New sustainable 'bio-derived' jet fuel industry is achievable: report

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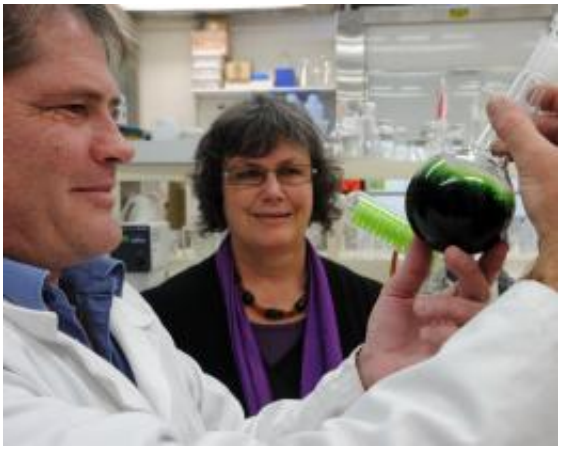

CSIRO's Graeme Dunstan and Dr Sue Blackburn inspect a flask of pure microalgal oil (for use as a feedstock for biodiesel). Credit: CSIRO

Establishing an economically and environmentally beneficial, 'bio-derived' Australian and New Zealand aviation fuels industry is a viable proposition, according to a report compiled by CSIRO in collaboration with the region's major aviation industry players.

The report, Flight Path to Sustainable Aviation, predicts that over the next 20 years a new, sustainable, Australia-New Zealand aviation fuels industry could cut greenhouse gas emissions by 17 per cent, generate more than 12,000 jobs and reduce Australia's reliance on aviation fuel imports by $2 billion per annum.

"This study highlights promising options for the aviation industry," said the project's leader, CSIRO Energy Transformed Flagship's economist Paul Graham.

"It also identifies the market, infrastructure and governance changes that will be required for success.

"Through the uptake of sustainable bio-derived jet fuel, together with next generation aircraft and engines, the industry can reduce both its emissions and its reliance on imported fossil fuel."

The study was commissioned by and developed in collaboration with the members of the Sustainable Aviation Fuel Users Group– including Air New Zealand, Boeing, Qantas and Virgin Australia – together with the Defence Science and Technology Organisation (DSTO) and The Climate Group.

It found that production of commercially viable quantities of aviation fuels derived from non-food biomass sources (eg: crop stubble, forestry residues, municipal waste and algae) is a feasible option for Australia and New Zealand. It also found there are currently sufficient biomass stocks to support a local jet fuel industry.

Sustainable bio-derived jet fuel complies with social, environmental and economic criteria, which includes not impacting on food security or the environment and results in a reduction in greenhouse gas emissions.

The report identifies several major actions that are required by 2015 to ensure the industry can be established. These include:

- Creation of a supportive market structure and supply chain

- Development of refining plants

- Certification and independent verification to ensure sustainability of the fuel.

The participants will use the findings of the report as the basis for developing implementation plans and projects, details of which will be announced in the coming months. Some related projects are already in place.

Other participants in the study include: Airbus, Australian Defence Force, Brisbane Airport Corporation, Bioenergy Association of New Zealand, Biofuels Association of Australia, GE, Honeywell UOP, New South Wales Office of Biofuels, NSW Office of Trade, Business & Industry, Pratt & Whitney, Queensland Department of Employment, Economic Development and Innovation, Rolls-Royce, Royal Aeronautical Society Australian Division, South Australian Department of Premier & Cabinet, The Climate Group and Victorian Department of Innovation, and Regional Development.

The project also engaged international organizations such as the Roundtable on Sustainable Biofuels.

Provided by CSIRO