

Aviation biofuels on the up and up

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LUFTHANSA probably thought it was on a public relations winner when it began operating flights using a mix of biofuel and regular jet fuel between Frankfurt and Hamburg in 2011.

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However, the "green skies" branding potential of lower-carbon-emission air travel took a dive when environment groups revealed the supplier was also tapping fuel from palm oil plantations blamed for rainforest destruction.

Partly lost in the furore were findings from the almost 1200 flights that the biofuel mix was not only reliable but delivered 1 per cent better efficiency. (Lufthansa says its bio kerosene was 85 per cent Camelina Sativa (wild flax), 15 per cent Jatropha oil and 5 per cent animal fat.)

The savings and pitfalls of using low-carbon jet fuels will feature this week at a two-day conference starting on Tuesday as part of the Avalon Air Show.

Qantas, which spent \$2.82 billion on fuel in the December half alone, found 1-2 per cent better fuel economy from the first flights in Australia using a biofuel mix with cooking oil last year.

The carrier, which burns about 33 million barrels of fuel a year, also estimated the biofuel mix produced 60 per cent less carbon emissions than conventional fuel.

CSIRO estimated in a 2011 report that biomass - sourced from the non-food parts of crops, plants, algae, waste and other organic matter - could supply 46 per cent of the aviation fuel needs of both Australia and New Zealand by 2020 and more than 100 per cent by 2050.

"The momentum in fact is building to meet those goals," said Susan Pond, chairwoman of the Australian Initiative for Sustainable Aviation Fuels and adjunct professor of the United States Studies Centre at the University of Sydney.

Still, development lags the US, where advanced biofuels "should be at price parity within five years", she said.

One local obstacle is that biodiesel benefits from 38 cents-a-litre excise relief, giving suppliers an incentive to divert output to road rather than air transport, Dr Pond said.

John Valastro, head of environment programs for Qantas, said local supplies of biofuels, while technically ready for use, cost three to five times regular fuel largely because of a lack of scale.

"The real challenge is how far down the supply chain in the current environment do we need to go?" he said.

Rival Virgin Australia has an "aspirational target" of sourcing 5 per cent of its jet fuel from sustainable sources from 2020.

Its partners include New South Wales start-up Licella, which uses water technology to produce high-quality biocrude oil from agricultural and farm waste. The company plans to unveil a pre-commercial plant with an annual

capacity of 50,000 barrels of sustainable biofuels in 2015.

Its feedstock ranges from pine sawdust and sugar cane waste to any other dry plant matter - but food crops are deliberately avoided.

"It's very important these feedstocks don't enter the food-versus-fuel debate," Steve Rogers, business development manager at Licella, said.

The company has spent "tens of millions" of dollars developing the technology and is "about to launch a \$10 million raising to take us through the next couple of years", Mr Rogers said.

Full commercialisation would need investment in the hundreds of millions of dollars. "We need patient capital," he said. "We're building a new industry and it's going to be a long journey."

This story was found at: <http://www.smh.com.au/business/carbon-economy/aviation-biofuels-on-the-up-and-up-20130224-2ezj4.html>