



Sugar and Renewables



Wilmar Sugar and Renewables

Submission to the Department of Infrastructure, Transport, Regional
Development, Communications and the Arts:

*Consultation on Future Made in Australia: Unlocking Australia's low carbon
liquid fuel opportunity*

18 July 2024

1. About Wilmar's operations in Australia

Wilmar Sugar and Renewables (Wilmar) is a business division of Wilmar Sugar Australia, owned by Wilmar International, a global agribusiness group with interests in 50 countries.

- Wilmar is the largest producer of raw sugar in Australia.
- Wilmar owns and operates eight sugar mills in Queensland, producing around 2mt of raw sugar for export per year, representing about 60 per cent of Australia's total raw sugar exports.
- We employ about 2,000 professional, skilled and non-skilled Australians, contribute \$1.6 billion annually in direct and indirect value added to the Queensland economy, and support the livelihood of farming and regional communities throughout north Queensland.
- Wilmar BioEthanol operates an ethanol distillery in Sarina (Queensland) and a warehouse and packing facility in Yarraville (Victoria).

2. Wilmar's interest in low carbon liquid fuels

Wilmar, as a major player in the Australian sugar industry, has the potential to provide significant feedstock for a domestic low-carbon liquid fuel (LCLF) industry. The most appropriate pathway to LCLF for a sugar factory is likely the production of ethanol, which can be used as feedstock for the Alcohol-to-Jet (ATJ) SAF technology.

Ethanol can be produced by a sugar factory through two pathways:

- 1G ethanol: The fermentation of sugars to produce ethanol. This conventional method uses juice or molasses.
- 2G ethanol: Ethanol produced from bagasse (fibre). Bagasse is pre-treated to release cellulose and hemicellulose components, then treated with enzymes to produce xylose and glucose. These sugars are then fermented, and the resulting ethanol is distilled using conventional methods.

1G ethanol technology is well-established and can provide feedstock for the first wave of ATJ-SAF production in Australia. In contrast, 2G ethanol technology is still in development and poses significant technology risk. In addition, 2G ethanol technology currently represents a higher-cost pathway to ethanol. The 2G ethanol pathway may become feasible in the future, providing feedstock for ATJ-SAF capacity expansion as the industry matures and demand increases.

Developing a domestic LCLF industry in Australia offers potential revenue diversification opportunities for the sugar industry, which currently relies predominantly on the volatile world sugar market. Revenue diversification through supplying products to a local LCLF market could improve revenue stability, enhancing the risk profile of the industry and benefiting both investors in the ethanol and SAF plants, growers which supply cane as feedstock, and the rural communities where the sugar industry operates.

Additionally, establishing a domestic LCLF industry will provide significant regional development opportunities through the construction and operation of LCLF facilities and supporting infrastructure, further benefiting the local communities in which Wilmar operates.

3. About Wilmar's submission to this inquiry

Wilmar welcomes the Department's consultation process on low-carbon liquid fuels and appreciates the opportunity to contribute. We support the Australian Government's efforts to develop policies that will foster a robust domestic LCLF industry, which has the potential to provide significant benefits to the rural communities in which Wilmar operates.

Unless information provided in this submission is annotated as being commercially sensitive or provided on a confidential basis, Wilmar has no objection to the Commission publishing it.

4. Wilmar's response to Department's questions

"The Government is seeking your views on the options for a production incentive scheme:"

"The Government is seeking your views on the design of production incentives to appropriately incentivise the production of SAF and renewable diesel and different pathways to produce LCLF:"

To support the substantial upfront capital costs required for ethanol and SAF production facilities, suppliers will need a high degree of revenue certainty. This need extends to the production of intermediate feedstocks, such as ethanol for the ATJ-SAF pathway, which also requires significant investment and revenue assurance.

Drawing parallels with the large LNG projects in Australia that reached final investment decisions between 2007 and 2012, suppliers will similarly require long-term, foundational sales agreements specifying the volume and price of SAF to be sold. These offtake agreements must extend beyond the project's payback period, typically spanning 10-15 years. Without such revenue certainty, it is unlikely that final investment decisions will be made for SAF production projects or the ethanol projects which provide feedstock.

In the absence of long-term offtake agreements with customers that ensure both volume and price certainty, the contract-for-difference (CfD) option proposed by the department could offer the necessary revenue stability for investors. This scheme would need to guarantee support for at least the project's expected payback period, based on the CfD strike price.

The UK Government's current investigation into suitable revenue certainty mechanisms for their SAF policy, such as Guaranteed Strike Price, also provides relevant examples worth considering.

Support mechanisms for SAF production should not be limited to new or high-risk technologies due to the multitude of risks involved, including technology, feedstock, construction, market, and regulatory uncertainties. Established technologies, such as 1G ethanol, can provide feedstock for the initial wave of ATJ-SAF production in Australia. However, despite its established nature, the high cost of the ATJ-SAF pathway necessitates government incentives to stimulate investment.

Preliminary investigations by Wilmar indicate that the cost of SAF via the ATJ pathway using 1G ethanol will be more than three times higher than conventional jet fuel. Biomass-based projects (e.g., 2G ethanol, gasification) will be even more expensive and currently involve significantly higher technical risks compared to the 1G ethanol pathway. As a result, it is likely that biomass-based projects will constitute a third phase of industry development, following HEFA and 1G ATJ project opportunities.

The 1G ethanol ATJ-SAF pathway is more expensive than the HEFA-SAF pathway, making HEFA-SAF projects more likely to be developed first. However, the availability of HEFA feedstocks is limited, and ATJ-SAF production will likely be necessary by the early 2030s. Large capital projects like these require development lead times of five to ten years. Therefore, funding for 1G ethanol ATJ-SAF development needs

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to begin immediately to ensure supply is ready once HEFA capacity is exhausted.

“The Government is seeking your views on the following considerations regarding emissions and sustainability criteria:”

LCLF regulations must clearly define the eligibility of various feedstocks to be considered sustainable. Wilmar supports the inclusion of an emissions reduction threshold as part of the eligibility criteria, suggesting a 50 percent reduction relative to conventional fuels as reasonable. Utilizing default emission factors for specific pathways would effectively simplify certification requirements.

Wilmar also endorses the government’s intention to align certification arrangements with international schemes such as CORSIA. However, any adopted criteria should be tailored to the Australian context and consider the available feedstocks suitable for establishing a competitive domestic industry. For instance, the use of sugar juice in ethanol production as feedstock for ATJ-SAF should be allowed, even though it is not permitted under EU Refuel criteria.

The development of these eligibility criteria should be expedited to provide early assurance to project developers that their proposed pathways are acceptable. This will facilitate confident investment in early project development activities.

The Government is seeking your views on the design of demand-side mechanisms:

To provide customers with the confidence to sign long-term contracts for Sustainable Aviation Fuel (SAF), a mandate or low-carbon fuel standard with a clear pathway for reducing carbon intensity is essential. The substantial cost differential between SAF and conventional jet fuel suggests limited voluntary demand for SAF. Airlines are unlikely to commit to significant SAF offtake volumes unilaterally, as this would impose considerable costs and negatively impact their competitiveness if competitors do not do the same. Any demand-side regulation must include effective enforcement mechanisms and penalties which incentivize SAF procurement rather than paying the penalties.

The option of "non-binding targets" is grossly inadequate for providing the necessary certainty a nascent industry needs and should be quickly dismissed.

Demand-side mechanisms must also include local content provisions to support domestic production, ensuring the development of a robust domestic low-carbon liquid fuel (LCLF) industry.

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