



SUSTAINABLE AVIATION FUEL

State of Play

EXECUTIVE SUMMARY

November 2024



EXECUTIVE SUMMARY

Since Boeing and CSIRO's joint release of the Sustainable Aviation Fuel Roadmap in August 2023, many significant global and domestic developments have occurred - including shifts in policy, Research and Development (R&D) breakthroughs, investment growth, and increasing industry uptake - further informing options towards establishing a SAF ecosystem within Australia.



SAF policy continues to progress globally, de-risking investment in SAF and helping the sector to decarbonise



Federal and state government action is driving policy development in Australia



Boeing affirming SAF has no technical issues for use in all our military aircraft



Australia's finance sector is increasingly engaged in developing innovative approaches to scale SAF



Industry development is occurring in Australia, with SAF blending on-shore to commence in 2025

Progress on immediate-term recommendations

Actions have been taken across Australian policy, industry and R&D in-line with the Roadmap's immediate term recommendations, however continued targeted effort is required.

1. Consider policy frameworks and tools

- Federal Budget and Aviation White Paper confirm intent to consider SAF-related policies
- QLD Industry Partnership Program, NSW Net Zero Manufacturing.

2. Encourage the signalling of local demand

- Publications highlighting expected demand growth
- Williamtown Air Show Australian Defence Force demonstration
- Aviation White Paper highlights government commitment
- Australian Defence Force commitment to transitioning to low carbon renewable energy.

3. Educate consumers on SAF's role and benefits

- CSIRO owned work item in Australian Jet Zero Council initiatives
- Extensive media Roadmap reach of up to 17 million
- Aviation White Paper notes social licence and consumer education initiatives.

4. Invest in technology and feedstock R&D

- Access to \$1.7 billion Future Made in Australia Innovation Fund
- ARENA Sustainable Aviation Fuel Funding Initiative of up to \$30 million.
- Feasibility studies by Ampol, Graincorp, LanzaJet, Wagner and Liquid Power.

5. Scale-up biogenic SAF production

- No active domestic plants to date.
- Projects in planning or construction: LanzaJet and Jet Zero, Townsville; Wagner and Boeing, Toowoomba.
- Projects discontinued: Oceania Biofuels, Gladstone.

● Strong ● Moderate ● Weak

Emerging insights in the Australian ecosystem

Given changes in the year since the Roadmap's release, a roundtable consisting of industry, research and government leaders identified evolving priorities in advancing the domestic SAF sector.

Cost and market uncertainty

- Nuancing respected international frameworks for the Australian context will be important to inform policy and production
- Gradual transition pathways can minimise capital requirements
- Market interdependencies need to be considered (e.g. Low Carbon Liquid Fuels)
- Cost of living places further pressure on consumer ability to pay
- Carbon accounting and monetisation plays to national strengths
- Government offtakes will strengthen resilience to disruptions
- Short-term offtake agreements increase risk for private financing.

Feedstock availability and competition

- Matching feedstocks with technologies requires an improved understanding of suitability across pathways
- Cross-industry feedstock competition is likely to grow
- Narrowed options can inform targeted future analyses
- Working with agriculture will be important in driving value
- Better alignment around power-to-liquid planning is needed.

Technological gaps and infrastructure needs

- Leveraging existing infrastructure will minimise unneeded spend
- Building cross sectoral relationships between energy and agriculture will enable better feedstock integration
- Recognising benefits beyond biofuels can help spur investment.

Sustainability and social perceptions

- Evidence based information will help to inform social concerns
- Promoting Australia's credentials can encourage overseas uptake
- Long term sustainability planning into use and management
- Early Indigenous and community engagement will maximise benefit for indigenous communities and SAF organisations
- Feedstock legitimacy may be questioned by customers.