner that will run one of its four engines using jathropha biofuel. Air NZ said this will make it "the first airline to use a commercially viable biofuel sourced using sustainability best practices."

#### RELATED GALLERY Biojet I Transcontinental Flight



[Source: Lake Erie Biofuels, LLC, Boeing]

## History Made with Completion of First Biodiesel Trans-Continental Jet Flight

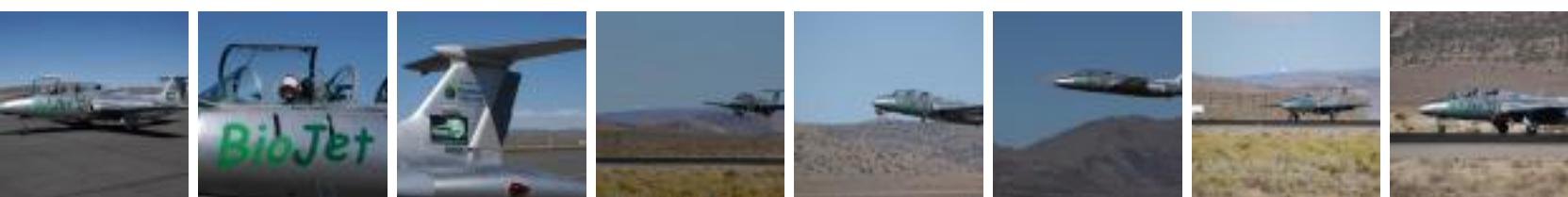
ERIE, Pa., Nov. 10 /PRNewswire/ -- Leading the way in the biodiesel industry, Lake Erie Biofuels, LLC has made history with co-sponsoring the first ever biodiesel trans-continental jet flight "Green Flight International." "With Lake Erie Biofuels supporting this project, I had full confidence in the aircraft's ability to perform at peak capability," said Green Flight's Chief Pilot Carol Sugars.

Lake Erie Biofuels, an Erie Management Group company, and world-class biodiesel production facility located in Northwest Pennsylvania, announced today the completion of the world's first jet flight powered by biodiesel. "This transcontinental flight was distinctive in that 1,776 miles of the 2,486 total miles flown were powered on 100% biodiesel," said Douglas Rodante, Green Flight International President and CEO. Only 710 miles of the flight were powered by a mixture of 50% biodiesel and 50% standard jet fuel. The 50/50 fuel mix was used to compare performance data and demonstrate the capability of blending biodiesel with existing jet fuel supplies.

Green Flight International ([www.greenflightinternational.com](http://www.greenflightinternational.com)) was founded in 2006 to promote wider adoption of environmentally-friendly fuels in commercial aviation through international television media and print outlets. Michael L. Noble, President of Lake Erie Biofuels states, "Our accomplishment with Green Flight International marks a vital breakthrough for the mass transportation industry and sets the stage for future growth. We congratulate Green Flight International, and are proud of our role in providing the aviation industry with environmentally friendly, clean, petroleum substitutes. This is something we can all take pride in."

Lake Erie Biofuels, a BQ9000 accredited producer and marketer, was selected by Green Flight International to supply the biodiesel for the record-breaking flight because of its national recognition and superior quality standards. Lake Erie Biofuels incorporates a unique, internally designed filtration system and Desmet Ballestra continuous-flow technology -- the vanguard in industry processing methods. A state-of-the-art on-site laboratory, promises clean, pure and consistent fuel certifying every drop of biodiesel created.

### RELATED GALLERY Green Flight International's BioJet I



Air New Zealand and Boeing Announce

### December Date for Sustainable Biofuels Test Flight

### Partnership with Rolls-Royce and UOP highlights the path to fuel certification

SEATTLE, Nov. 11 /PRNewswire-FirstCall/ -- Air New Zealand and Boeing (NYSE:BA) today announced Dec. 3 as the date for the airline's sustainable biofuels flight from Auckland using a 747-400 jetliner. Conducted in partnership with Rolls-Royce and UOP, a Honeywell company, one of the airplane's four Rolls-Royce RB211 engines will be powered in part using advanced generation biofuels derived from jatropha. Air New Zealand now becomes the first airline to use a commercially viable biofuel sourced using sustainability best practices.

Boeing, Air New Zealand and UOP have worked diligently with growers and project developer Terasol Energy to identify sustainable jatropha in adequate quantities to conduct thorough preflight testing. Using proprietary UOP fuel processing technology, the jatropha crude oil was successfully converted to biojet fuel, marking the world's first large-scale production run of a commercially viable and sustainable biofuel for aviation use.

"This flight strongly supports our efforts to be the world's most environmentally responsible airline," said Air

New Zealand Chief Executive Officer Rob Fyfe. "We recently demonstrated the fuel and environmental gains that can be achieved through advanced operational procedures using Boeing 777s. We're also modernizing our fleet as we await our Trent 1000-powered 787-9 Dreamliners, which will burn 20 percent less fuel than the planes they replace. Introducing a new generation of sustainable fuels is the next logical step in our efforts to further save fuel and reduce aircraft emissions."

As part of the fuel verification process, UK-based engine maker Rolls-Royce's technical team conducted extensive laboratory testing to ensure compatibility with today's jet engine components and to validate the fuel meets stringent performance criteria for aviation fuel.

"In preparation for Air New Zealand's test flight we achieved our near-term goal -- identifying and sourcing the first large-scale run of sustainable biofuel for commercial aviation," said Boeing Commercial Airplane's Managing Director of Environmental Strategy Billy Glover. "The processing technology exists today, and based on results we've seen, it's highly encouraging that this fuel not only met but exceeded three key criteria for the next generation of jet fuel: higher than expected jet fuel yields, very low freeze point and good energy density," Glover explained. "That tells us we're on the right path to certification and commercial availability."

Because of the unique environment in which aviation operates, stringent criteria are in place to ensure that any alternative fuel meets or exceeds current jet fuel requirements. Advance testing for the Air New Zealand flight showed that the jatropha-based biofuel met all critical specifications, including a freeze point at -53 degrees Fahrenheit (-47 degrees Celsius) and a flash point at 100 degrees Fahrenheit (38 degrees Celsius).

"Laboratory testing showed the final blend had excellent properties, meeting and in many cases exceeding the stringent technical requirements for fuels used in civil and defense aircraft," said Chris Lewis, Rolls-Royce company specialist for fuels. "The blended fuel therefore meets the essential requirement of being a 'drop-in' fuel, meaning its properties will be virtually indistinguishable from conventional fuel, Jet A1, which is used in commercial aviation today."

To process the jatropha crude, the team relied on UOP's green jet fuel processing technology based on hydroprocessing methodologies that are commonly used to produce transportation fuels. During processing, hydrogen is added to remove oxygen from the biomass, resulting in a bio-derived jet fuel that can be used as a petroleum replacement for commercial aviation. Boeing is working with airlines and engine manufacturers to gather biofuel performance data as part of the industry's efforts to revise the current American Society for Testing and Materials (ASTM) standards to include fuels from sustainable plant sources.

Jatropha, which can be grown in a broad range of conditions, produces seeds that contain inedible lipid oil that is extracted and used to produce fuel. Each seed produces 30 to 40 percent of its mass in oil. Plant oil used to create the fuel for the Air New Zealand flight was sourced from non-arable lands in India and Southeastern Africa (Malawi, Mozambique and Tanzania).

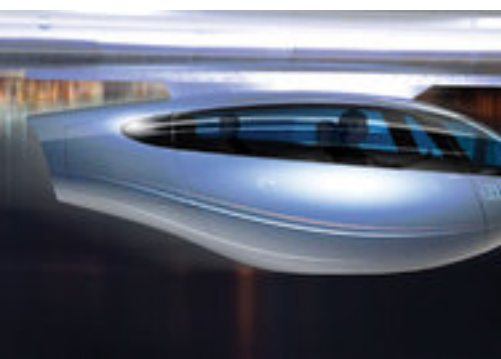
Air New Zealand is one of several air carriers working to diversify and secure its energy future through participation in the Sustainable Aviation Fuel Users Group. That effort includes a commitment to sustainability criteria for fuel sourcing and commercializing plant-based fuels that perform as well as, or better than, kerosene-based fuel but with a smaller carbon lifecycle. The goal is to create a portfolio of next-generation biofuels that can be blended with traditional kerosene fuel (Jet A) to improve environmental performance.

Additional flight specifics will be announced closer to the actual flight date.

Category: [Biodiesel](#), [Transportation Alternatives](#)

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