

guardian.co.uk

Boeing to test biofuel on Air New Zealand flight

Aviation company to test biofuel next month using oil from jatropha trees

Alok Jha, green technology correspondent

guardian.co.uk, Thursday November 13 2008 15:30 GMT

[A larger](#) | [smaller](#)



Workers at a jatropha nursery in Dimbokro, Ivory Coast. Photographer: Kambou Sia/AFP/Getty

Boeing and Air New Zealand will fly a jumbo jet powered partly by biofuel next month, the two companies announced today.

An Air New Zealand jet will leave Auckland on December 3 with a 50-50 mix of jet fuel and oil from jatropha trees, in one of its four engines on a flight designed to show that jatropha biofuel is suitable for use in aviation as well as economical to produce.

"This flight strongly supports our efforts to be the world's most environmentally responsible airline," said Rob Fyfe, chief executive of Air New Zealand. "Introducing a new generation of sustainable fuels is the next logical step in our efforts to further save fuel and reduce aircraft emissions."

The jatropha nuts, which contain 40% oil, were harvested from trees in Mozambique, Malawi and Tanzania.

Friends of the Earth's biofuels campaigner, Kenneth Richter, welcomed the move to get the aviation industry to reduce the environmental footprint of its planes, but he raised concerns about the impact of biofuels. "Even jatropha is being linked to food price rises and habitat destruction. Current rates of growth in air travel mean it is not enough to switch to biofuels."

Robin Oakley, head of Greenpeace UK's climate change campaign, said: "We need a dose of realism here, because this test flight does not mean an end to the use of kerosene in jet engines. The amount of jatropha that would be needed to power the world's entire aviation sector cannot be produced in anything like a sustainable way, and even if large volumes could be grown, planes are an incredibly wasteful way of using it."

Boeing said their trees were grown on marginal land not required for food in India and south-east Africa.

Billy Glover, Boeing's managing director of environmental strategy, said that to prepare for the test flight, his team had tried to source biofuel reliably and economically for commercial aviation.

"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. That tells us we're on the right path to certification and commercial availability."

Air travel contributes up to 5.5% of UK carbon dioxide emissions and the search for a greener alternative to kerosene jet fuel has been fraught with difficulty. Airlines cannot use standard biofuels such as ethanol because this would freeze at high altitude. Testing for the Air New Zealand flight showed that the jatropha-based biofuel was more suitable for flying since it froze at -47C and burned at 38C.

Chris Lewis, a fuels specialist at Rolls-Royce, which tested the jatropha biofuel, said: "The blended fuel meets the essential requirement of being a drop-in fuel, meaning its properties will be virtually indistinguishable from conventional fuel which is used in commercial aviation today."

Last month, Darrin Morgan, an environmental expert at Boeing, said biofuel-powered aircraft could be carrying millions of passengers around the world within three years, much sooner than most experts thought.

The Air New Zealand plane is not the first to use biofuels. In February, Virgin Atlantic successfully tried a mixture of 80% jet fuel and 20% biofuel (made from coconut oil and babassu palm oil) in one engine of a Boeing 747 on a flight between London and Amsterdam.

Oakley said that technological advances in jet engines could only make a difference if there was a limit to the "massive expansion of the airline industry around the world."

"If Boeing were really serious about reducing their impact on the environment they would end their vocal support for a third runway at Heathrow and put some of their billions into high-speed rail technology instead," he said.

guardian.co.uk © Guardian News and Media Limited 2008