First flight of algae-fuelled jet

A US airline has completed the first test flight of a plane partly powered by biofuel derived from algae.

The 90-minute flight by a Continental Boeing 737-800 went better than expected, a spokesperson said.

One of its engines was powered by a 50-50 blend of biofuel and normal aircraft fuel.

Wednesday's test is the latest in a series of demonstration flights by the aviation industry, which hopes to be using biofuels within five years.

The flight was the first by a US carrier to use an alternative fuel source, and the first in the world to use a twin-engine commercial aircraft (rather than a four-engine plane) to test a biofuel blend.

The flight from Houston's Bush Intercontinental Airport completed a circuit over the Gulf of Mexico, and pilots carried out a series of tests at 38,000ft (11.6km), including a mid-flight engine shutdown.

"The airplane performed perfectly," test pilot Rich Jankowski told the Houston Chronicle newspaper.

"There were no problems. It was textbook."

'Drop-in fuel'

Continental Airlines chief executive Larry Kellner described the biofuel as a "drop-in fuel", which meant that no modification to the aircraft or its engines was required.

The fuel is also understood to meet and exceed specifications necessary for jet fuel, including a flash point and a freezing point appropriate for use in aircraft.

"The challenge will be to produce it in an efficient way in the quantities we need," Mr Kellner said.

The biofuel used in the demonstration flight was a blend of two different types of alternative oils - algae and jatropha.

Jatropha is a plant that can grow successfully in poor soils and marginal land, yet it yields four times more fuel per hectare than soybean.

However, algae is viewed by many as a key fuel for the future because it is fast growing, does not compete with food crops for arable land, and yields up to 30 times more fuel than standard energy crops.

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But despite advances in the technology, biofuels derived from algae have yet to be proven as commercially competitive.

Clear sky thinking
Despite airlines continually improving the fuel efficiency of their aircraft over the past three decades, a growing number of aircraft making more flights has seen the sector’s global emissions rise sharply.

As a result, the aviation industry is keen to embrace the environmental benefits that biofuels can offer.

In February 2008, a Virgin 747 flew from London to Amsterdam partly using a fuel derived from a blend of Brazilian babassu nuts and coconuts.

And at the end of December, one engine of a Air New Zealand 747 was powered by a 50/50 blend of jatropha plant oil and standard A1 jet fuel.