

Cairns

Smart Green

Economy

CASE STUDY: NET ZERO ENERGY

Sustainable Aviation Fuels

Jet Zero Australia

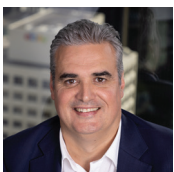
Jet Zero Australia is leading the way in sustainable aviation with its groundbreaking Sustainable Aviation Fuel (SAF) project. Recognising the urgent need to reduce emissions in the aviation sector, Jet Zero Australia's initiative is set to revolutionise fuel production in Australia.

The initiative leverages the region's abundant agricultural resources to produce SAF and renewable diesel. By converting bioethanol from domestic agricultural by-products into sustainable aviation fuels, Jet Zero Australia is reducing carbon emissions, supporting local farmers, and creating new economic opportunities in the region.

113 MILLION LITRES OF LOW CARBON BIOFUELS

The project aims to produce 113 million litres of low carbon biofuels annually, using advanced Alcohol-to-Jet (ATJ) technology. This initiative will convert bioethanol derived from domestic agricultural by-products into SAF, significantly reducing greenhouse gas emissions from aviation.

The production of 11 million litres of renewable diesel will further support local industries, including reef tourism, mining, and transport, ensuring a comprehensive approach to regional energy needs and sustainability.



"Sustainable Aviation Fuel (SAF) is a huge market growing globally. It's used to help decarbonise the aviation industry. Australians fly regularly and over long distances, so it's no surprise that we're the world's 8th largest jet fuel consumer. This is why SAF presents a substantial opportunity, domestically and internationally."

Ed Mason, Managing Director, Jet Zero Australia

HOW IT WORKS

The project employs a comprehensive and innovative approach to fuel production:

Advanced technology: Jet Zero Australia uses state-of-the-art ATJ technology to convert surplus ethanol production into SAF. This technology is pioneering in the field of renewable aviation fuels and is a first for the Australian aviation industry.

Local feedstock utilisation: The project has the potential to capitalise on Far North Queensland's rich supply of SAF feedstocks, such as agricultural residues and biomass from sugarcane. This not only supports local agriculture but also ensures a steady and sustainable supply of raw materials for fuel production.

Economic modelling and planning: Commissioned by the Queensland Government, Deloitte's economic modelling report highlights the potential of establishing a SAF supply chain in Queensland. This report underscores the favourable conditions for developing commercial-scale SAF value chains and estimates that global demand for SAF could support an industry worth \$14–23 billion by 2030.

WHY IT MATTERS

The project offers numerous benefits:

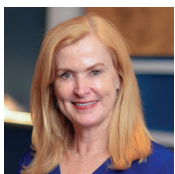
Significant emissions reduction: The project is forecast to reduce jet aircraft CO₂ emissions by over 70% compared to traditional fossil fuels. This substantial reduction helps combat climate change and aligns with international and domestic Net Zero targets.

Economic growth for the region: The project is expected to generate 1,000 construction jobs and over 100 direct operational jobs in North Queensland, contributing to the regional economy. Establishing a domestic SAF industry could be worth \$3 billion annually and create up to 15,600 jobs nationwide by 2050.

Strategic importance: Providing the Australian Defence Force (ADF) with fuel security in a strategically important region enhances national security. Additionally, supplying renewable diesel to the reef tourism, mining, and transport sectors supports the local economy.

Global leadership: Positioning Queensland as a world leader in the low-emissions biofuels industry, the project showcases the region's capability to lead in innovative and sustainable practices.

Cairns Airport's commitment to supporting aviation decarbonisation complements this initiative, making the Cairns region a key player in the transition to sustainable aviation.



"Another exciting opportunity arising from SAF is that an accompanying product produced is renewable diesel, helping to decarbonise the region's marine fleet. This is particularly important for the sector that attracts millions of tourists to our stunning Great Barrier Reef every year."

Jacinta Reddan, CEO, Advance Cairns

Disclaimer: This case study showcases an innovative approach in Cairns' Smart Green Economy. While this project is not owned by Cairns Regional Council, and the presentation of this case study does not imply Council endorsement, it is our aim to highlight some of the exciting initiatives in our region and inspire positive change within our community.

113m

Litres of low carbon biofuels

11m

Litres of renewable diesel produced annually

\$600m

Project investment

Over 70%

Reduction in emissions

SUPPORT THIS PROJECT

To learn more about sustainable aviation fuel and Jet Zero Australia, visit jetzero.com.au

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