

Sugarcane Bioenergy Inquiry 2025

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October 23, 2025

Mr Stephen Bennett MP
Chair
Primary Industries and Resources Committee
Member for Burnett
Parliament House BRISBANE QLD 4000

Re: Submission to the Inquiry into Sugarcane Bioenergy Opportunities in Queensland

Dear Mr Bennett,

LanzaJet welcomes the opportunity to provide this submission to the Queensland Parliament's Inquiry into Sugarcane Bioenergy Opportunities. Our comments focus on the fuels production and market perspective, reflecting our role as a global technology provider and developer of SAF from ethanol.

LanzaJet is an industry-leading sustainable aviation fuel (SAF) producer. We use our proprietary alcohol-to-jet (ATJ) process to convert any source of low-carbon, sustainable ethanol into drop-in SAF and renewable diesel. Following a decade of technology development and demonstration, LanzaJet was launched with a clear mission—to scale the SAF market and enable the decarbonisation of the aviation sector. To that end, we have constructed a first-of-a-kind, 38 million litres per year commercial scale SAF facility in Soperton, Georgia, U.S. LanzaJet's equity investors include LanzaTech, Suncor, Mitsui, British Airways, Shell, Southwest, Groupe ADP, Microsoft, MUFG, ANA and Airbus.

Queensland is an important market for LanzaJet and we have two announced projects in the State. In partnership with Jet Zero Australia and with support from the Qantas Group, Airbus, ARENA, and the Queensland Government, we are developing Project Ulysses: a 102 million litres per year (mlpy) SAF (+11 mlpy of renewable diesel) production facility in North Queensland.¹ We are also partnering with Wagner Sustainable Fuels and LanzaTech to develop a second facility utilizing our CirculAir platform: a joint technology solution with LanzaTech that converts any source of waste carbon and renewable power into SAF. The Wagner SAF refinery has already received investments from the Queensland Government and Boeing.²

Queensland has all the right ingredients - a significant feedstock base, regional infrastructure, industrial capability, and proximity to growing aviation markets - to establish itself as a regional hub for SAF production. However, global investment in biofuels is highly mobile, and capital will flow to jurisdictions with the lowest feedstock costs and most favourable market conditions. To compete, Queensland must implement a clear, balanced policy framework that addresses both supply- and demand-side enablers.

Early-stage and supply-side support is vital to initiate projects, but because SAF costs more than fossil jet fuel, final investment decisions depend on strong demand-side incentives that give developers and lenders revenue and cashflow certainty. Both sides of the market must be addressed in tandem to ensure projects get built.

Finally, it is crucial to acknowledge that integrating biofuels into aviation is quite different from the transformation that would be required to utilize hydrogen. Although more costly than fossil fuels, sugarcane-based biofuels are substantially less expensive than hydrogen in relative terms. Furthermore,

¹ See <https://www.lanzajet.com/sustainable-aviation-fuel-readies-to-take-flight-in-australia/>

² See <https://ir.lanzatech.com/news-releases/news-release-details/lanzatech-and-lanzajet-announce-new-project-wagner-sustainable>

when blended at internationally standard levels, they do not substantially increase fuel costs. As drop-in fuels, they can be swiftly integrated into Australia's existing fuel markets and infrastructure, providing a practical and near-term decarbonisation pathway.

1. Market, Regulatory and Infrastructure Barriers

Market

The cost of ethanol feedstock is the largest component of SAF production using the ATJ pathway. Queensland must ensure that domestic ethanol is cost-competitive with countries like Brazil and Thailand, where investment in large-scale production has driven low costs and supported the entire sugarcane value chain.

Investors and developers are allocating capital globally; jobs and economic benefits will flow to jurisdictions with the best feedstock and markets. Weak demand-side policy - such as the previous E10 mandate - creates leakage back to fossil fuels. Clear, durable SAF mandates or price mechanisms are needed to provide bankable price signals.

Regulatory

Australia lacks a nationally consistent SAF framework covering definition, certification, and life-cycle accounting. Fragmented permitting pathways, unclear excise treatment, and inconsistent regulatory settings increase investment risk and extend timelines. LanzaJet notes that further investment in/recruitment of biofuels project experienced departmental staff responsible for assessing biofuels projects can have a positive impact on the ease of doing business in Queensland for biofuels companies and this would be welcomed.

Infrastructure

SAF blending, storage and distribution infrastructure at Queensland airports is limited, and shared utilities at prospective industrial sites require investment to reduce capex and schedule risk. Ethanol logistics (road/rail/port) also need coordinated planning.

Sugarcane as Source Feedstock

From an investment perspective, bagasse, molasses, and first-press cane juice represent some of the lowest-cost, most scalable SAF feedstocks in Queensland. National modelling, as part of the CSIRO's Sustainable Aviation Fuel Roadmap (2023), suggests that using just a quarter of bagasse and 10 % of Australian sugar in 2025 could produce nearly 1 GL of SAF annually, about 11 % of Australia's jet fuel consumption. Around 5 Mt of bagasse could be freed up if mills adopt more efficient power systems, while molasses-based ethanol capacity can be ramped up quickly through existing facilities. These feedstocks, combined with LanzaJet's ATJ technology, provide bankable pathways to large-scale SAF production and represent a strategically significant domestic SAF resource. Targeted policy measures to create incentives to free up bagasse from low-efficiency cogeneration, enable ethanol production from cane juice, and expand molasses utilisation would unlock large scale production volumes and regional investment.

2. Policy and Funding Mechanisms to De-Risk Investment

International Lessons

Queensland's extensive sugar industry and regional cane base mirrors Brazil's, which has developed the world's leading ethanol sector, worth billions annually and employing vast numbers. Brazil's success stems from decisive policy, including the *Fuels of the Future* law and the SAF National Program, which drove research, production, and uptake. A SAF mandate requiring 1 % annual aviation emissions reductions from 2027, rising to 10 % by 2037, combined with US \$1.1 billion in BNDES financing (long-term financial support provided by the Brazilian Development Bank, Banco Nacional de Desenvolvimento Econômico e

Social), catalysed tens of billions in private investment. This provides a blueprint for Queensland and Australia to convert early initiatives into long-term industry growth.

Supply- and Demand-Side Measures

Targeted early-stage funding for feasibility, concept, and FEED studies is critical to build a sustainable pipeline of projects. Joint Queensland–Commonwealth funding can effectively de-risk early development and align domestic feedstock supply with emerging SAF demand.

On the supply side, mechanisms such as capital grants, concessional finance, production credits, tax concessions, and Contracts for Difference can stimulate innovation, secure feedstocks, establish local capacity, and attract private capital. Experience from the United States has shown that state governments offering supply side incentives that are “stackable” with federal government incentives is an effective and powerful way to catalyse industry and investment.

However, because SAF is inherently more expensive than fossil jet fuel, demand-side policy will still be required to provide the investment certainty for an industry to really grow and scale. Instruments such as mandates and low carbon fuel standards and government sustainable fuel procurement policy are essential to provide investors with demand certainty. Both sides of the market must be addressed simultaneously to move projects from development to construction. This is an area where there is both opportunity for the Queensland Government to work in partnership with the Australian Government whilst also exploring state-based instruments that can complement a national framework. Again, the United States offers examples where this has occurred (e.g. California, Oregon, New Mexico). It is worth noting that the NSW Government is contemplating such an approach by expanding their Renewable Fuels Scheme to include SAF and other low carbon liquid fuels.

Precincts and Hubs

Establishing biofuels precincts or hubs offers significant advantages for project delivery and industry growth. Clustering ethanol-to-SAF projects around hubs with existing fuels, and energy infrastructure enables economies of scale, shared infrastructure, and streamlined approvals, reducing costs and timelines. There are also opportunities to take advantage of sugar mill steam and power from cogeneration.

Government Signalling

Clear government signalling - through a public ethanol to SAF strategy and visible leadership - can materially improve Queensland’s investment attractiveness. Simple measures, such as linking SAF and ethanol to a senior leadership portfolio (as was done for hydrogen), can have significant impact at low cost.

3. Strategic Land Use and Regional Development

Queensland should strategically leverage existing industrial land and infrastructure to accelerate SAF development. Prioritising Townsville SDA and other coastal nodes as SAF production hubs would capitalise on existing transport corridors and proximity to aviation markets. Coordinated planning of common-user utilities, airport blending/storage infrastructure, and streamlined approvals would reduce development risk and support regional job creation. Integrating skills training, environmental resilience measures, and circular economy opportunities (e.g. CO₂ utilisation) will further strengthen regional benefits. Concentrating investment in such hubs would foster specialised regional supply chains, support workforce development, and enable efficient integration with existing aviation fuel infrastructure.

Conclusion

Developing a SAF industry based on Queensland’s sugarcane feedstocks represents a major regional economic opportunity. According to CSIRO’s national modelling (2023), utilising residues such as bagasse, first-press cane juice and molasses could anchor a new generation of large-scale biorefinery projects in Queensland. These are typically billion-dollar investments, each representing a major industrial project employing several hundred high-skilled workers during operation and thousands more in construction. Beyond direct employment, such projects stimulate regional supply chains, create new logistics and service

industries, and diversify regional economies. By leveraging existing sugar industry infrastructure and strategically positioning SAF production hubs in cane-growing regions, Queensland can attract global capital, create durable regional employment, and drive long-term economic transformation.

To secure this opportunity, a balanced policy framework that tackles both early-stage supply-side enablers and durable demand-side policy, supported by strategic precinct planning and clear government leadership, will be needed.

Sincerely,



Flyn Van Ewijk
Regional Director - Asia Pacific
LanzaJet