



QUEENSLAND PARLIAMENT
COMMITTEES

**Inquiry into Sugarcane Bioenergy Opportunities in
Queensland**

Primary Industries and Resources Committee



Report No. 16

58th Parliament, March 2026

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Primary Industries and Resources Committee

Chair Stephen Bennett, Member for Burnett

Deputy Chair James Martin, Member for Stretton

Members Nigel Dalton, Member for Mackay

Robbie Katter, Member for Traeger

Glen Kelly, Member for Mirani

Tom Smith, Member for Bundaberg

Committee Secretariat

Telephone 07 3553 6621

Email PIRC@parliament.qld.gov.au

Committee Webpage www.parliament.qld.gov.au/pirc

All references and webpages are current at the time of publishing.

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Chair's Foreword

This report presents a summary of the Primary Industries and Resources Committee's examination of the self-referred inquiry, *Sugarcane Bioenergy Opportunities in Queensland*.

The committee's task was to understand the current state of the sugarcane industry in Queensland with reference to the federal and international context. The committee sought to understand the existing issues and opportunities facing the industry, and to consider mechanisms to support its growth and development.

This inquiry brought together several government departments in a constructive and productive way. The committee acknowledges the assistance provided by the Department of Primary Industries as the lead liaison agency, as well as the Department of the Premier and Cabinet, the Department of State Development, Infrastructure and Planning, and Queensland Treasury for their coordination, willingness to engage and valuable support throughout the inquiry.

The inquiry highlighted a strong foundation of cooperation across the sector, with growers and millers demonstrating a willingness to work towards mutually beneficial outcomes. It drew on evidence from a diverse range of stakeholders across Queensland, Australia, and overseas, who provided thorough and wide-ranging information and advice. The inquiry demonstrated how constructive, good-faith engagement between stakeholders, departments and the committee can help identify shared priorities and deliver practical pathways forward for the benefit of Queensland.

On behalf of the committee, I thank those individuals and organisations who made written submissions to the inquiry and appeared at public briefings and hearings. I also thank the Parliamentary Service staff and the various departments who worked together to facilitate a comprehensive and productive inquiry process.

I commend this report to the House.



Stephen Bennett MP

Chair

Terms of Reference

On 11 June 2025, the Primary Industries and Resources Committee resolved to self-refer an inquiry into Sugarcane Bioenergy Opportunities in Queensland with the following terms of reference:

1. The role and benefits of sugar cogeneration in Queensland's electricity generation mix, including existing capacity and potential for expansion.
2. Market, regulatory, and infrastructure barriers to increased bioenergy production from sugar.
3. Opportunities to align sugar biofuel production with national security and Defence liquid fuel needs.
4. Policy and funding mechanisms to de-risk investment in cogeneration and biofuels by manufacturers and growers, including examples of successful policy implementation from overseas and other industries.
5. The R&D agenda to underpin a world leading sugar-led bioenergy industry.
6. Strategic land use and regional development considerations affecting cane growing and sugar manufacturing capacity.
7. Benefits for growers in diversification opportunities.
8. Consideration of food versus fuel.

Executive Summary

On 11 June 2025, the Primary Industries and Resources Committee resolved to conduct an inquiry into Sugarcane Bioenergy Opportunities in Queensland.

The purpose of the inquiry was to examine the current state of the sugarcane industry in Queensland, including the barriers and opportunities facing the sector, and to consider mechanisms to support its future growth and diversification.

The inquiry's terms of reference examined the role of sugar cogeneration in Queensland's energy mix, barriers to expanding bioenergy production, opportunities to align biofuel production with national security and Defence fuel needs, policy and funding mechanisms to support investment, the research and development agenda required to underpin a sugar-led bioenergy industry, strategic land use and regional development considerations, benefits for growers from diversification, and the balance between food and fuel production.

The committee received 42 submissions from a wide range of stakeholders, including millers, growers, bioenergy organisations and research institutions. The committee also heard from 41 witnesses at public hearings in Brisbane, Mackay and Townsville, and conducted several site visits.

Based on the evidence received, the committee has made 12 recommendations to the Queensland Government aimed at supporting the development of a resilient and profitable sugarcane bioenergy industry. These recommendations focus on establishing a strategic framework for industry diversification, improving access to finance and investment certainty for bioenergy projects, supporting the modernisation of milling and cogeneration infrastructure, strengthening research and development capability, and addressing key policy and infrastructure barriers identified during the inquiry.

The committee considers that, with appropriate policy settings and coordinated investment, Queensland's sugarcane industry is well positioned to play a significant role in the state's emerging bioeconomy while strengthening regional economies and contributing to Australia's long-term energy and fuel security.

Recommendations

Recommendation 1 4

The committee recommends that the Queensland Government, working with stakeholders from across the industry, advocates to facilitate a broader national agenda in relation to sugarcane bioenergy opportunities.

Recommendation 2 21

The committee recommends that the Queensland Government assist with access to funding sources for sugar manufacturers with a cooperative structure and for smaller operators.

Recommendation 3 25

The committee recommends that the Queensland Government explore mechanisms to support industry to modernise sugar milling infrastructure, including upgrades that would enable more efficient cogeneration of electricity from bagasse, while ensuring that diversification into bioenergy complements the industry’s core role in sugar production.

Recommendation 4 30

The committee recommends that the Queensland Government provide funding for a pre-feasibility study into the development of a Queensland sugar-based biofuel supply chain to service Australian Defence Force fuel requirements.

Recommendation 5 35

The committee recommends that the Queensland Government advocate for a national drop-in biofuels mandate that includes a requirement for a portion of the mandate to be filled by local feedstocks and prioritises fuels with the lowest carbon intensity.

Recommendation 6 36

The committee recommends that the Queensland Government explore opportunities to establish offtake agreements with sugar manufacturers, including fixed or floor pricing arrangements to reduce exposure to negative market prices.

Recommendation 7 38

The committee recommends that the Queensland Government collaborate with the Australian Government to allocate funding for feasibility and final investment decision

studies, ensuring a pipeline of shovel-ready sugar biofuels, biogas and bioenergy projects is in place ahead of demand-side policy implementation.

Recommendation 8 38

The committee recommends that the Queensland Government commit to targeted enabling investments in shovel-ready sugar industry projects that are well positioned to attract both federal and private investment.

Recommendation 9 39

The committee recommends that the Queensland Government develop a sugar industry diversification strategy, informed by the policy reforms and recommendations outlined in this report, and progress its development as a matter of urgency.

Recommendation 10 45

The committee recommends that the Queensland Government co-invest with industry and the Australian Government to strengthen research and development capability in advanced sugar manufacturing.

Recommendation 11 49

The committee recommends that the Queensland Government examine options to address fragmentation across sugarcane farming entities, including land tenure and structural arrangements that support more efficient industry scale.

Recommendation 12 52

The committee recommends that the Queensland Government consider policy settings that promote transparent negotiations and fair commercial outcomes between cane growers and millers in the development of sugarcane bioenergy projects.

Glossary

ACCC	Australian Competition and Consumer Commission
ADF	Australian Defence Force
Advanced biofuels	Biofuels produced from biomass using advanced conversion technologies, including 2G ethanol, SAF, and renewable diesel.
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Alcohol-to-jet	A means of converting ethanol to a hydrocarbon fuel. SAF can be produced via the alcohol-to-jet process.
ARENA	See: Australian Renewable Energy Agency
ASM	Australian Sugar Manufacturers. <i>Formerly known as the Australian Sugar Milling Council (ASMC)</i>
Australian Renewable Energy Agency (ARENA)	An Australian Government independent agency that provides financial assistance for renewable energy projects.
Bagasse	The fibrous byproduct of the sugar milling process.
Baseload energy	Generation resources that generally run continuously throughout the year and operate at stable output levels.
Biodiesel	Diesel-equivalent fuel made from vegetable oils and animal fats, hydrogenated vegetable oil, thermal processes such as gasification and fermentation.
Bioeconomy	The production of renewable biological resources and the conversion of these resources and waste streams into value-added products, such as food, feed, bio-based products and bioenergy.
Bioenergy	A form of renewable energy generated from biomass. Sources can include sugarcane, sorghum and corn, forestry residues, and agricultural by-products such as bagasse or straw. Includes solid bioenergy, liquid biofuels and biogases.
Bioethanol	Produced from starch crops, such as corn or wheat, and sugar crops, such as sugarcane and sugar beet, and is primarily a replacement for petrol. In Australia bioethanol is mainly produced using feedstock from the sugar industry.
Biofuels	Fuels derived from sustainable biogenic resources, including bioethanol, biodiesel, and sustainable aviation fuels. They can be classified as conventional and advanced biofuels according to the combination of feedstock and technologies used to produce them and their respective market maturity.
Biogas/Biomethane	Biogas is a mixture of methane, CO ₂ and small quantities of other gases produced by anaerobic digestion of organic matter. Biomethane is produced by 'upgrading' biogas or through the gasification of solid biomass followed by methanation.

Biomanufacturing	The production of goods using biological processes or resources. For example, biofuels, biochemicals, biopolymers, industrial enzymes and chemicals.
Biomass	Material sourced from agricultural crops and waste, animal fats and vegetable oils.
BRF	Burdekin Renewable Fuels
Buyer-of-last-resort scheme	A policy mechanism whereby an entity (such as a government) commits to purchasing a defined volume of product at a guaranteed minimum price if commercial buyers do not materialise.
Cane price formula	A formula for calculating the price received by growers for their crop, largely based on the international price for raw sugar. The formula allocates approximately two-thirds of returns from sugar to growers and one-third to millers.
Cane rail network	A predominately narrow-gauge rail network owned by milling companies used to quickly transport cane from the field to a sugar mill. Queensland has approximately 4,000km of sugarcane rail.
Carbon Offsetting and Reduction Scheme for International Aviation (CORSA)	A global scheme, developed by the International Civil Aviation Organization, designed to address CO ₂ emissions from international flights by requiring airlines to offset any growth in emissions above a certain baseline.
CEFC	See: Clean Energy Finance Corporation
Cellulosic ethanol	See: Second-generation ethanol
Circular economy	A circular economy aims to sustainably reuse materials through reuse, repurposing, recycling and remanufacturing.
Clean Energy Finance Corporation (CEFC)	An Australian Government-owned corporation investing in renewable energy, energy efficiency and low emissions technologies.
Cogeneration	The process of generating both steam and electricity from the burning of bagasse.
Contract-for-Difference	A financial contract whereby producers are paid the difference between a fixed strike price and market price.
CORSA	See: Carbon Offsetting and Reduction Scheme for International Aviation
Crushing season	The period where sugarcane is harvested in the paddock, and 'crushed' in mills to make raw sugar and molasses. Typically runs between June and December.
Demand tariffs	Demand tariffs add an extra charge based on the highest level of power drawn at a particular time, not just total energy consumed.
Direct land use change	The conversion of land from non-cropland to bioenergy cropland.
Dispatchable energy	Energy from technologies whose power output can be readily controlled in order to match supply with demand.

Distribution grid	In energy supply via fixed network infrastructure, the distribution grid is the stage that connects to homes, industry and other end users.
DPI	Department of Primary Industries
Drop-in fuels	Biofuels that can directly be added to fossil liquid fuels and are compatible with existing fuel infrastructure.
DSDIP	Department of State Development, Infrastructure and Planning
Dunder	A liquid byproduct from the distillation of ethanol from sugarcane. Also referred to as vinasse.
E10 and E85	E10 is a blend of unleaded petrol and up to 10 percent ethanol. E85 is a fuel which contains up to 85 percent ethanol.
Energy Roadmap	Queensland Energy Roadmap 2025
Energy security	The uninterrupted availability of energy sources at an affordable price.
Ethanol	An alcohol with broad application in the chemical sector and as a fuel additive. When produced from bioresources it is known as bioethanol.
Ethanol excise	A tax applied to biofuels (including ethanol) in Australia, set under the federal excise system. Manufacturers of biofuels are required to pay an excise duty.
Feed-in tariff	A policy measure that guarantees a level of remuneration, usually above market rates, to energy producers for each unit of output. Used to encourage investment in renewable electricity plants and bioenergy plants by reducing price and demand risk.
Feedstock	Raw biological material used as input for producing energy or fuels, such as sugarcane juice, molasses, or agricultural residues.
Firming	The act of making an otherwise variable or intermittent electricity supply reliable and dispatchable.
First-generation bioenergy	Bioenergy from food crop inputs that include sugarcane, sugar beet, corn, wheat, oil palm, soya, canola and sunflower. Also referred to as 'conventional bioenergy'.
First-generation ethanol	Ethanol produced from the fermentation of sugars, conventionally using juice or molasses. It is a well-established technology and can be used as a feedstock for ATJ-SAF.
GPS	Generator performance standards
GW3	Greater Whitsunday Alliance
IAME	Institute of Automotive Mechanical Engineers
ICSM	Isis Central Sugar Mill
Indirect land use change	Expansion of cropland as a result of bioenergy crops elsewhere as a result of modified economic incentives rather than direct policy action.

Installed capacity	Typically refers to the full-load operation intended by the designer and guaranteed by the equipment manufacturer.
Large-scale generation certificates (LGCs)	Tradable certificates created for eligible large-scale renewable energy power stations. The certificates represent the amount of renewable energy generated by these facilities.
Low Carbon Liquid Fuels (LCLFs)	Fuels that can be produced sustainably from waste materials, biomass, or by combining hydrogen from low or zero carbon feedstocks with captured carbon dioxide. Examples include SAF, renewable diesel, biodiesel, and ethanol.
Mackay Renewables Bio Commodities Pilot Project	A research and development facility that converts biomass into biofuels, green chemicals and other bioproducts. Located on the site of Mackay Sugar Limited's Racecourse Mill.
Marketing choice	The <i>Sugar Industry (Real Choice in Sugar Marketing) Amendment Act 2015</i> (Qld) established 'marketing choice', providing cane growers with the right to choose who markets and prices the sugar in which they hold a Grower Economic Interest.
Microgrid	An energy system that efficiently controls and integrates electricity supply and demand on behalf of locally interconnected users, either connected to the grid or as a stand-alone system.
Mill mud	The residual mud and fibre filtered from the raw sugar juice during the sugar refining process.
Molasses	The syrup remaining after sugar is crystallized out of cane or beet juice.
MSL	Mackay Sugar Limited
MW/MWh	Megawatt/Megawatt hours
National Electricity Market (NEM)	The NEM is both a wholesale electricity market and the physical power system. The market uses sophisticated systems to send signals to generators instructing them how much energy to produce each five minutes, so production is matched to consumer requirements, and the current energy price can be calculated. NEM infrastructure comprises both state and private assets managed by industry participants.
Offtake agreement	A contract between a power producer and a purchaser (off-taker) for the sale and purchase of future energy output from a project. The most common form is a Power Purchase Agreement (PPA – see: Power Purchase Agreement).
Pelletisation	Using biomass from the sugar industry, including bagasse and tops and trash, and densifying them into pellets that can be easily transported and used in a variety of ways, including power generation, feedstock, and export.
PIRC/committee	Primary Industries and Resources Committee
Power Purchase Agreement (PPA)	A contractual arrangement under which an electricity generator sells the energy it produces at a fixed price or under a structured pricing arrangement, reducing exposure to the volatility of the spot

	market. A PPA is a form of offtake agreement (see: offtake agreement).
Prosper 2050	The Queensland Government's long-term strategic plan for Queensland's primary industries.
QCAR	Queensland Cane, Agriculture and Renewables
QFF	Queensland Farmers' Federation
QSL	Queensland Sugar Limited
Queensland Bioenergy Fund	A Queensland Government program providing funding to work with industry to investigate options and pathways to expand generation from underutilised biomass waste streams and support technology innovation.
Queensland Biofuels Mandate	A requirement, commenced on 1 January 2017, that sets minimum requirements for the sale of biobased petrol and biobased diesel.
QUT	Queensland University of Technology
R&D	Research and Development
RDA-GWR	Regional Development Australia – Greater Whitsunday Region
Regional plans	Long-term strategic documents that guide land use planning for state and local governments through contemporary policy frameworks. They spatially represent how regions will grow and respond to change over time.
Renewable diesel	A low carbon liquid fuel made from renewable feedstocks such as waste oils, animal fats or plant oils. Unlike biodiesel, renewable diesel is a 'drop-in fuel', meaning it is chemically similar to standard diesel and can be used directly in existing diesel engines without modifications.
Renewable Energy Certificates (RECs)	Tradable certificates issued within their respective schemes: large-scale generations certificates (LGCs) or small-scale technology certificates (STCs). STCs can be sold through the open market or STC clearing house. LGCs can be sold on the secondary market or directly to liable entities through power purchase agreements.
SAF	See: Sustainable Aviation Fuel
Second-generation biofuels	See: Advanced biofuels
Second-generation ethanol	Ethanol produced from cellulosic biomass such as bagasse or cane trash via advanced pretreatment and fermentation processes.
Sovereign Industry Development Fund (SIDF)	A Queensland Government program providing funding to accelerate development in the priority industries of defence, biomedical and biofuels.
SRA	Sugar Research Australia

Sugar Plus Roadmap	<i>Sugar Plus: Fuelling the Future of Food, Energy and Fabrication</i> . An industry roadmap published in July 2022 that sets out measures to strengthen the sugarcane industry.
Sugarcane trash	A byproduct of mechanised harvesting and sugar production processes and consists of dry leaves and green tops.
Sustainable Aviation Fuel (SAF)	Jet fuel made from renewable sources such as biomass, as opposed to conventional fossil jet fuels.
Time-of-use tariffs	Time-of-use tariffs charge different prices depending on the time of day (higher in peak evening periods, lower overnight and weekends).
TORs	Terms of Reference
Value chain	The full range of activities which are required to bring a product or service from conception, through the different phases of production, delivery to final consumers, and final disposal after use.
Wilmar	Wilmar Sugar and Renewables

Overview of the inquiry

On 11 June 2025, the Primary Industries and Resources Committee (the committee) self-referred the inquiry into Sugarcane Bioenergy Opportunities in Queensland (the inquiry). The reporting date was initially set as 12 June 2026. However, at their meeting on 21 January 2026, the committee revised this timeline to bring it forward to 31 March 2026, recognising that stakeholders have already been waiting some years for meaningful action in this space.

1. Aims of the inquiry

The committee's task was to understand the current state of the sugarcane industry in Queensland with reference to the federal and international context. The committee sought to understand the existing issues and opportunities facing the industry and to consider mechanisms to support its growth and development.

The objectives of the inquiry are set out in the terms of reference (TORs) below:

1. The role and benefits of sugar cogeneration in Queensland's electricity generation mix, including existing capacity and potential for expansion.
2. Market, regulatory, and infrastructure barriers to increased bioenergy production from sugar.
3. Opportunities to align sugar biofuel production with national security and Defence liquid fuel needs.
4. Policy and funding mechanisms to de-risk investment in cogeneration and biofuels by manufacturers and growers, including examples of successful policy implementation from overseas and other industries.
5. The R&D agenda to underpin a world leading sugar-led bioenergy industry.
6. Strategic land use and regional development considerations affecting cane growing and sugar manufacturing capacity.
7. Benefits for growers in diversification opportunities.
8. Consideration of food versus fuel.

2. Stakeholder engagement

2.1. Submissions

The committee announced the inquiry and called for submissions on 11 June 2025. Submissions closed on 27 October 2025. However, the committee continued to receive and accept submissions throughout the inquiry process.

In total, the committee accepted 42 submissions to the inquiry, 2 of which were considered confidential and not published. A list of published submissions can be found in Appendix A of this report.

2.2. Briefings and hearings

The committee engaged widely with stakeholders throughout the inquiry. The committee held a public briefing in Brisbane and 4 public hearings (2 in Brisbane, one in Mackay, and one in Townsville). In total, the committee heard from 41 witnesses at the public hearings.

2.3. Site visits

The committee conducted several site visits as part of its inquiry. These are detailed below.

On 8 September 2025, members of the committee travelled to Mackay to conduct regional hearings and undertake site visits relevant to the inquiry. The committee commenced its program with a tour of the Resources Centre of Excellence and received a presentation from the Greater Whitsunday Alliance (GW3).

On 9 September 2025, the committee held a public hearing in Mackay. Following the hearing, the committee visited several facilities in Mackay and the surrounding region, including the Graham Townsend Pilot Plant, the Mackay Renewable Biocommodities Pilot Plant, the Sarina Sugar Shed, and the Plane Creek Mill bioethanol facility in Sarina.

On 10 September 2025, the committee toured the cogeneration plant at the Racecourse Sugar Mill, operated by Mackay Sugar Limited. The committee then travelled to Townsville and held a public hearing with stakeholders.

On 11 September 2025, the committee toured the Pioneer Sugar Refinery operated by Wilmar Sugar and Renewables (Wilmar), near Townsville.

2.4. Preliminary activities and scoping

Although the sugarcane industry presents significant opportunities, early scoping of the inquiry indicated that progress has been constrained by fragmented policy settings, inconsistent commitments, and limited coordination. In contrast, other jurisdictions have taken more decisive steps and now support well-established and diversified sugarcane sectors.

Persistent barriers identified during the inquiry included the absence of clear long-term government commitments, limited coordination between state and federal initiatives to catalyse industry development, the lack of an agreed governance framework linking government, industry and investors, and the need for a strategic plan to guide the sector's future development.

Committee comment



The committee formed the view that meaningful and lasting outcomes will require genuine partnership with industry, supported by coordinated engagement across government.

Rather than relying solely on traditional portfolio-based consultation processes, the committee identified the value of establishing a joint working group. The group brought together the Department of Primary Industries (as

lead agency), the Department of the Premier and Cabinet, Queensland Treasury and the Department of State Development, Infrastructure and Planning to support a coordinated, whole-of-government approach.

The inquiry also sought evidence and perspectives from a broad cross-section of stakeholders across Queensland, nationally and internationally, to inform a comprehensive assessment of the sector's opportunities and challenges.

2.5. Early stakeholder feedback

Early consultation with producers and other stakeholders revealed mixed views regarding the development of a bioenergy industry. These perspectives were summarised by AgForce, which noted that:

Industry representatives are generally supportive of bioenergy proposals, while producers are divided, about half see biofuels as a future pathway, while the other half prefer to continue with crystal sugar production.¹

AgForce also reported a common sentiment of frustration among agricultural stakeholders. Producers noted that 'we have been talking about bioenergy/biofuels industry for decades, yet another review and nothing has come out of it'.² Stakeholders expressed concern that, without timely policy action, the opportunity to develop a sugarcane bioenergy industry in Queensland may be lost to overseas producers.³

It quickly became clear to the committee that the Queensland sugarcane sector has undertaken significant analysis of current and emerging opportunities in bioenergy and bioproduct development, including the strategic direction outlined in the 2022 *Sugar Plus Roadmap*, the 2022 independent Pottinger report, and several other industry-led initiatives.

While this body of work identifies clear pathways for industry diversification, stakeholders argued that progress has been constrained by limited government commitment. Industry representatives indicated that stronger policy settings and clearer investment signals are required to stimulate demand, secure feedstock supply, and provide confidence to growers, millers and investors that a viable biofuels market can be established in Queensland.

In April 2025, the Queensland Government initiated a Low Carbon Liquid Fuel (LCLF) Feedstock Expansion study through a consortium of consultants and research organisations. Although the process draws on voluntary industry input, peak bodies have expressed concern that such studies often proceed without early, structured partnership or co-investment arrangements. Industry stakeholders indicated frustration at repeated

¹ AgForce, submission 24, p 6.

² AgForce, submission 24, p 6.

³ AgForce, submission 24, p 6, citing Queensland Government, submission 5.

planning exercises occurring in parallel, without sufficient practical collaboration to implement work that has already been identified as necessary.⁴

Committee comment



The committee heard broad agreement from producers and other stakeholders that the Australian sugarcane industry is at a critical juncture in its diversification journey. Building on the strategic direction outlined in the *Sugar Plus Roadmap*, stakeholders indicated that there is an opportunity for Australia to identify clear bioenergy pathways and make the policy and investment decisions necessary to support the long-term sustainability of the sugarcane industry in Queensland, and maintain its role as an export sector.

As stated by AgForce, achieving these outcomes will require sustained government policy support, strong collaboration across the sector, and a focus on both improving existing operations and developing additional value streams along the supply chain through diversification.⁵



Recommendation 1

The committee recommends that the Queensland Government, working with stakeholders from across the industry, advocates to facilitate a broader national agenda in relation to sugarcane bioenergy opportunities.

⁴ AgForce, submission 24.

⁵ AgForce, submission 24.

3. Background

The Australian sugar industry produces both raw and refined sugar from sugarcane. Sugarcane production is predominantly located along Australia's north-eastern coastline, from Mossman in Far North Queensland to Grafton in northern New South Wales. Approximately 95 percent of sugar produced in Australia is grown in Queensland.⁶

3.1. Sugarcane production and processing

The sugarcane production cycle, from paddock to packet, contains multiple steps. While raw sugar remains the main product of Australian sugarcane, other products are also made from the sugarcane plant including ethanol, molasses, mulch, plastics, clothing and pharmaceuticals.⁷ Sugarcane manufacturing works on a ratio of approximately 7 tonnes of cane to produce 1 tonne of raw sugar. However, this can vary depending on the type of sugarcane, the commercial cane sugar content and seasonal factors.⁸ The sugar manufacturing process generally follows the following steps:

- Planting – sugarcane is planted using land management strategies to ensure sustainable growth and the health of the soil. Sugarcane is grown by replanting a billet (a section of the stalk of a mature cane plant).
- Growing – to optimise growth sugarcane needs strong sunlight, fertile soil and large quantities of water.
- Harvesting – in Australia sugarcane is harvested from June to December. This is due to the typical decrease in rainfall during this period. Mechanical harvesters are used to cut the cane stalks off at the base. The cane is collected and cut into smaller, 30cm pieces known as billets. Leaf matter is reused as natural mulch or a trash blanket.
- Transporting – sugarcane must be transported within 16 hours of harvesting in order to minimise deterioration and juice evaporation. Cane is transported either by road or a dedicated cane railway track.
- Milling – at the sugar mill, juice is extracted through a crushing process. Sugar crystals are extracted from the juice. During the milling process other sugar products are also extracted. For example, molasses, which can be used as a raw material for ethanol as a renewable fuel, rum, and as an animal feed supplement.
- Refining – some raw sugar goes to Australian refiners where it is washed and dissolved in hot water. Remaining impurities and colours are removed, and the

⁶ Sugar Research Australia, 'About SRA', *About*, <https://sugarresearch.com.au/about-sra/>, accessed 11 February 2026.

⁷ Department of Agriculture, Fisheries and Forestry, 'Sugar', *Farming, food and rural support*, <https://www.agriculture.gov.au/agriculture-land/farm-food-drought/crops/sugar>, accessed 11 February 2026.

⁸ Wilmar, 'Sugar manufacturing', *What we do*, <https://www.wilmarsugar-anz.com/what-we-do/sugar-manufacturing>, accessed 11 December 2025.

sugar is boiled and seeded with fine sugar crystals. When crystals are large enough, they are then tumble dried to remove moisture. The sugar is subsequently graded into sizes, packaged and delivered.

- Shipping – 85 percent of raw sugar crystal produced in Australia is exported to countries including South Korea, Japan, Indonesia, Malaysia, the United States of America, and the United Kingdom. Sugar is refined following its export.⁹

3.2. The sugarcane industry in Queensland

In 2023-24, the amount of sugarcane production in Queensland decreased by 2.6 million tonnes to 28.6 million tonnes sold.¹⁰

Sugarcane is susceptible to extreme weather events. Of note, the flooding in North Queensland in early 2025 had a significant impact on cane growers.¹¹ Queensland Cane, Agriculture and Renewables (QCAR) estimated that there could be up to 1 million less tonnes of cane cut across the Herbert region (situated between Cairns and Townsville), resulting in economic losses between \$25-50 million.¹²

Climate change also poses potential challenges for sugarcane growers in Queensland. While there are mixed perspectives on the effect of increasing atmospheric carbon concentration on sugarcane production, other variables may have a more direct effect.¹³ Increasing temperatures, most notably, rising minimum temperatures, may lead to a decline in sugarcane sucrose content. Increasing temperatures may also mature sugarcane at a faster rate, leaving a smaller window for harvesting, potentially impacting the quality of the crop. Similarly, changes to rainfall patterns can also impact the growth of the crop, the sucrose accumulation, disrupt planting and reduce the window for harvesting. Estimates suggest that, year on year, a 100mm reduction in rainfall leads to an 8-10 tonnes per hectare reduction in crop yield.¹⁴

⁹ Cane Growers, 'An important rural industry', *Learn about sugarcane*, <https://www.canegrowers.com.au/information-hub/learn-about-sugarcane-2>, accessed 11 February 2026.

¹⁰ Australian Bureau of Statistics, 'Sugarcane', *Australian Agriculture: Broadacre Crops*, 25 February 2026.

¹¹ S Johnson and B Tindall, 'Sugarcane fields reveal devastating long-term impact of north Queensland floods' *ABC News*, 12 July 2025.

¹² Queensland Cane Agriculture & Renewables, 'Herbert sugarcane industry faces 25-50m in losses after flooding disaster', media release, 6 February 2025.

¹³ Queensland Health, Environment and Agriculture Committee, *Impact of Climate Change on Queensland Agricultural Production*, Report No 8, May 2024, p 5.

¹⁴ Queensland Health, Environment and Agriculture Committee, *Impact of Climate Change on Queensland Agricultural Production*, Report No 8, May 2024, p 5.

A range of sugarcane pests,¹⁵ diseases,¹⁶ and weeds,¹⁷ can also lead to significant productivity and profitability losses.¹⁸

3.3. Sugarcane as a renewable energy source

Sugarcane has become increasingly important, not just as a food source, but as a target for bioenergy production. Peng et al. suggest sugarcane's suitability as a bioenergy production system is notable for a range of reasons.¹⁹ First, its high yield per unit land area in tropical environments. Second, its adaption to tropical environments. Third, sugarcane is a ratoon crop, meaning the plant regrows after harvesting for several successive years, reducing environmental impacts and costs. Finally, the high proportion of biomass existing as simple sugars, contributing to its appeal as a source of ethanol biofuel. Bioenergy production from sugarcane has been found to have a superior energy balance to that of other energy crops such as corn and sugar beet.²⁰

Sugarcane by-products such as bagasse, molasses, and cane trash can be used to produce renewable energy products, including electricity (through cogeneration) and liquid and gaseous fuels.²¹ Sugarcane can be used to produce first-generation ethanol, as well as sustainable aviation fuel (SAF), and renewable diesel using advanced biofuels technology.²² The figure below shows potential energy by-products sourced from the sugar industry.²³

¹⁵ For example: canegrubs, soldier flies, rodents and feral pigs.

¹⁶ For example: Ratoon stunting disease, chlorotic streak, pachymetra root rot, orange rust, smut.

¹⁷ For example: Guinea grass, Johnson grass, sicklepod, convolvulus vines, nutgrass.

¹⁸ Sugar Research Australia, *Sugarcane pests, diseases and weeds*, <https://sugarresearch.com.au/wp-content/uploads/2024/10/SRA-Sugarcane-biosecurity-and-pests-diseases-and-weeds.pdf>, accessed 16 February 2026.

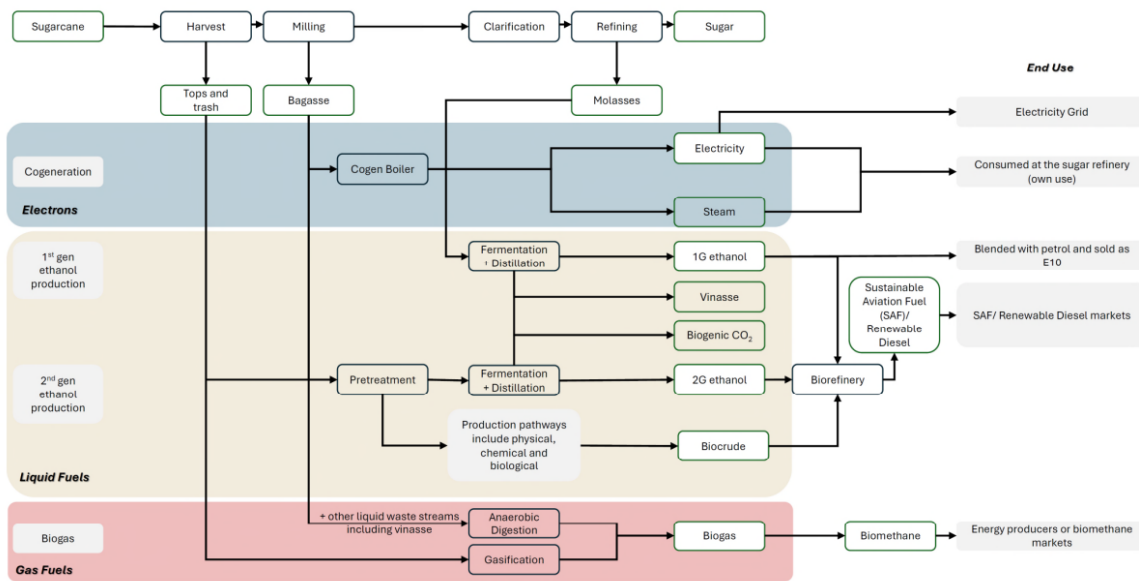
¹⁹ Peng et al., 'Potential for bioenergy production from sugarcane in China', *Bioenergy Research*, Vol 7 (3), 2014, pp 1045-1059.

²⁰ Peng et al., 'Potential for bioenergy production from sugarcane in China', *Bioenergy Research*, Vol 7 (3), 2014, pp 1045-1059.

²¹ Department of Primary Industries, public briefing transcript, Brisbane, 30 April 2025, p 2.

²² Department of Primary Industries, public briefing transcript, Brisbane, 30 April 2025, p 2.

²³ Queensland Government, Submission 5, p 7.



Source: Queensland Government, submission 5, p 7.

3.4. Biofuels and the sugarcane industry

Biofuels are made from renewable resources including crops such as sugarcane, corn, wheat, sugar beet, cassava, and crop residues such as rice straw, rice husk, corn cobs, wheat straw and corn stover.²⁴ Ethanol, or bioethanol, is an alcohol-based fuel and is the most widely produced biofuel in the world.²⁵ Bioethanol is predominately produced from the fermentation of sugar beet, sugarcane, corn, barley, wheat, woody biomass or black liquor.²⁶ When bioethanol is mixed with gasoline the ethanol adds oxygen which helps significantly reduce greenhouse gas emissions (when compared to fossil fuels).²⁷ Bioethanol fuels perform better compared to any other liquid biofuel produced today on a commercial scale.²⁸

Wilmar is Queensland’s only bioethanol producer and is ‘one of the largest generators of renewable electricity from sugarcane fibres’.²⁴ Wilmar’s Sarina distillery ‘produces about 60 million litres of bioethanol per year from sugarcane molasses. About two-thirds of this is used in Australian E10 and E85 fuels.’²⁹

In Australia, most bagasse is used to generate electricity through cogeneration. In other countries, these residues are increasingly being used as feedstocks for biofuel

²⁴ A Ghane, ‘CRISPR/Cas technology: fuelling the future of Biofuel production with sugarcane’, *Functional & Integrative Genomics*, vol 24, 2024, p 1.
²⁵ M Radovanovic, ‘Chapter 7: Strategic priorities of sustainable energy development’, *Sustainable Energy Management*, (second edition.), 2023, p 214.
²⁶ M Radovanovic, ‘Chapter 7: Strategic priorities of sustainable energy development’, *Sustainable Energy Management*, Second edition, 2023, p 215.
²⁷ Sugarcane.org, ‘Ethanol’, *Sugarcane products*, <https://www.sugarcane.org/sugarcane-products/ethanol/>, accessed 17 February 2026.
²⁸ Sugarcane.org, ‘Ethanol’, *Sugarcane products*, <https://www.sugarcane.org/sugarcane-products/ethanol/>, accessed 17 February 2026.
²⁹ Queensland Government, submission 5.

production.³⁰ The table below shows world feedstock crops for ethanol production, showing that sugarcane is the second most common feedstock, comprising 22 percent of the world’s production.

Feedstock	Share
Maize	59%
Sugarcane	22%
Other	15%
Molasses	2%
Wheat	2%

Source: Department of Agriculture, Fisheries and Forestry, Snapshot of world biofuels – December 2022.

Global demand for biofuels is growing exponentially, and supply has quadrupled since 2014.³¹ The *Sugar Plus Roadmap*, a whole-of-industry roadmap released by the Australian sugarcane industry in 2022, highlighted this trend, noting that:

*...demand for sustainable hydrocarbons from farming rather than the fossil fuel industry will likely increase significantly over the next 10 to 20 years, especially for bioplastics and biofuels for heavy transport and/or aviation.*³²

3.5. Sustainable aviation fuel

There are several proven and emerging sugarcane-to-biofuel conversion pathways. While the production of ethanol from sucrose is a mature and well-established technology in many countries, the conversion of sugarcane into SAF and renewable diesel remain in early stages of commercial development. These emerging technologies will require further investment and policy support before they can be scaled to meet market demand.³³

The aviation industry is responsible for approximately 2 to 3 percent of worldwide CO₂ emissions. SAFs provide a critical pathway to decarbonizing aviation by reducing greenhouse gas emissions and the current reliance on fossil fuels.³⁴ Unlike other renewables, demand is not an issue with SAF - every litre produced is purchased immediately. This demand is largely driven by carbon offsetting agreements and requirements. At least 43 airlines are already committed to using approximately 16.2 billion litres of SAF by 2030. Additionally, the Carbon Offsetting and Reduction Scheme for

³⁰ AgForce, submission 24, p 14.

³¹ CEFC & Deloitte, Refined ambitions: Exploring Australia’s Low Carbon Liquid Fuel Potential, July 2025, https://www.cefc.com.au_refined-ambitions-exploring-australia-s-low-carbon-liquid-fuel-potential.pdf

³² Sugar Research Australia, ‘Sugar Plus’, available at <https://sugarsearch.com.au/publication/sugar-plus/>.

³³ AgForce, submission 24, pp 14-15.

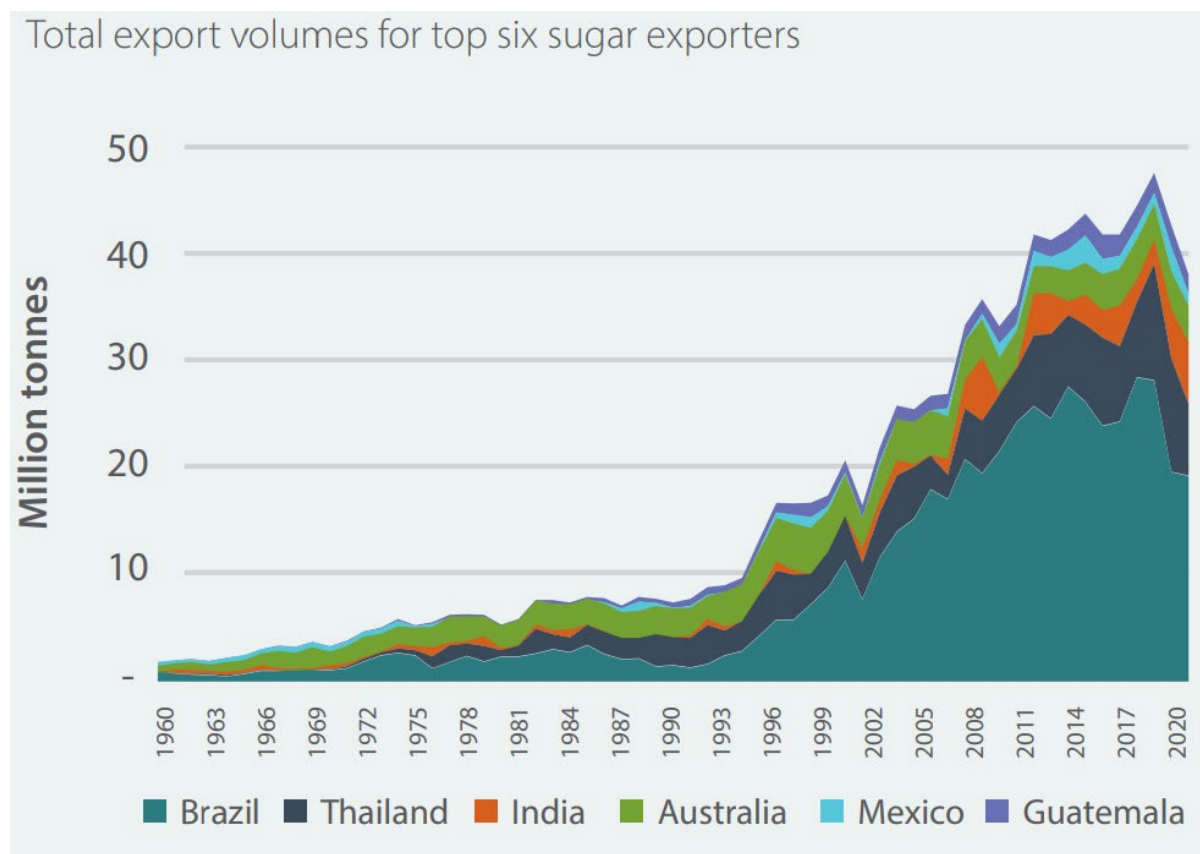
³⁴ M Uddin and W Feng, ‘Sustainable aviation fuels: Addressing barriers to global adoption’, *Applied Sciences*, Vol 15 (2), 2025, pp 1-27.

International Aviation (CORSIA), of which Australia is party to, subjects states to offsetting requirements.³⁵

SAF can either be synthetic (from renewable sources) or bio based (biofuels). Broad categories of biobased SAF production pathways include oil-to-jet fuels, alcohol-to-jet fuels, sugar-to-jet fuels, and gas-to-jet fuels.³⁶

3.6. International context

Brazil, India, and Thailand are Australia’s main competitors in the sugar industry.³⁷ The table below shows total export volumes for the top 6 sugar exporters.



Source: *Sugar Plus: Fuelling the Future of Food, Energy and Fabrication*, July 2022, p 4.

³⁵ X Jiang, A Mankad and W Okelo, 'Flying green: Life cycle assessment and decomposition of bio-based sustainable aviation fuels production in Australia and global benchmarks', *Energy Conversation and Management*, Vol 30, 2026.

³⁶ X Jiang, A Mankad and W Okelo, 'Flying green: Life cycle assessment and decomposition of bio-based sustainable aviation fuels production in Australia and global benchmarks', *Energy Conversation and Management*, Vol 30, 2026.

³⁷ Australian Sugar Milling Council, *Regulation Overload*, February 2020, p 6; Canegrowers Queensland, *Public briefing*, 30 April 2025, pp 18-19; Australian Sugar Milling Council, *Public briefing*, 30 August 2021, p 2.

Countries such as Brazil have invested heavily in sugarcane-sourced biofuels to diversify and reduce risk.³⁸ For example, 55 percent of Brazil's sugarcane industry revenue is derived from ethanol sales, compared to 3 percent for Australia.³⁹

Sugarcane mills are also the third most important electricity suppliers in Brazil's energy matrix. All sugar mills in Brazil are energy self-sufficient, with a growing number providing an energy surplus.⁴⁰ In 2024 sugarcane mills in Brazil supplied more than 21,218 GWh to the grid, or 4 percent of Brazil's electricity requirements.⁴¹

International experience demonstrates that the development of large-scale sugarcane bioenergy industries has generally been underpinned by sustained government policy support.⁴² Countries such as Brazil and India have implemented long-term biofuel strategies that combine blending mandates, pricing mechanisms and targeted investment incentives to create stable domestic demand for ethanol and other biofuels.⁴³ Brazil, widely regarded as the global leader in sugarcane bioenergy, has operated mandatory ethanol blending policies since the 1970s, and now requires ethanol to comprise around 27 percent of petrol, supported by a mature sugar-ethanol industry that produces fuel, sugar and electricity from bagasse.⁴⁴

4. The role and benefits of sugar cogeneration in Queensland's electricity generation mix, including existing capacity and potential for expansion (TOR 1)

The inquiry examined the potential of sugarcane bioenergy, particularly through cogeneration at sugar mills, acknowledging it as a credible pathway for expanding renewable energy generation and supporting regional economic development in Queensland.

4.1. Cogeneration in Queensland

Cogeneration is a process where bagasse is used to simultaneously produce heat and electricity. It is a well-established and technically mature component of Queensland's sugar milling operations. It offers a low-emission, dispatchable energy source integrated within existing industrial infrastructure, enabling mills to meet their own processing energy needs while exporting surplus electricity to the grid. Expanded use of bagasse for

³⁸ Australian Sugar Milling Council, *Regulation Overload*, February 2020, p 6.

³⁹ CSIRO, *Sustainable Aviation Fuel Roadmap*, 2023, p 13; Australian Sugar Milling Council, *Public briefing*, 30 August 2021, p 5.

⁴⁰ Sugarcane.org, 'Bioelectricity', *Sugarcane products*, <https://www.sugarcane.org/sugarcane-products/bioelectricity/>, accessed 17 February 2026.

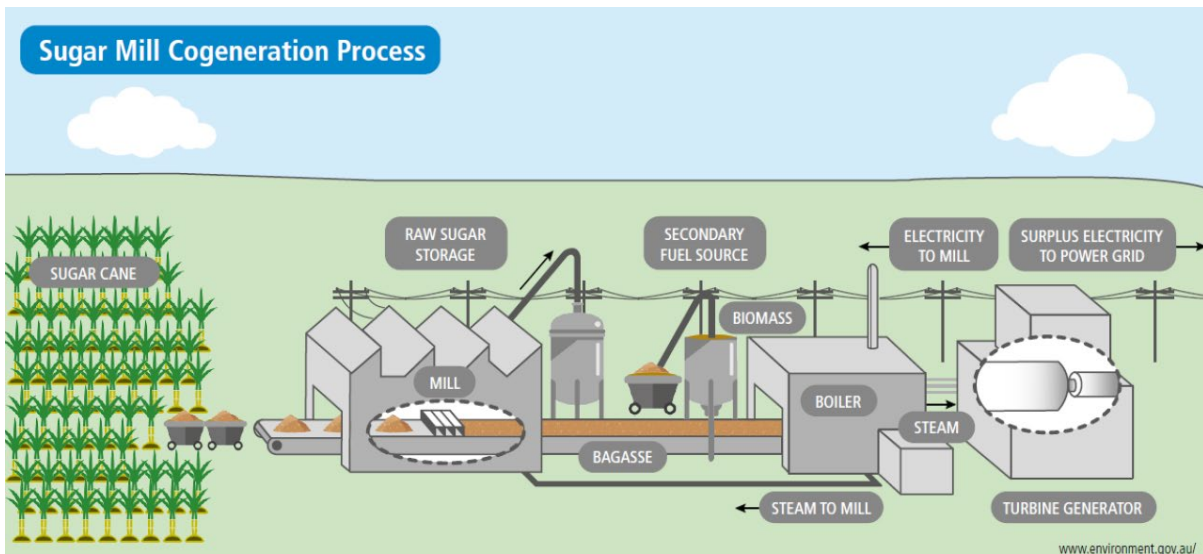
⁴¹ UNICA, 'Bioelectricity', *The sector*, <https://unica.com.br/en/the-sector/bioelectricity/>, accessed 17 February 2026.

⁴² K Navarro and V Damazio, 'Brazil's Fuel of the Future biofuel ramp-up mandate may soothe fuel deficit: industry sources', *S&P Global*, 19 September 2024.

⁴³ International Renewable Energy Agency (IRENA), *Brazil's biofuel industry: Lessons, challenges and opportunities*, (2005).

⁴⁴ K Navarro and V Damazio, 'Brazil's Fuel of the Future biofuel ramp-up mandate may soothe fuel deficit: industry sources', *S&P Global*, 19 September 2024; FAO, 'Brazil increases the ethanol blend into gasoline from 25 percent to 27 percent', *Food Price Monitoring and Analysis*, 15 February 2015, <https://www.fao.org/giews/food-prices/food-policies/detail/en/c/278265/>.

cogeneration therefore represents a potentially underutilised renewable energy opportunity. The figure below shows the sugar mill cogeneration process.



Source: *Measuring Combustion Efficiency and Emissions from Sugar Mill as Cogeneration*, Kimo Instruments, 28 November 2023, <https://kimo-instruments.com/en-INT/application-notes/measuring-combustion-efficiency-and-emissions-sugar-mill-cogeneration>.

Queensland currently operates bagasse cogeneration facilities at 18 sugar mills, with a combined installed capacity of approximately 448 MW, with individual plants ranging from 5 MW to 69 MW. The electricity produced is primarily used to power mill operations, with some facilities also exporting surplus energy to the grid.⁴⁵

Despite this footprint, bagasse accounts for only around 1.6 percent of Queensland’s total electricity generation. Output is seasonal, concentrated between July and December during the cane crushing season. This seasonal pattern limits the capacity of bagasse cogeneration to contribute during Queensland’s summer peak demand period (January to March), when electricity demand is typically at its highest.⁴⁶

4.2. Cogeneration and Australia’s energy market

The Queensland Government’s submission summarised the energy market considerations relevant to cogeneration. It highlighted that cogeneration faces increasing competition from large-scale solar and wind, which benefit from low marginal costs and economies of scale. Although cogeneration offers dispatchability and uses existing mill infrastructure, it has higher capital and operating costs. The Queensland Government noted that, without long-term contracting arrangements, cogeneration is unlikely to compete on cost alone against other renewables, batteries or gas generation.⁴⁷

Revenue for bagasse cogeneration is derived from multiple streams, including electricity sales via the National Electricity Market (NEM) spot market or power purchase

⁴⁵ Queensland Government, submission 5.

⁴⁶ Queensland Government, submission 5.

⁴⁷ Queensland Government, submission 5.

agreements (PPAs), through firming services, and through large-scale generation certificates (LGCs). Participation in the NEM spot market can deliver high returns during peak demand, but exposes mills to significant price volatility. Larger, more flexible plants are better able to respond to price spikes, though this requires active trading capability and risk management expertise.⁴⁸

PPAs provide more predictable, long-term revenue by locking in fixed or structured pricing, reducing exposure to spot market volatility. The strength of PPA terms depends on plant scale, reliability and flexibility. LGC revenue provides an additional income stream, but certificate prices fluctuate according to supply and demand dynamics, meaning financial returns can vary significantly. Larger plants are generally better positioned to maximise LGC revenue.⁴⁹

As export capacity increases, mills expanding beyond 30 MW may be reclassified from non-scheduled to scheduled generators. Scheduled classification requires compliance with Australian Energy Market Operator (AEMO) central dispatch, real-time telemetry, five-minute settlement, specialist staff, IT systems, and trading capability, which increases operational complexity and costs.⁵⁰

The energy-only structure of the NEM does not currently provide strong price signals for firming and reliability services. As a result, firm, low-emission distributed generators such as bagasse cogeneration are undervalued, and further policy reform would be required to properly monetise their contribution during peak demand periods.⁵¹

Overall, expansion of cogeneration depends not only on market conditions but also on organisational capability to manage trading risk, regulatory obligations and operational complexity.⁵²

4.2.1. Australian Government initiatives

In its 2025-26 budget, the Australian Government announced investments in the energy sector that aimed to contribute to a stronger economy and provide cost-of-living relief.⁵³ This included support for renewable technologies, as well as private and global investment, building on the Future Made in Australia agenda.⁵⁴

The Australian Government stated that Australia's potential for abundant renewable energy is a powerful source of comparative advantage and security, with the 2025-26 budget unlocking \$8 billion of additional investment in renewable energy and low emissions technologies through a \$2 billion expansion of the Clean Energy Finance

⁴⁸ Queensland Government, submission 5.

⁴⁹ Queensland Government, submission 5.

⁵⁰ Queensland Government, submission 5.

⁵¹ Queensland Government, submission 5.

⁵² Queensland Government, submission 5.

⁵³ Australian Government, 'Economy', *Budget 2025-26*, <https://budget.gov.au/content/06-economy.htm>.

⁵⁴ Hon Anthony Albanese MP, Prime Minister, 'Building a stronger economy', media statement, 25 March 2025, <https://www.pm.gov.au/media/building-stronger-economy>.

Corporation (CEFC). This, it noted, is in addition to \$36.9 million to enhance the use of existing grid infrastructure and a \$10 million Accelerated Connections Fund to reduce grid bottlenecks.⁵⁵

4.2.2. Impact of tariff reforms

The Australian Competition and Consumer Commission’s (ACCC) is conducting an inquiry into the NEM, exploring time-of-use and demand tariffs. The ACCC inquiry has indicated there is an increasing shift toward time-of-use and demand tariffs in electricity pricing.⁵⁶ These tariff structures are designed to better reflect the real cost of supplying electricity, particularly during peak demand periods, and aim to incentivise customers to shift electricity use to off-peak times.⁵⁷

For Queensland sugar mills and bioenergy producers that generate electricity from bagasse, time-of-use and demand tariffs can create financial challenges. With energy prices fluctuating throughout the day, mills exporting electricity when wholesale prices are low (for example during solar-heavy daytime periods) may see significantly reduced returns. Queensland increasingly experiences low, and at times negative, wholesale prices during daylight hours due to high rooftop and utility-scale solar penetration. This directly affects cogeneration businesses that rely on daytime export revenue.⁵⁸

Tariff reforms respond to infrastructure strain during peak demand periods (typically evenings). However, sugar mills operate based on crushing schedules and harvest cycles, meaning they cannot easily shift generation to align with peak pricing windows.⁵⁹

Committee comment



While time-of-use and demand tariffs improve pricing efficiency across the electricity system, stakeholders noted that they can present challenges for regional generators such as sugar mills. These facilities typically have limited flexibility in generation timing, operate seasonally, and may be exposed to increasing intra-day price volatility and lower daytime wholesale prices.

These factors may place additional commercial pressure on Queensland sugar businesses that rely on electricity exports as part of their revenue model. Evidence received during the inquiry suggested this strengthens the case for measures such as:

- policy mechanisms to stabilise bioenergy returns

⁵⁵ Australian Government, ‘Economy’, *Budget 2025-26*, <https://budget.gov.au/content/06-economy.htm>.

⁵⁶ ACCC, ‘Inquiry into the National Electricity Market’, report, July 2025.

⁵⁷ ACCC, ‘Inquiry into the National Electricity Market’, report, July 2025, p 37.

⁵⁸ Licella, submission 26.

⁵⁹ Licella, submission 26.

- export-focused renewable energy models, such as biomethane or renewable natural gas
- support for firming capacity, energy storage, or alternative value chains.

Overall, the committee notes that tariff reform designed to reflect infrastructure costs may unintentionally squeeze traditional sugar-based electricity generators unless complementary policy or market mechanisms are introduced.

4.3. Grid connection and export to the National Electricity Market

Reliable grid access is critical for sugar mills seeking to export electricity to the NEM. Mills located near strong substations generally face fewer connection barriers, while those in regional areas with weaker feeders may require costly upgrades, such as new substations or voltage control systems, which can affect project viability.⁶⁰

Connection requirements become more complex as generation capacity increases. Smaller cogeneration facilities (typically under 5 MW) are often exempt from full generator performance standards (GPS) set by the AEMO and instead comply with less onerous local network requirements, reducing costs and compliance burdens. Larger plants, however, must meet stricter GPS obligations due to their potential impact on grid stability, requiring more advanced systems, specialised operational capability, and potentially significant network upgrades.⁶¹

Commercial outcomes are also shaped by Marginal Transmission and Distribution Loss Factors, particularly in remote or constrained areas where higher losses reduce market revenue. These grid integration challenges - connection costs, compliance requirements, and loss factors - are common across all generators connecting to the NEM and must be carefully assessed when considering cogeneration expansion.⁶²

4.4. Microgrids

Several submitters suggested that microgrids may help mitigate issues relating to grid access and electricity costs.⁶³ A microgrid is a local electricity network that allows power generated locally, such as cogenerated power from a sugar mill, to be supplied directly to nearby users such as irrigators, farms, or local communities, rather than sending all the electricity through a centralised grid.⁶⁴

⁶⁰ Queensland Government, submission 5.

⁶¹ Queensland Government, submission 5.

⁶² Queensland Government, submission 5.

⁶³ See: submissions 36, 38, 4, 12.

⁶⁴ SNRG, 'What is a microgrid?', SNRG, <https://oursnrg.com/what-is-a-microgrid/>.

Canegrowers submitted that the creation of microgrids would enable growers to source electricity locally on a direct basis.⁶⁵ Canegrowers stated that ‘microgrids make perfect sense’ when it comes to electricity cost and noted that the solar power used by irrigators, as well as cogeneration excess power, is going to waste without a microgrid system.⁶⁶ It expressed the opinion that microgrids can be established if the right policy settings are established.⁶⁷ QCAR stated that it supports the concept of a self-sufficient circular bioeconomy, but cautioned that legislating for microgrids would be difficult due to differences between regions. Ensuring the mill can always meet the power demands for the region was also raised as an issue.⁶⁸

Australian Sugar Manufacturers (ASM) suggested that physically establishing microgrids may not necessarily be the best strategy. It noted that microgrids can be established virtually. ASM elaborated on the potential for virtual microgrids:

I think that is what we are suggesting that we do, that somehow we create a contractual obligation where the benefits of renewable base load power that the mills provide is recognised and monetised, and in doing so it results in a cheaper tariff for that region, noting that you are going to use less infrastructure and you are going to have less need to stabilise the grid because you are using base load power. That is probably the mechanism: a virtual power plant for the region where you recognise the benefits of that local power production and the fact that you are using a lot less infrastructure to get that power to where it is used.⁶⁹

Mackay Sugar Limited (MSL) also advocated for virtual microgrids, noting that the resulting discounted power would allow for additional irrigation and increased crop yield.⁷⁰

The Queensland Government, in its response to submissions, stated that microgrids are being explored to improve reliability and resilience in regional and remote areas with higher exposure to network outages or limited grid capacity. It noted that Energy Queensland, through Ergon Energy and Energex, and in collaboration with AEMO and the Australian Energy Regulator (AER), has led several pilot projects to assess the technical and commercial viability of microgrids and standalone power systems to enhance reliability and resilience in regional and remote areas. It advised that further development of microgrid models, particularly where cogeneration can serve local loads, will depend on regulatory, tariff and network-integration settings that balance affordability, consumer protection, and system security.⁷¹

⁶⁵ QSL, submission 38.

⁶⁶ Canegrowers, public hearing transcript, Brisbane, 11 February 2026, p 8.

⁶⁷ Canegrowers, public hearing transcript, Brisbane, 11 February 2026, p 9.

⁶⁸ QCAR, public hearing transcript, Townsville, 10 September 2025, p 17.

⁶⁹ ASM, public hearing transcript, Brisbane, 19 November 2025, p 5.

⁷⁰ MSL, submission 12.

⁷¹ Queensland Government, correspondence, 12 November 2025, pp 3-4.

5. Market, regulatory, and infrastructure barriers to increased bioenergy production from sugar (TOR 2)

Stakeholders identified a range of market, regulatory and infrastructure barriers that are limiting the development of sugarcane-based bioenergy in Queensland. Stakeholders highlighted structural pressures in global sugar markets, including competition from heavily subsidised international producers and volatile prices, which are placing increasing strain on the economic viability of sugar milling operations. Stakeholders also pointed to regulatory uncertainty and the absence of clear policy frameworks to support bioenergy investment as a key deterrent to project development and financing.⁷² Infrastructure constraints were also raised, particularly ageing mill assets, the need for modernised cogeneration facilities, and the ongoing cost of maintaining the extensive privately funded cane rail network.

5.1. Market barriers

The impacts of the fluctuating global sugar market and highly subsidised foreign competitors were repeatedly raised as significant threats by stakeholders throughout the inquiry. Wilmar noted that, as of February 2026, raw sugar prices are at the lowest they have been in 5 years, and below the cost of production for much of the industry.⁷³ This has placed the industry under significant pressure. Wilmar further noted that, in the short to medium outlook, prices will remain low. Wilmar explained that 85 percent of Australian sugar is exported to global markets, where Australia competes with producers such as Brazil, India, and Thailand, where production costs are lower and where government support mechanisms are well established.⁷⁴

In relation to foreign competition, ASM painted a bleak picture, suggesting that highly subsidised foreign producers are attempting to corner the market:

Seven out of 13 mills we analyse now operate above global sugar prices—prices that have been heavily distorted by subsidies to places like Brazil and India. Just as China has gone all-in on cornering the market for steel production, Brazil and India are trying to corner the markets for sugar and biofuels.⁷⁵

MSL also drew attention to this imbalance in terms of foreign government subsidies. It noted that ‘high-cost producers in subsidised countries’ mean that Australian factories that would have otherwise been viable are no longer viable.⁷⁶ MSL observed that these conditions place sustained pressure on investor confidence.

⁷² See, for example: Bioenergy Australia, submission 20; AgForce, submission 24; Australian Gas Infrastructure Group, submission 31; QCAR, submission 35.

⁷³ Wilmar, public hearing transcript, Brisbane, 11 February 2026, p 1.

⁷⁴ Wilmar, public hearing transcript, Brisbane, 11 February 2026, p 1.

⁷⁵ ASM, public hearing transcript, Brisbane, 19 November 2025, p 1.

⁷⁶ MSL, public hearing transcript, Brisbane, 11 February 2026, p 2.

Unlike sectors such as steel,⁷⁷ and timber⁷⁸, sugar manufacturing has not benefited from sustained strategic support or investment, aside from targeted assistance associated with the now-closed Mossman Mill.⁷⁹ Stakeholders noted that a purely free-market approach, in a global environment where competitor nations actively invest in sugar as a sovereign food and fuel asset, risks undermining the sector's long-term competitiveness.⁸⁰

The committee heard that, under a business-as-usual scenario, further mill closures are expected.⁸¹ ASM advised the committee that, if prices and global markets continue as they are, potentially 3 mills are likely to close by the end of 2027. Each of these mills are 2 or 3 times the size of the recently closed Mossman Mill.⁸² Bioenergy Australia drew attention to situation in their submission, stressing the need for government intervention:

*These challenges have contributed to declining cane supply (from 34 Mt to 29–30 Mt over the past decade) and significant facility closures (from 33 mills in the 1980s to 22 currently). The closures at Mossman and Maryborough illustrate how industrial capacity is being lost and that Government interventions need to be made proactively, rather than after closure decisions have been made.*⁸³

Should further closures occur, the consequences for regional Queensland communities would be more severe than during previous periods of consolidation. Any future closures would also leave affected growers without viable processing alternatives, as remaining mills are generally located too far away to absorb cane from other milling regions.⁸⁴

Stakeholders, including both miller and grower representatives, emphasised that sugarcane bioenergy project must be commercially viable in order to succeed. Kalgro told the committee that it had seen a lot of projects that were government funded, but never came to fruition:

⁷⁷ See, for example: Australian Government, 'Albanese Government backs Australia's steelmaking future', media release, 21 February 2025, <https://www.minister.industry.gov.au/ministers/husic/media-releases/albanese-government-backs-australias-steelmaking-future>; Australian Government, '\$200 million to help future-proof regional steel manufacturing', media release, 31 January 2024, <https://www.minister.industry.gov.au/ministers/husic/media-releases/200-million-help-future-proof-regional-steel-manufacturing>.

⁷⁸ See for example, Australian Government, 'Support Plantation Establishment program', <https://www.agriculture.gov.au/agriculture-land/forestry/industries/support-plantation-establishment-program>; Australian Government, 'Accelerate Adoption of Wood Processing Innovation Program', <https://www.agriculture.gov.au/agriculture-land/forestry/industries/accelerate-adoption-of-wood-processing-innovation-program>.

⁷⁹ Mossman Mill was closed in 2024 despite government financial intervention due to an apparent lack of economic viability arising from 'old age, high maintenance costs and a dwindling supply of cane'. See: 'Mossman Central Mill goes into liquidation after potential sale falls through', *ABC News*, 22 March 2024, <https://www.abc.net.au/news/2024-03-22/mossman-central-mill-goes-into-liquidation/103620738>.

⁸⁰ ASM, submission 16.

⁸¹ Canegrowers Burdekin, submission 3.

⁸² ASM, public hearing transcript, Brisbane, 19 November 2025, p 6.

⁸³ Bioenergy Australia, submission 20, p 4.

⁸⁴ ASM, submission 16.

In my time I have seen a lot of projects put forward for the use of sugar cane other than crystal sugar: obviously, ethanol; growers building small co-gen plants on their farms producing biodegradables; and also the use of the tops and trash for feedstocks and also to burn for energy. Plenty of those might've, could've, should've projects have received a lot of government funding, but eventually after that funding dries up it goes nowhere.⁸⁵

Regional Development Australia – Greater Whitsunday Region (RDA-GWR) also identified economic feasibility as a key issue. It identified logistics costs, weak end-market prices, high production costs and challenges securing upfront capital as key constraints on biofuels and bioproducts.⁸⁶ QCAR found that volatility, untested and immature markets, uncertainty, and ‘unwillingness for all participants in the supply chain to work together for a fairer share of the risks and the proceeds in the industry’ all constitute risks.⁸⁷

Canegrowers noted that there have been a lot of investigations undertaken into sugarcane bioenergy, but stated ‘if it is just about doing more investigations and taking no action we will be really disappointed’.⁸⁸ Like the millers, Canegrowers drew the committee’s attention to global market conditions, falling prices, and competition with government-subsidised foreign competitors as urgent and pressing issues. It warned that, without action, the industry may soon require government support packages in some regions.⁸⁹

5.1.1. Sugar markets and grower incentives

Queensland sugar producers can use marketers such as Queensland Sugar Limited (QSL) to access the ICE 11 futures market⁹⁰ and lock in prices up to three years ahead, helping manage price volatility. QSL reported that spot prices for the 2025 season were around \$500 per tonne, which is close to production cost. Growers previously had opportunities to secure prices more than \$200 per tonne higher.⁹¹ The ability to actively manage price risk is uncommon in many agricultural sectors, and reduces the relative attractiveness of diverting cane away from sugar production.⁹²

According to QSL, competition in sugar marketing is supported by the *Sugar Industry (Real Choice in Sugar Marketing) Amendment Act 2015* (Qld), and the *Federal Sugar Marketing Code of Conduct* (2015).⁹³ These mechanisms allow most growers to choose their marketer even if they are tied to a single local mill.⁹⁴ QSL argued that this framework

⁸⁵ Kalgro, public hearing transcript, Townsville, 10 September 2025, p 5.

⁸⁶ RDA-GWR, public hearing transcript, Mackay, 9 September 2025, p 15.

⁸⁷ QCAR, public hearing transcript, Townsville, 10 September 2025, p 16.

⁸⁸ Canegrowers, public hearing transcript, Brisbane, 11 February 2026, p 7.

⁸⁹ Canegrowers, public hearing transcript, Brisbane, 11 February 2026, p 7.

⁹⁰ The raw sugar futures contract on Intercontinental Exchange (ICE) in New York. See: <https://www.wilmarsugar-anz.com/news/297-fact-sheet-5-raw-sugar-futures-market/file>.

⁹¹ QSL, submission 39.

⁹² QSL, submission 39.

⁹³ See: Competition and Consumer (Industry Code—Sugar) Regulations 2017 (Cth).

⁹⁴ QSL, submission 39.

has driven significant innovation in pricing and payment products, giving growers greater flexibility in managing revenue.⁹⁵

QSL submitted that the combination of strong global price discovery, active competition and relatively robust sugar returns means first-generation bioenergy products are not currently competitive with raw sugar. It also noted that a reduction in raw sugar output could also undermine economies of scale and affect QSL's credit strength, with potential flow-on impacts for growers and millers. However, QSL suggested that second-generation biofuels derived from industry by-products may provide a complementary revenue stream that supports diversification without displacing sugar as the core product.⁹⁶

5.1.2. Funding for cooperatives and small operators

Stakeholders raised concerns regarding access to finance for cooperatives and smaller operators seeking to invest in bioenergy initiatives. ASM noted that cooperatives have difficulty securing access to finance.⁹⁷ QCAR similarly recognised the importance of ensuring that financing mechanisms are accessible to mills operating under different ownership and governance structures.⁹⁸ Bioenergy Australia suggested that governments should consider tailored financial instruments for cooperatives and smaller operators to support large-scale bioenergy investment.⁹⁹

Stakeholders also drew the committee's attention to the experience of Far Northern Milling, a grower cooperative that owned Mossman Mill. Mossman Mill received rescue packages totalling approximately \$70 million from the state and federal government before ultimately closing.¹⁰⁰ Canegrowers noted that 'the future of Mossman was reliant on diversification and it has not been successful'.¹⁰¹ ASM similarly referred to the Mossman experience, stating that it recommends 'a government-industry approach that focuses on opportunity, not wasteful government intervention after an operation becomes unviable'.¹⁰² At the November hearing, LMS Energy shared its experience with its bioenergy project at Mossman Mill, noting that the project relied heavily on the economic viability of the mill.¹⁰³

Evidence received during the inquiry indicated that financing arrangements across the sugar sector are not uniform. Mills operate under a range of ownership models, including multinational corporations, private companies and grower cooperatives, meaning that access to capital and investment pathways may differ significantly across the industry.

⁹⁵ QSL, submission 39.

⁹⁶ QSL, submission 39.

⁹⁷ ASM, submission 16.

⁹⁸ QCAR, correspondence, 10 February 2026.

⁹⁹ Bioenergy Australia, submission 20.

¹⁰⁰ ASM, submission 16.

¹⁰¹ Canegrowers, public hearing transcript, Brisbane, 11 February 2026, p 7.

¹⁰² ASM, submission 16, p 7.

¹⁰³ Public hearing transcript, Brisbane, 17 November 2025, pp 20-23.



Recommendation 2

The committee recommends that the Queensland Government assist with access to funding sources for sugar manufacturers with a cooperative structure and for smaller operators.

5.1.3. State and federal government investment

As AgForce noted in its submission, government support for major industries is not unprecedented. AgForce drew the committee's attention to a number of recent examples including:

- Mount Isa Mines (Glencore copper smelter): \$50 million support package, \$20 million economic structural adjustment (worker/community), \$30 million 'Mount Isa Acceleration Program' – resources, supports and incentives (July 2025).
- Qantas Airlines: \$2.7 billion, 'Aviation Support Package' and \$800 million in JobKeeper wage subsidies, (2020-2021).
- Automotive Industry: \$30 billion (1997-2012), 'Car industry assistance' (productivity commission), \$300 million (2014-2017) to component manufacturers.
- Coal-fired Power Stations: \$5.5 billion (2012), 'clean energy package'.
- Renewable Energy Projects: Billions in concessional lands and grants (since 2012) for 'wind and solar industries', from the Australian Renewable Energy Agency (ARENA) and CEFC.¹⁰⁴

Over decades, governments have offered public funds in the form of grants, feasibility studies, and co-project investment funding. Some are successful, while others do not materialise.¹⁰⁵ However, the principle remains: strategic public investment can de-risk private capital, accelerate technology adoption, and secure domestic industries in times of transformation.¹⁰⁶

Stakeholders suggested that public funding for sugarcane manufacturing should be conditional.¹⁰⁷ Proposed safeguards include ensuring producers share directly in the benefits of publicly supported investment, establishing a clear revenue-sharing framework for bioenergy and by-products, requiring reinvestment of a portion of future revenues into domestic manufacturing infrastructure, structuring support primarily as concessional,

¹⁰⁴ AgForce, submission 24.

¹⁰⁵ See: Oceania Biofuels pulls \$500m Gladstone project as another bubble bursts, RenewEconomy, 15 July 2024, <https://reneweconomy.com.au/oceania-biofuels-pulls-500m-gladstone-project-as-another-bubble-bursts/>.

¹⁰⁶ AgForce, submission 24.

¹⁰⁷ See, for example: Kalgro, public hearing transcript, Townsville, 10 September 2025, p 5; AgForce, submission 24.

repayable loans linked to energy revenues, and maintaining crystal sugar production as a core business.¹⁰⁸

Additional proposed conditions included commitments to season length by mills, policy and regulatory certainty, integrated whole-of-crop utilisation, protections to prevent fragmentation or offshore divestment of strategic assets, and consideration of strategic mill relocation or expansion to improve long-term efficiency.¹⁰⁹

An example, suggested by AgForce, of a model of strategic repositioning to strengthen productivity and regional sustainability, is relocating the constrained Gordonvale Mill near Cairns and modernising the Babinda Mill - where rail access, water security and reduced urban encroachment offer advantages.¹¹⁰

AgForce advised that committee that there is conditional support for public investment to modernise sugarcane manufacturing, improve efficiency and enable diversification into bioenergy and biofuels.¹¹¹ While industry expects factory upgrades to form part of normal business planning, higher capital costs in Australia compared to competitor nations mean diversification, particularly into bioenergy and biofuels, may represent the most realistic pathway for growth in a mature crystal sugar market.¹¹²

Committee comment



The rationale for public investment rests on two key considerations: that sugarcane remains a strategically important production industry that must remain internationally competitive, and that there is a significant opportunity to expand into higher-value bioeconomy markets, including hydrocarbons and cane-derived by-products.

Stakeholders stressed that, without coordinated support, these opportunities may shift offshore to jurisdictions offering stronger policy backing and lower cost structures.¹¹³

The committee heard that, with coordinated policy, long-term certainty and appropriately structured public investment, modernisation of the sugarcane sector could enhance competitiveness, regional development and long-term value for producers, manufacturers and the broader economy.

5.2. Regulatory barriers

Stakeholders identified a number of regulatory and policy barriers they believe are limiting the development of a sugarcane-based bioenergy industry in Queensland. In particular,

¹⁰⁸ AgForce, submission 24.

¹⁰⁹ AgForce, submission 24.

¹¹⁰ AgForce, submission 24.

¹¹¹ AgForce, submission 24.

¹¹² AgForce, submission 24.

¹¹³ AgForce, submission 24.

evidence highlighted the absence of clear and consistent policy frameworks to support investment in biofuels and bioenergy production.¹¹⁴ Stakeholders argued that Australia currently lacks policy certainty, which is discouraging investment in domestic bioenergy projects and limiting the commercial viability of new facilities. This was contrasted with international bioenergy industries, which have developed in jurisdictions where governments have implemented mandates, incentives or other regulatory mechanisms to create stable demand for biofuels. Bioenergy Australia summarised the issue in relation to policy uncertainty as follows:

*Although there have been some recent policy commitments, the absence of concrete policy levers supporting both supply and demand for renewable gas and LCLF continues to create market uncertainty. This gap limits investment, sector growth, market development and creates obstacles to establishing a viable business case across the supply chain. At the state level, policies require bipartisan support and alignment with federal initiatives to be effective.*¹¹⁵

Australian Gas Infrastructure Group stated that ‘policy uncertainty and the absence of a defined support framework have created a high-risk environment for early projects that could otherwise establish technical and operational feasibility’.¹¹⁶ Licella expressed a similar view, noting that a lack of regulatory certainty remains a key barrier to building a domestic biofuels industry. It drew the committee’s attention to Project Swift, stating that:

*For projects well advanced in their feasibility phase, like Project Swift, the availability and clarity of enabling regulatory frameworks plays a critical role in securing investment. A lack of clear policy settings, at the Federal and State level, increases perceived risks for investors, making it harder for biofuel projects to secure long-term offtake agreements and reach a Final Investment Decision.*¹¹⁷

Canegrowers Proserpine stated that policy uncertainty had deterred investment into cogeneration.¹¹⁸ It noted that ‘there has been no really large-scale diversification project successful in the industry, and that mainly comes from the lack of not funding but government policy’.¹¹⁹ Canegrowers stated that it believes the government needs to ‘clarify the leadership on bioenergy’.¹²⁰ It noted the role of bioenergy in the energy sector is undersold and that it is confusing to see where leadership from the government comes from on bioenergy, although it acknowledges that there is intention and goodwill.¹²¹

Queensland Treasury acknowledged these issues, stating that ‘it is clear that investors are looking for regulatory certainty’.¹²²

¹¹⁴ See, for example: submissions 20, 24, 26, 31.

¹¹⁵ Bioenergy Australia, submission 20, p 4.

¹¹⁶ Australian Gas Infrastructure Group, submission 31, p 4.

¹¹⁷ Licella, submission 26, p 6.

¹¹⁸ Canegrowers Proserpine, public hearing transcript, Mackay, 9 September 2025, p 9.

¹¹⁹ Canegrowers Proserpine, public hearing transcript, Mackay, 9 September 2025, p 8.

¹²⁰ Canegrowers, public hearing transcript, Brisbane, 11 February 2026, p 9.

¹²¹ Canegrowers, public hearing transcript, Brisbane, 11 February 2026, p 9.

¹²² Queensland Treasury, public briefing transcript, Brisbane, 19 November 2025, p 6.

5.3. Infrastructure barriers

In its submission, AgForce noted that the sugarcane industry is at a critical turning point. Its long-term future in Australia depends on farm businesses remaining both productive and profitable.¹²³ Many stakeholders identified infrastructure barriers as a key aspect in ensuring the future viability of the industry. Millers, growers and bioenergy organisations all drew the committee's attention to how ageing mills, rail networks and associated infrastructure are constraining performance, including limiting crushing season lengths.

While most stakeholders focused on mills as a key infrastructure bottleneck, some, such as Townsville Enterprise, also drew attention to infrastructure issues relating to water and irrigation.¹²⁴ QCAR also supported upgrades to water infrastructure, although it argued that mills should be a priority, stating that it would like to see action within 3 to 5 years.¹²⁵

5.3.1. Mill modernisation

Upgrading cogeneration infrastructure at Queensland sugar mills could increase renewable energy output from bagasse and support a reliable, low-emissions system. However, advanced boilers and turbines are capital-intensive, requiring long-term revenue certainty to justify investment. Larger mills are generally better positioned to modernise due to more consistent bagasse supply and economies of scale. Smaller mills, on the other hand, may struggle with commercial viability, particularly where internal steam demand limits export capacity. In its submission, AgForce made the following recommendation:

All sugar mills should be afforded the opportunity to modernise into state-of-the-art, efficient sugarcane (sucrose) processors, while also developing cogeneration capacity (location suitable, i.e., 10 to 11 mills proposed) for renewable electricity generation. The balance of Mills manufacturers should also be positioned to transition into Sustainable Aviation Fuel (SAF) or Renewable Diesel (RD) production facilities, ensuring adoption of emerging technologies, with a focus on profitability of the sector.¹²⁶

Similarly, Licella drew the committee's attention to Isis Central Sugar Mill, noting that it is 130 years old and that its ageing infrastructure 'is a key barrier to increasing bioenergy production', stating that:

Mills of this age were not designed with modern energy integration or biofuel pathways in mind, which poses challenges for efficiency, productivity, and adaptability - making it harder to free up the volumes of feedstock required for biofuel production.¹²⁷

Licella advised that investment is needed to ensure that sugar mills like Isis Central Sugar Mill can be both economically sustainable over the long-term and can participate in the bioenergy opportunity. Investment in upgrading the mill's infrastructure, it stated, would

¹²³ AgForce, submission 24.

¹²⁴ Townsville Enterprise, public hearing transcript, Townsville, 10 September 2025, p 13.

¹²⁵ QCAR, public hearing transcript, Townsville, 10 September 2025, p 17.

¹²⁶ AgForce, submission 24, p 7.

¹²⁷ Licella, submission 26, p 6.

allow for improved efficiency in the mill's co-generation, liberating significant quantities of bagasse for biofuel production.¹²⁸

Committee comment



The committee notes that cogeneration from bagasse represents a significant opportunity to increase renewable electricity generation from Queensland's sugarcane sector while improving mill efficiency and supporting regional energy supply. Evidence received during the inquiry highlighted that many mills operate with ageing infrastructure and face significant capital costs in upgrading boilers, turbines and related systems.

The committee considers that mill modernisation should be supported through a clear government strategy, targeted regulatory reform and robust business case development, including consideration of appropriate public investment or financing mechanisms, updated operating methodologies and modernised feedstock supply arrangements to support long-term industry sustainability.



Recommendation 3

The committee recommends that the Queensland Government explore mechanisms to support industry to modernise sugar milling infrastructure, including upgrades that would enable more efficient cogeneration of electricity from bagasse, while ensuring that diversification into bioenergy complements the industry's core role in sugar production.

5.3.2. Cane rail infrastructure

Evidence to the committee highlighted the scale and strategic importance of the sugar industry's cane rail network. Queensland's cane rail system extends for approximately 4,000 kilometres and is entirely privately funded by sugar manufacturers. ASM estimated that the replacement value of the network is in excess of \$2.5 billion.¹²⁹

The committee heard that maintaining the network is becoming increasingly costly, particularly in the face of more frequent natural disasters and extreme weather events. ASM noted that the entire cost of maintaining the network currently falls on sugar manufacturers, despite the broader public benefits of keeping large freight volumes off regional road networks.¹³⁰

Bioenergy Australia noted the importance of cane rail infrastructure in a future bioenergy supply chain, and drew the committee's attention to the importance of its upkeep. It suggested that cane rail infrastructure be included 'in national disaster recovery

¹²⁸ Licella, submission 26.

¹²⁹ ASM, submission 16.

¹³⁰ ASM, submission 16.

frameworks to support post-disaster recovery, incentivising the maintenance of the cane rail network, and reducing incentives to switch the cane freight task onto public roads'.¹³¹

Committee comment



The committee recognises the importance of Queensland's cane rail infrastructure as an essential component of the industry's transport network and a critical enabler of future bioenergy supply chains. The committee acknowledges the network's vulnerability to natural disasters, and the significant costs associated with its maintenance, repair and ongoing operation.

Resilient cane rail infrastructure is fundamental to maintaining efficient cane transport, supporting milling operations, and enabling the expansion of bioenergy and related industries. Ensuring the long-term sustainability and resilience of this infrastructure will be important to supporting the continued viability and diversification of the sugarcane sector.

6. Opportunities to align sugar biofuel production with national security and Defence liquid fuel needs (TOR 3)

Australia's fuel security has become an increasing policy concern as domestic refining capacity has declined and the nation has become more reliant on imported liquid fuels. Several stakeholders referenced Australia's supply-chain vulnerabilities in a period of heightened geopolitical risk.¹³² ASM noted that Australia probably has some of the lowest reserves of liquid fuel in the world, with about 30 days supply of diesel and 30 days of petrol, and a similar amount of aviation fuel.¹³³

6.1. Sugarcane biofuels as a sovereign fuel pathway

Stakeholders identified the development of domestic biofuel production, including ethanol and sustainable aviation fuel, as a potential means to strengthen sovereign fuel capability while supporting regional industries such as sugarcane. The Queensland Farmers' Federation (QFF) stated that a Queensland sugar biofuel industry could offer a secure and resilient supply of specialist fuels and diesel for operational readiness, with the potential to mitigate supply-chain vulnerabilities from geopolitical disruptions or refinery outages.¹³⁴ The presence of both sugar industry infrastructure and defence assets in northern Australia creates opportunities to supply locally produced biofuel feedstocks.¹³⁵

¹³¹ Bioenergy Australia, submission 20, p 9.

¹³² QFF, submission 34.

¹³³ S Johnson, A Stephen and T Larsen, 'Calls for a national ethanol mandate to prevent future Iran war-style oil shocks', *ABC News*, 7 March 2026, <https://www.abc.net.au/news/2026-03-07/sugar-industry-calls-for-ethanol-mandate/106419518>.

¹³⁴ QFF, submission 34.

¹³⁵ QFF, submission 34.

Central and North Queensland were referenced as potential hubs, given their strategic locations and existing sugarcane infrastructure. ASM acknowledged this potential, noting that there are a lot of defence assets in Queensland, including naval and Air Force assets around Townsville, Brisbane and Cairns, which use a lot of maritime diesel and aviation fuel. It noted that ‘one of the benefits we have is that we are almost like-for-like collocated up and down the coast with the defence industry’.¹³⁶

Townsville Enterprise was enthusiastic about the national security and defence strategic applications of sugarcane bioenergy.¹³⁷ It noted that North Queensland could become a hub for defence activities in the Indo-Pacific, supported by a local SAF industry and supply chain.¹³⁸

6.2. Defence procurement and market creation

Evidence to the committee suggested that government procurement could play a role in establishing early markets for domestically produced biofuels. Stakeholders noted that the ADF is a significant consumer of maritime diesel and aviation fuel, and that procurement policies supporting low-carbon fuels could help stimulate early industry development while strengthening national fuel resilience. ASM framed defence procurement as a vehicle for market creation, finding that ‘government procurement can help establish this market’ and that ‘making biofuels and feeding into those maritime assets would not be a tall order’.¹³⁹ Wilmar similarly stated that government procurement, particularly by the ADF, could further support market development and ensure fuel security.¹⁴⁰

Committee comment



The committee notes that Australia remains heavily dependent on imported liquid fuels, leaving the nation exposed to supply disruptions and international price volatility. Recent geopolitical instability has highlighted the vulnerability of global oil supply chains and reinforced the strategic importance of strengthening domestic fuel capability. In this context, the development of a sugarcane-based biofuels and bioenergy industry presents an opportunity to diversify the Queensland sugar sector while contributing to Australia’s broader fuel security and sovereign energy capability.

6.3. Sustainable aviation fuel opportunities

The committee heard from stakeholders that identified Queensland as a promising location for an SAF industry, linking its development to national fuel security and defence requirements. Jet Zero, for example, provided testimony linking SAF production directly to

¹³⁶ ASM, public hearing transcript, Brisbane, 19 November 2025, p 6.

¹³⁷ Townsville Enterprise, public hearing transcript, Townsville, 10 September 2025, p 12.

¹³⁸ Townsville Enterprise, public hearing transcript, Townsville, 10 September 2025, p 12.

¹³⁹ ASM, public hearing transcript, Brisbane, 19 November 2025, p 6.

¹⁴⁰ Wilmar, submission 22.

ADF requirements and suggested an SAF industry could support ADF aviation requirements in northern Australia. Jet Zero also commented on fuel security, regional capability, and the strategic importance of northern Queensland, highlighting how SAF production contributes directly to national fuel security.¹⁴¹

LanzaJet identified Queensland as a priority market, and is currently progressing two SAF projects. The first, Project Ulysses, is a proposed 102 million litre per year SAF facility (plus 11 million litres of renewable diesel) in North Queensland, being developed with Jet Zero, and supported by Qantas, Airbus, ARENA, and the Queensland Government.¹⁴²

Another project is being advanced with Wagner Sustainable Fuels and LanzaTech, using the CirculAir platform to convert waste carbon and renewable energy into SAF. The Wagner refinery has already secured investment from the Queensland Government and Boeing. LanzaJet stated in its submission:

*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.*¹⁴³

In relation to derisking SAF industry investment, LanzaJet referred to Brazil's successful SAF policies. It noted that Queensland's regional cane base mirrors Brazil's, and that Brazil has 'developed the world's leading ethanol sector, worth billions annually and employing vast numbers'.¹⁴⁴ It noted:

*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 [Brazilian Development Bank - Banco Nacional de Desenvolvimento Econômico e Social] financing, catalysed tens of billions in private investment.*¹⁴⁵

Brazil's success, LanzaJet submitted, provides a blueprint for Queensland and Australia to convert early initiatives into long-term industry growth.¹⁴⁶

6.3.1. Sustainable aviation fuel hubs

LanzaJet submitted that Queensland has an opportunity to accelerate SAF development by strategically utilising existing industrial land and infrastructure.¹⁴⁷ Prioritising locations such as the Townsville State Development Area and other coastal industrial nodes as SAF

¹⁴¹ JetZero, public hearing transcript, Brisbane, 19 November 2025, p 10.

¹⁴² LanzaJet, submission 21.

¹⁴³ LanzaJet, submission 21, p 1.

¹⁴⁴ LanzaJet, submission 21, p 2.

¹⁴⁵ LanzaJet, submission 21, pp 2-3.

¹⁴⁶ LanzaJet, submission 21.

¹⁴⁷ LanzaJet, submission 21.

production hubs would take advantage of established transport corridors and proximity to aviation markets.¹⁴⁸ Coordinated planning of shared utilities, airport blending and storage infrastructure, and streamlined approvals processes would help reduce development risk while supporting regional employment. Integrating workforce training, environmental resilience initiatives and circular economy opportunities, such as CO₂ utilisation, would further enhance long-term regional benefits. Concentrating investment in defined hubs would also support the development of specialised supply chains and improve integration with existing aviation fuel infrastructure.¹⁴⁹

According to LanzaJet, developing a SAF industry based on Queensland's sugarcane feedstocks presents a significant regional economic opportunity. It noted that national modelling by CSIRO conducted in 2023 indicates that residues such as bagasse, first-press cane juice and molasses could underpin a new generation of large-scale biorefineries in Queensland. These projects are typically billion-dollar investments, generating substantial construction employment and supporting hundreds of ongoing high-skilled operational roles. Flow-on effects would include growth in regional supply chains, new logistics and service industries, and broader economic diversification in cane-growing regions.¹⁵⁰

LanzaJet further submitted that early-stage co-funding from the Queensland and Australian governments for feasibility and front-end engineering studies would help establish a strong pipeline of SAF projects and reduce risk for private investment. On the supply side, policy mechanisms such as capital grants, concessional finance, production credits, tax incentives and Contracts for Difference may help stimulate innovation, attract capital and build local industry capability, particularly where state initiatives complement Australian Government programs.¹⁵¹

However, as SAF currently remains more expensive than conventional jet fuel, demand-side measures may also be required to provide long-term investment certainty. These may include mechanisms such as SAF blending mandates, low-carbon fuel standards and government procurement policies. LanzaJet noted that coordinated state and national action will likely be important in this regard, drawing on international examples such as the United States and emerging policy developments in New South Wales.¹⁵²

The establishment of biofuels precincts or industry hubs could further support project delivery by leveraging shared infrastructure, existing fuels and energy assets, and sugar mill cogeneration capacity to reduce costs and streamline approvals. LanzaJet suggested that clear and visible government commitment, including a dedicated ethanol-to-SAF

¹⁴⁸ LanzaJet, submission 21.

¹⁴⁹ LanzaJet, submission 21.

¹⁵⁰ LanzaJet, submission 21.

¹⁵¹ LanzaJet, submission 21.

¹⁵² LanzaJet, submission 21. The NSW Government is contemplating such an approach by expanding their Renewable Fuels Scheme to include SAF and other low carbon liquid fuels.

strategy and appropriate policy oversight, would strengthen investor confidence and enhance Queensland’s competitiveness as a destination for SAF investment.¹⁵³

Early-stage co-funding from the Queensland and Australian governments for feasibility and front-end engineering studies is critical to establish a strong pipeline of SAF projects and de-risk private investment. On the supply side, mechanisms such as capital grants, concessional finance, production credits, tax incentives and Contracts for Difference can help stimulate innovation, attract capital and build local capacity, particularly where state incentives are designed to complement federal programs.¹⁵⁴

Other stakeholders, such as QCAR, Townsville Enterprise, and JetZero also expressed support for the development of SAF hubs.¹⁵⁵

Committee comment



The committee notes the evidence presented regarding the potential for sustainable aviation fuel hubs in Queensland, particularly where these hubs leverage existing industrial land, transport infrastructure and sugarcane feedstock supply chains.

Evidence received by the committee indicated that the development of sustainable aviation fuel hubs will require supportive policy settings and targeted funding mechanisms to help de-risk early-stage project development and provide long-term investment certainty.

The committee considers that coordinated state and national action, including both supply-side support and demand-side measures, may be important to enable sustainable aviation fuel hubs to succeed, and to place Queensland as a competitive location for sustainable aviation fuel investment.



Recommendation 4

The committee recommends that the Queensland Government provide funding for a pre-feasibility study into the development of a Queensland sugar-based biofuel supply chain to service Australian Defence Force fuel requirements.

¹⁵³ LanzaJet, submission 21.

¹⁵⁴ LanzaJet, submission 21.

¹⁵⁵ Submissions 17 and 37; QCAR, public hearing transcript, Townsville, 10 September 2025, p 30.

7. Policy and funding mechanisms to de-risk investment in cogeneration and biofuels by manufacturers and growers, including examples of successful policy implementation from overseas and other industries (TOR 4)

The committee heard from stakeholders who proposed a range of policy and funding mechanisms aimed at de-risking investment in sugarcane bioenergy projects for both millers and growers. Stakeholders indicated that the development of new bioenergy industries, including increased cogeneration, ethanol, sustainable aviation fuel and other bioproducts, would likely require significant upfront capital investment and carry risks that are difficult for industry participants to bear alone.

Stakeholders suggested a variety of policy and funding mechanisms to support project development and attract private investment. Proposals included co-investment in feasibility and demonstration projects, targeted grant programs to support mill modernisation and diversification, concessional finance or loan guarantees. Policy settings designed to create long-term market certainty, mandates, offtake agreements, and the development of a coordinated industry-government strategy were also suggested. Stakeholders also pointed to international examples where governments have supported the development of bioenergy industries through coordinated policy frameworks, infrastructure investment and demand-side incentives.

7.1. Government support mechanisms

Many stakeholders referenced the importance of government support in establishing a sugarcane biofuels industry in Queensland. ASM described a pronounced ‘first-mover disadvantage’ for those seeking to innovate, where these innovators ‘take all of the risk and all of the cost’.¹⁵⁶ It noted that there is no real biofuels market as yet, and no foreseeable revenue, which makes it very hard to justify large spending.¹⁵⁷ ASM called for government co-investment in prefeasibility, feasibility, and final investment decision analysis to reduce this uncertainty. In discussing investment priorities, GW3 stated that ‘we have to start with the fundamentals’, arguing that investment should span the whole value chain, focusing on both growers, and miller efficiency and output:

*... the very first port of call absolutely needs to be around how we invest at the farm to make sure supply is there, how we then invest in the mills to make sure we are maximising efficiencies and product output, and then how we de-risk the new and emerging sectors that can reap the benefits from those other value stream investments.*¹⁵⁸

RDA-GWR extolled policymakers to ‘stop talking about it and bite the bullet and have a crack at this because the opportunities are unlimited’.¹⁵⁹ Canegrowers specifically stated that a national policy will be needed to increase demand and supply side incentives.¹⁶⁰ It noted that the development of a bioenergy industry needs government intervention and

¹⁵⁶ ASM, public hearing transcript, Brisbane, 19 November 2025, p 2.

¹⁵⁷ ASM, submission 16.

¹⁵⁸ GW3, public hearing transcript, Mackay, 9 September 2025, p 3.

¹⁵⁹ Public hearing transcript, Mackay, 9 September 2025, p 18.

¹⁶⁰ Public hearing transcript, Brisbane, 11 February 2026, p 8.

pointed to how this has been the case everywhere a bioenergy industry has been established.¹⁶¹

7.2. Biofuel blending mandates

A number of stakeholders identified biofuel blending mandates (sometimes referred to as ‘drop-in mandates’) as a key policy lever to stimulate demand for renewable fuels and support the development of a domestic biofuels industry. Biofuel mandates require fuel retailers to supply a minimum proportion of biofuels in transport fuel blends, creating a stable market for producers and encouraging investment in domestic production capacity.

7.2.1. Role of ethanol blending mandates

Stakeholders suggested that well-designed and enforceable mandates could play an important role in supporting ethanol production and enabling the broader development of sugarcane-derived biofuels. ASM emphasised that a biofuels mandate is essential to provide revenue certainty and stimulate investment.¹⁶² Similarly, Canegrowers referred to India’s example, where an ethanol blending requirement was gradually increased from E10 to E20, creating a large and assured domestic market for cane ethanol.¹⁶³

The Royal Automobile Club of Queensland (RACQ) suggested that Queensland’s existing biofuels mandate could be strengthened. RACQ noted that since the introduction of the mandate, ethanol compatibility has become standard across most of the state’s vehicle fleet. It estimated that, as of 2025, fewer than two percent of petrol vehicles in Queensland are not compatible with E10 fuel.¹⁶⁴

7.2.2. Exemptions and lack of enforcement

During the inquiry, many stakeholders raised concerns regarding loopholes and the lack of enforcement of ethanol mandates.¹⁶⁵ Wilmar stated that state ethanol mandates in Queensland and New South Wales are not adequately enforced, meaning that volumes consumed are well below current manufacturing capabilities.¹⁶⁶ GW3 commented on the ineffectiveness of current mandates:

We have attempted to grow the ethanol industry in Australia. We tried at a state level and a federal level, but guess what. None of those mandates were ever enforceable. They were voluntary mandates so we have lagged well behind the rest of the world...I know the industry and, despite the fact that we are all in regions, we do respond to an overall sort of universal approach.¹⁶⁷

The Institute of Automotive Mechanical Engineers (IAME) further noted that amendments proposed in the Liquid Fuel Supply (Minimum Biobased Petrol Content) Amendment Bill

¹⁶¹ Public hearing transcript, Brisbane, 11 February 2026, p 8.

¹⁶² ASM, public hearing transcript, Brisbane, 19 November 2025, p 2.

¹⁶³ Canegrowers, submission 38.

¹⁶⁴ RACQ, submission 23, p 4.

¹⁶⁵ IAME, submission 2; Canegrowers, submission 38.

¹⁶⁶ Canegrowers, submission 38.

¹⁶⁷ RDA-GWR, public hearing transcript, Mackay, 9 September 2025, p 13.

2022 included provisions to increase penalties and create offences for selling E10 containing less than 9 percent ethanol. It further noted that there is limited publicly available information regarding whether enforcement actions against fuel retailers have been applied in practice.¹⁶⁸

Wilmar also drew the committee's attention to issues regarding the enforcement and effectiveness of mandates. It stated that the ethanol mandate could be improved in several ways, including by applying it to premium unleaded petrol, and by reducing exemptions to the mandate.¹⁶⁹ It stated that ethanol blends should not be considered a 'discounted substitute for unleaded petrol'. It stated that it would like to see the 16 percent federal excise on ethanol abolished, and noted that there are 20 percent ethanol mandates in some overseas jurisdictions.¹⁷⁰

In response to submissions raising concerns about enforcement, the Queensland Government noted that the legislation does not place obligations on consumers or restrict motorist choice, and that the volume of E10 sold ultimately depends on consumer demand.¹⁷¹

7.2.3. Queensland Government position

The Queensland Government advised the committee that there are currently no plans to increase the ethanol mandate. The Government stated that increasing the mandate alone would not necessarily lead to greater uptake of E10 by motorists unless the option to purchase petrol without ethanol was removed. It noted:

*Stronger enforcement and increasing the mandate does not mean that more motorists will choose E10 over unleaded petrol without ethanol. A mandate set at 10 percent is only achievable with legislation that removes choice from motorists by prohibiting the sale and purchase of petrol without ethanol.*¹⁷²

The Queensland Government also advised that requiring the availability of higher ethanol blends in petrol would not currently be practical in the Australian context. It contrasted Australia's vehicle manufacturing capacity and fuel market structure with countries such as Brazil and India, which have significantly larger automotive industries and widespread use of flex-fuel vehicles capable of operating on high ethanol blends. It noted that Brazil, with a population exceeding 210 million people, produces around 2.5 million vehicles annually and has a large market of flex-fuel vehicles supported by concessional taxation settings. Similarly, India produces more than 5.2 million vehicles per year and has used this manufacturing base to support the rollout of higher ethanol blend fuels.¹⁷³

¹⁶⁸ IAME, submission 2, p 3.

¹⁶⁹ Wilmar, public hearing transcript, Brisbane, 11 February 2026, p 5.

¹⁷⁰ Wilmar, public hearing transcript, Brisbane, 11 February 2026, p 6.

¹⁷¹ Queensland Government, correspondence, 12 November 2025, p 5.

¹⁷² Queensland Government, correspondence, 12 November 2025, p 5.

¹⁷³ Queensland Government, correspondence, 12 November 2025, p 5.

The Queensland Government also advised that setting a minimum ethanol content requirement for E10 fuel would raise constitutional and regulatory issues. It noted that Queensland’s existing mandate legislation does not regulate the ethanol content percentage of E10, and that a state law requiring a minimum ethanol content (for example, requiring fuel sold as E10 to contain at least nine per cent ethanol) would likely be inconsistent with the Australian Government’s fuel quality legislation. Under section 109 of the *Commonwealth Constitution*, such a law would therefore be invalid.¹⁷⁴

The committee was also advised that a Bill proposing such a requirement was introduced in the 57th Parliament, but failed to pass on 10 October 2023.¹⁷⁵

7.2.4. National ethanol mandate

A number of stakeholders advocated for a national ethanol mandate.¹⁷⁶ Towards the end of the inquiry, in February 2026, ASM urged the Australian Government to introduce a strong national ethanol mandate, modelled on Queensland’s E10 policy, to stimulate domestic ethanol production and support Australia’s transition to low-carbon liquid fuels.¹⁷⁷

ASM argued that ethanol is the most cost-effective pathway to decarbonising transport fuels, particularly for hard-to-electrify sectors such as aviation, construction and mining, and is a key feedstock for SAF and biodiesel. However, it noted that expanding domestic production capacity will require significant private investment, which in turn depends on clear, enforceable government policy to create stable demand.¹⁷⁸

Committee comment



The committee considers that a well-designed national biofuel blending mandate could play an important role in supporting the development of a domestic biofuels industry. Such a mandate could help stimulate investment, reduce emissions from the transport sector, strengthen sovereign fuel capability and support regional economic activity.

The committee also notes concerns raised by stakeholders regarding exemptions and enforcement issues associated with existing state-based mandates. These experiences highlight the importance of ensuring that any future mandate is clearly designed and effectively enforced in order to provide the policy certainty required for long-term industry investment.

¹⁷⁴ Queensland Government, correspondence, 12 November 2025, p 6.

¹⁷⁵ Liquid Fuel Supply (Minimum Biobased Petrol Content) Amendment Bill 2022; Queensland Government, correspondence, 12 November 2025, p 6.

¹⁷⁶ See, for example: submissions 2, 16, 38.

¹⁷⁷ ASM, ‘National ethanol mandate key to affordable low-carbon fuels and Australia’s energy security’, media release, 19 February 2026, <https://sugarmanufacturers.org/wp-content/uploads/2026/02/ASM-MEDIA-RELEASE-NATIONAL-ETHANOL-MANDATE.pdf>

¹⁷⁸ ASM, ‘National ethanol mandate key to affordable low-carbon fuels and Australia’s energy security’, media release, 19 February 2026, <https://sugarmanufacturers.org/wp-content/uploads/2026/02/ASM-MEDIA-RELEASE-NATIONAL-ETHANOL-MANDATE.pdf>

The committee considers that a nationally consistent approach would provide greater clarity for investors and industry participants and could support the development of a stable domestic market for ethanol and other low-carbon liquid fuels.



Recommendation 5

The committee recommends that the Queensland Government advocate for a national drop-in biofuels mandate that includes a requirement for a portion of the mandate to be filled by local feedstocks and prioritises fuels with the lowest carbon intensity.

7.3. Offtake agreements

Stakeholders emphasised the importance of secure offtake arrangements in enabling investment in sugarcane bioenergy projects.¹⁷⁹ The committee heard that, in the absence of stable markets for emerging biofuels and bioenergy products, long-term purchase agreements may be necessary to provide the revenue certainty required for project financing.

Wilmar was asked about support for a buyer-of-last-resort scheme for biofuels such as black pellets. It advised that while black pellets show significant promise, there remains uncertainty regarding their future market price.¹⁸⁰ Wilmar noted that this uncertainty creates commercial risk that may discourage investment in the development of the technology. It suggested that a buyer-of-last-resort scheme could provide a guaranteed floor price and will de-risk the commercial side and encourage investment.¹⁸¹

MSL similarly indicated that floors and capped pricing arrangements are needed to make cogeneration economically viable for millers. MSL emphasised that they were seeking not a ‘hand out’, but a ‘hand up’ that would allow it to stabilise and then launch into ‘biodiverse products of the future’.¹⁸² It further advised that, with appropriate support, the company could reduce its cost of production to within the lowest 40 percent of global producers.¹⁸³

Canegrowers Burdekin also advised that meaningful mandates will be required to allow the industry to scale up over time.¹⁸⁴

¹⁷⁹ MSL, submission 12.

¹⁸⁰ Wilmar, public hearing transcript, Brisbane, 11 February 2026, p 2.

¹⁸¹ Wilmar, public hearing transcript, Brisbane, 11 February 2026, p 4.

¹⁸² MSL, Wilmar, public hearing transcript, Brisbane, 11 February 2026, p 4.

¹⁸³ MSL, Wilmar, public hearing transcript, Brisbane, 11 February 2026, p 4.

¹⁸⁴ Canegrowers Burdekin, public hearing transcript, Townsville, 10 September 2025, p 22.



Recommendation 6

The committee recommends that the Queensland Government explore opportunities to establish offtake agreements with sugar manufacturers, including fixed or floor pricing arrangements to reduce exposure to negative market prices.

7.4. Boosting investment in sugarcane bioenergy opportunities

Government policy settings and investment programs will play an important role in enabling the development of a sugarcane bioenergy industry. The sections below outline recent Australian and Queensland Government initiatives relevant to investment in bioenergy and biofuels.

7.4.1. Australian Government initiatives

At the national level, the Australian Government has begun coordinating development of a National Biofuel Feedstock Industry. It recently announced plans to prioritise private investment in key sectors by allocating \$1.5 billion through the Future Made in Australia Innovation Fund, including \$500 million for clean energy technology manufacturing capabilities and \$250 million for LCLFs.

The Australian Government will also establish a new 'Front Door' for global investors with major transformational proposals, aimed at making it simpler to invest in Australia. The 'Front Door' will act as a single entry-point for investors, providing priority projects with coordinated facilitation services guided by an Investor Council.¹⁸⁵

These initiatives present Queensland with a strategic opportunity to capitalise on its existing research base, position itself as an early mover in the emerging biofuels market, and signal that it is open for business.

7.4.2. Queensland Government initiatives

In July 2025, the Queensland Government established a \$180.6 million Sovereign Industry Development Fund (SIDF) under its *Queensland Energy Roadmap 2025* (Energy Roadmap), administered primarily by the Department of State Development, Infrastructure and Planning. The fund identified biofuels as a priority industry alongside biomedical and defence. While this initially appeared to align with the focus of the committee's inquiry, the Energy Roadmap largely focused on coal, gas, wind, solar and pumped hydro, with limited recognition of agriculture's potential role in electricity generation or bioenergy production.¹⁸⁶

¹⁸⁵ S MacNamara, 'Federal Budget's energy investment revealed', *Energy*, 27 March 2025, <https://www.energymagazine.com.au/federal-budgets-energy-investment-revealed/>.

¹⁸⁶ The Energy Roadmap is available at: <https://www.treasury.qld.gov.au/policies-and-programs/energy/energy-roadmap/>.

QCAR noted in its submission that although bioenergy and sugarcane by-products (such as bagasse, tops and trash) are briefly mentioned in the Queensland Government’s Energy Roadmap, there is no clear funding commitment to support their development. This is despite prefeasibility work undertaken by ASM demonstrating that upgraded sugar mill cogeneration could increase capacity to approximately 835 MW—enough to power around 500,000 homes and add up to 2.1 terawatt hours to the NEM.¹⁸⁷

The committee notes that the *Industry Development Plan – Biogas* consultation held on 2 October 2025 included representatives from Queensland Treasury and the Department of State Development, Infrastructure and Planning, but did not include representation from the Department of Primary Industries. Given the subject matter, representation from Primary Industries may have complemented the discussion, alongside the industry stakeholders who were consulted.

The committee considers that its examination of opportunities to establish a sugarcane-led bioenergy industry, together with the Queensland Government’s commitment to increasing the value of primary production output to \$30 billion by 2030 under *Prosper 2050*, presents a significant opportunity to provide greater certainty for the Queensland economy and for both millers and growers, while supporting the long-term future of the industry.

Committee comment



The Sovereign Industry Development Fund refers only to ‘exploring’ the expansion of biofuels rather than committing to investment. Significant energy funding allocations in the Energy Roadmap are directed toward coal assets, transmission infrastructure, and renewables such as solar and batteries, as well as state-owned generation, with no dedicated allocation for agricultural bioenergy.

Further, industry feedback suggests that Sovereign Industry Development Fund funding criteria may disadvantage bioenergy projects with longer lead times, as many require up to three years before construction can commence.

If the government wishes to see a sustainable bioenergy industry develop in Queensland, consideration should be given to establishing a clearer prioritisation framework and exploring medium to long-term funding mechanisms that provide greater certainty for agricultural and sugar-based energy projects.

¹⁸⁷ ASM, submission 16, p 16.



Recommendation 7

The committee recommends that the Queensland Government collaborate with the Australian Government to allocate funding for feasibility and final investment decision studies, ensuring a pipeline of shovel-ready sugar biofuels, biogas and bioenergy projects is in place ahead of demand-side policy implementation.



Recommendation 8

The committee recommends that the Queensland Government commit to targeted enabling investments in shovel-ready sugar industry projects that are well positioned to attract both federal and private investment.

7.5. Mill diversification grant programs

Throughout the inquiry, stakeholders advised the committee that there must be financial incentive to drive the conversion of sugar mills to ethanol production as well as to increase cogeneration capacity. Stakeholders emphasised that grant programs and funding should target mill diversification, noting that this early-stage investment is necessary to de-risk projects.¹⁸⁸

Bioenergy Australia stated that government can support the required investment in innovation, technology adoption, energy efficiency, and bioenergy transition in sugar manufacturing through co-investment in industrial upgrades and new technologies.¹⁸⁹ AgForce similarly noted that strategic public investment can de-risk private capital, accelerate technology adoption, and secure domestic industries in times of transformation, particularly in proven economic sectors, such as the sugarcane industry.¹⁹⁰

Wilmar stated that capital grants would be required to support industrial upgrades such as pelletisation technologies, energy optimisation, and process electrification. These investments will enable sugar factories to transition into bioenergy precincts, aggregating feedstocks and producing renewable fuels at scale.¹⁹¹

7.6. Sugar industry diversification strategy

Stakeholders drew attention to the *Sugar Plus Roadmap* as an example of a collaborative planning framework developed by both millers and growers. The roadmap outlines a strategic vision for strengthening the long-term sustainability and competitiveness of the Australian sugar industry. It identifies opportunities to diversify beyond traditional raw

¹⁸⁸ Wilmar, submission 22; Bioenergy Australia, submission 20; AgForce, submission 24.

¹⁸⁹ Bioenergy Australia, submission 20.

¹⁹⁰ AgForce, submission 24.

¹⁹¹ Wilmar, submission 22.

sugar production by developing additional value streams from sugarcane, including bioenergy, biofuels and other bioproducts.

The roadmap also highlights the potential to leverage existing industry assets, such as milling infrastructure, cane supply chains and the cane rail network, to support new manufacturing and energy pathways. It emphasises the importance of supportive policy settings, investment in research and development, and collaboration between industry, government and research institutions to enable a transition towards a broader sugar-based bioeconomy.

Stakeholders also advocated for the development of a sugar industry diversification strategy involving both government and industry. ASM noted that a coordinated approach between government and industry is essential to address the challenges facing the sector. It stated:

*Australian governments have intervened in other industries to protect against these challenges, yet a strategic approach to sugar is lacking. Mill closures are not inevitable; however, unlike past closures, the next may leave growers with no viable option to process their cane, and this will be a regional crisis for the affected communities. Diversification to biofuels and bioenergy is the solution to these challenges. This will only happen if government and industry work hand in glove.*¹⁹²

MSL also advocated for a sugar industry diversification strategy, stating that a successful diversification agenda will need to address a number of issues concerning ‘technology, physical supply chains, market regulations and payments, and government policy and incentives’.¹⁹³ It argued that a holistic government-industry strategy will ensure these activities are undertaken in a coordinated synergistic manner that will maximise outcomes for the sugar industry and the Queensland economy.¹⁹⁴

Canegrowers expressed a similar view, stating that the industry requires a government and industry agreed strategic plan, noting that comparable approaches have been adopted in other sectors.¹⁹⁵ It called for government leadership in establishing a strategic framework at the intersection of bioenergy and the sugarcane industry.¹⁹⁶



Recommendation 9

The committee recommends that the Queensland Government develop a sugar industry diversification strategy, informed by the policy reforms and recommendations outlined in this report, and progress its development as a matter of urgency.

¹⁹² ASM, public hearing transcript, Brisbane, 19 November 2025, p 1.

¹⁹³ MSL, submission 12, p 13.

¹⁹⁴ MSL, submission 12, p 13.

¹⁹⁵ Canegrowers, public hearing transcript, Brisbane, 11 February 2026, p 10.

¹⁹⁶ Canegrowers, public hearing transcript, Brisbane, 11 February 2026, p 10.

7.7. International examples of successful policy mechanisms

In its submission, the Queensland Government drew attention to a number of international policy levers used to support the development of biofuels industries. These include demand-side mechanisms such as renewable fuel standards and low-carbon fuel standards that create market certainty for producers. Examples cited included the United States Renewable Fuel Standard, which mandates the use of renewable fuels in transportation fuels, and the *United States Inflation Reduction Act 2022*, which introduced performance-based tax credits for low-emissions fuels. The submission also noted the introduction of SAF mandates in the European Union and the United Kingdom from 2025, as well as planned SAF uptake targets in jurisdictions such as Japan, Singapore and Malaysia. Brazil's long-running Proálcool program, which combines ethanol mandates with subsidies to stimulate both demand and supply, was also identified as a key example of coordinated government support for biofuel industries.¹⁹⁷

7.7.1. Proálcool (Brazil)

Stakeholders repeatedly referred to Brazil's Proálcool program as an example of policy settings that successfully supported the development of a sugarcane-derived bioenergy industry. Brazil is the world's largest sugarcane ethanol producer and in 2023-24, Brazilian ethanol production reached 35.9 billion litres.¹⁹⁸ In 2023, Brazil replaced 44 percent of its gasoline needs with sugarcane ethanol.¹⁹⁹ These outcomes are underpinned by long-standing policy settings, beginning with the introduction of the Proálcool program in 1975, which promoted the large-scale development of ethanol plants.²⁰⁰ The program aimed to expand Brazil's production of sugarcane ethanol with the intention of using it as an alternative energy source. Through the program, Brazil was able to 'replace part of the national fuel quota derived from petroleum'.²⁰¹ Proálcool also helped to drive forward significant technological advances for both the growing and processing of sugarcane.²⁰²

At the end of the 1980s, a reduction in the price of oil and an increase in the price of sugar on international markets drove producers away from ethanol production and led to Proálcool's termination in 1990. In 2003, the government re-focused on bioethanol

¹⁹⁷ Queensland Government, submission 5.

¹⁹⁸ Sugarcane.org, 'Ethanol', *Sugarcane products*, <https://www.sugarcane.org/sugarcane-products/>, accessed 17 February 2026.

¹⁹⁹ Sugarcane.org, 'Ethanol', *Sugarcane products*, <https://www.sugarcane.org/sugarcane-products/>, accessed 17 February 2026.

²⁰⁰ I Tsiropoulos, 'Life cycle assessment of sugarcane ethanol production in India in comparison to Brazil', *International Journal Life Cycle Assessment*, 2014, vol 19, p 1052.

²⁰¹ United Kingdom. Foreign, Commonwealth & Development Office, 'ELLA Policy Brief: The story of Brazil's Ethanol Programme', *Research for Development Outputs*, 1 January 2013, p 2.

²⁰² United Kingdom. Foreign, Commonwealth & Development Office, 'ELLA Policy Brief: The story of Brazil's Ethanol Programme', *Research for Development Outputs*, 1 January 2013, p 2.

development and encouraged ethanol production efforts and the development of flex-fuel technology.²⁰³ This technology enables engines to run on any mix of ethanol or gasoline.²⁰⁴

Brazil's bioethanol system is the product of bottom-up experimental initiatives and top-down government policies. As a result of the country's bioethanol policies in 2023 flexible-fuel vehicles using ethanol accounted for over 70 percent of Brazil's light-duty vehicle fleet.²⁰⁵

Brazil's sugarcane industry contrasts with Australia's in that its supply chain includes large, vertically integrated business that own both sugarcane farms and mills, as well as grower-owned mills or cooperatives far larger in scale than Australia's grower-owned mills.²⁰⁶

8. The R&D agenda to underpin a world leading sugar-led bioenergy industry (TOR 5)

Evidence to the committee highlighted the importance of research and development (R&D) in supporting the diversification of Queensland's sugar industry and enabling the development of a future bioenergy sector. Stakeholders emphasised that the transition to advanced sugar manufacturing and bioenergy production will require both improvements in existing production systems and the adoption of new technologies capable of unlocking additional value from sugarcane and its by-products.

8.1. Industry research capability

ASM submitted that the industry's current R&D capability is not adequately resourced to support both core sugar production and the development of new bioenergy industries. ASM noted that Sugar Research Australia (SRA), the main vehicle for sugar industry R&D, is relatively small compared with other R&D corporations. ASM stated:

[SRA's] current resourcing and expertise means that a focus on core tasks such as varietal development for yield improvements and disease/pest resistance is likely the upper bounds of the R&D task it can provide. Manufacturing R&D has largely been ignored by the industry's R&D agenda. Despite the sugar manufacturing sector putting nearly \$10 million per annum into SRA - SRA has indicated it has limited expertise and resources to undertake manufacturing R&D going forward.²⁰⁷

ASM reiterated that the industry's R&D agenda is not currently 'shooting the lights out' and stated that an effective R&D agenda could significantly increase capacity.²⁰⁸ It stated that it would seek to leverage and restructure Sugar Research Limited, alongside the Queensland University of Technology (QUT), to lead the R&D agenda around technology

²⁰³ United Kingdom. Foreign, Commonwealth & Development Office, 'ELLA Policy Brief: The story of Brazil's Ethanol Programme', *Research for Development Outputs*, 1 January 2013, p 3.

²⁰⁴ United Kingdom. Foreign, Commonwealth & Development Office, 'ELLA Policy Brief: The story of Brazil's Ethanol Programme', *Research for Development Outputs*, 1 January 2013, p 3.

²⁰⁵ United Nations Climate Change, 'Bioethanol activities in Brazil', *Technology Executive Committee*, June 2023.

²⁰⁶ Queensland Government, submission 5, p 19.

²⁰⁷ ASM, submission 16.

²⁰⁸ ASM, public hearing transcript, Brisbane, 11 February 2026, p 4.

adoption. It noted that their total budget is currently \$6 million in total, which, it submitted, is not enough.²⁰⁹

8.2. Current government investment and research agenda

The Queensland Government's submission outlined several current investments supporting research and innovation within the sugar industry. The Department of Primary Industries currently invests approximately \$2.85 million annually in sugarcane research, development and extension activities through SRA.²¹⁰

According to the submission, DPI's research priorities include identifying new diversification opportunities based on market demand, developing alternative products and uses for sugarcane, accelerating the uptake of new breeding technologies to maintain global competitiveness, and developing systems that allow growers to better manage biomass and sugar production.²¹¹

The submission also highlighted targeted investments supporting biofuel development. For example, the Queensland Government is investing \$1.3 million over four years in a project examining the genetic analysis of lignocellulosic composition and biomass in sugarcane to maximise biofuel production. This work is being undertaken through The University of Queensland's Australian Research Council Research Hub for Engineering Plants to Replace Fossil Carbon.²¹²

In addition, a project currently in the contracting phase will undertake proof-of-concept research into sugarcane gene editing, which may enable the development of sugarcane varieties with targeted traits such as enhanced biomass production.²¹³

Government investment has also supported research infrastructure designed to accelerate technology development and commercialisation. Examples include the Mackay Renewable Biocommodities Pilot Plant and Cauldron's precision fermentation contract manufacturing facility, which demonstrate the potential for sugarcane to be used as a feedstock in emerging biomanufacturing industries. The Mackay Renewable Biocommodities Pilot Plant has played a foundational role in establishing research capability in this area and recently underwent a \$19.1 million redevelopment supported by both the Queensland and Australian Governments.²¹⁴

8.3. Future research priorities

Evidence to the committee suggested that a world-leading sugar bioenergy industry will require greater emphasis on technology adoption and process innovation within the manufacturing sector. ASM stated that the main R&D challenge with respect to biofuels

²⁰⁹ ASM, public hearing transcript, Brisbane, 11 February 2026, p 4.

²¹⁰ Queensland Government, submission 5.

²¹¹ Queensland Government, submission 5.

²¹² Queensland Government, submission 5.

²¹³ Queensland Government, submission 5.

²¹⁴ Queensland Government, submission 5.

and bioenergy opportunities are process innovations to better tailor, adopt and utilise new and existing technologies that will liberate feedstock for the production of bio-products.²¹⁵

ASM advised the committee that Australian sugar manufacturing cannot afford to simply reinvest in equipment and industrial processes like for like, and that the sector needs to adopt technologies and innovative processes that will provide a step change in productivity for the capital that can be invested and support diversification of revenue streams. It stated:

*This is the core R&D activity needed. It is foolhardy to suggest Australia, let alone the sugar industry, should spend limited R&D funding on technology development, where global developments will likely overtake our endeavours. It would be more prudent to focus on technology adoption, and process innovation that is closer to the coalface of commercialisation.*²¹⁶

Stakeholders also identified a range of broader research priorities across the sugar supply chain. These included developing high-biomass sugarcane varieties, improving mill energy efficiency to free up by-products such as bagasse, supporting pilot and demonstration-scale bioenergy projects, improving the efficiency of feedstock collection systems, and developing broader biomanufacturing futures.

Evidence also pointed to opportunities to explore emerging technologies and new value chains that utilise sugarcane or its by-products as feedstock, including Alcohol-to-Jet pathways, precision fermentation and power-to-liquid technologies. Stakeholders emphasised that continued collaboration between industry, research providers and government will be essential to support these opportunities and position Queensland's sugar industry to participate in emerging global bioeconomy markets.²¹⁷

8.4. Queensland Government current R&D focus

In their response to submissions, the Queensland Government drew the committee's attention to R&D funding relevant to the sugarcane industry. It noted that SRA undertakes research projects focused on sugar manufacturing and industry productivity. SRA's activities are funded through levies paid by both cane growers and millers, which are matched by the Australian Government.²¹⁸

The Queensland Government further advised that DPI supports research projects that aim to increase productivity and innovation across the sugarcane industry, particularly where market failure may limit private investment in research.²¹⁹

Examples of collaborative research supported through these programs include projects examining biorefineries for higher-value fuels, chemicals and animal feeds, the

²¹⁵ ASM, submission 16.

²¹⁶ ASM, submission 16, p 23.

²¹⁷ See for example: GW3, submission 7; ASM, submission 16; Bioenergy Australia, submission 20; QFF, submission 34.

²¹⁸ Queensland Government, correspondence, 12 November 2025.

²¹⁹ Queensland Government, correspondence, 12 November 2025.

development of diversification roadmaps for the sugar sector, and the application of machine learning and digital technologies to improve cane supply chain logistics and milling operations.²²⁰

The Queensland Government also noted that broader innovation activities are supported through national mechanisms such as the Australian Government's R&D Tax Incentive, which assists manufacturers in developing and adopting new technologies.²²¹

8.5. Micro-algae study example

The sugar industry remains heavily dependent on diesel-powered equipment, including harvesters, haulage vehicles, cane trains and farm machinery used to grow, harvest and transport cane. Diesel is also required for transport logistics and milling operations across the supply chain.

Isis Central Sugar Mill (ICSM) and Wide Bay Pacific Pty Ltd recently completed a feasibility study funded by SRA examining the potential to use sugar mill waste streams to cultivate micro-algae as a supplemental income source. They stated that the project responds to environmental and economic pressures facing the industry, particularly the sustainability, cost and reliability of diesel fuel used in harvesting, transport and milling operations.²²² Wide Bay Pacific Pty Ltd argued in its submission that electrification or hydrogen conversion of existing equipment would be prohibitively expensive, stating:

*It is not feasible to re-capitalise all of this equipment for another fuel source e.g. by going electric or hydrogen. The cost of electrification would be far in excess of what the industry could afford. Renewable diesel has been shown to be a sustainable and feasible substitute to enable the operation of these reliable diesel engines used for producing, harvesting, transporting and processing the crop.*²²³

8.5.1. Summary of the study

The project proposes cultivating micro-algae using mill waste streams, including nutrient-rich wastewater and carbon dioxide from flue gas.²²⁴ Integrating algae production on-site could reduce nutrient discharge into waterways, utilise CO₂ emissions and create new revenue streams.

At ICSM, more than two megalitres of nutrient-rich wastewater are produced weekly during the crushing season. The SRA study demonstrated that this wastewater could support low-cost algae cultivation while reducing nutrient loads to meet environmental discharge standards.

Micro-algae species such as *Chlorella*, *Spirulina* and *Euglena* can initially be grown for nutraceutical markets, with algae lipids later converted into renewable diesel or SAF

²²⁰ Queensland Government, correspondence, 12 November 2025.

²²¹ Queensland Government, correspondence, 12 November 2025.

²²² Wide Bay Pacific Pty Ltd, submission 15.

²²³ Wide Bay Pacific Pty Ltd, submission 15, p 1.

²²⁴ Wide Bay Pacific Pty Ltd, submission 15.

through processes such as hydrothermal liquefaction and hydrotreatment. Co-location with sugar mills improves economic viability by allowing projects to use flue gas emissions rather than purchased CO₂.

Across Australia, around 34 million tonnes of cane are processed each season. Transport alone requires an estimated 37.4 million litres of diesel, costing nearly \$60 million annually. Producing renewable diesel locally near the country's 22 sugar mills could reduce reliance on imported fuels. Current micro-algae systems can yield roughly 14,000 litres per hectare annually. For ICSM, renewable diesel for harvesting could be produced from approximately 117 hectares of ponds, worth around \$2.4 million per year.²²⁵

Committee comment



The Sugar Research Australia-funded study indicates that sugar mills may be able to convert waste streams into renewable fuels and high-value bio-products without disrupting core sugar production. This approach could provide environmental benefits through improved waste management and carbon utilisation, while strengthening the long-term economic sustainability of the industry.

The submission from Sugar Research Australia that algae production facilities are already operating internationally. The feasibility study estimated that a 10-hectare pilot facility could be established for approximately \$4 million, with revenue from early production contributing to the potential expansion to a larger 105-hectare operation.

While further analysis would be required, including detailed life-cycle, energy balance and techno-economic assessments, the committee considers that the concept warrants further investigation. Investment in such projects may align with existing net-zero funding mechanisms, and a staged approach focusing initially on high-value nutraceutical products could support future expansion into larger-scale fuel production.



Recommendation 10

The committee recommends that the Queensland Government co-invest with industry and the Australian Government to strengthen research and development capability in advanced sugar manufacturing.

²²⁵ Wide Bay Pacific Pty Ltd, submission 15.

9. Strategic land use and regional development considerations affecting cane growing and sugar manufacturing capacity (TOR 6)

9.1. Loss of cane land

QFF drew the committee's attention to a trend of declining cane land due to displacement by urbanisation, the planting of other crops and renewable energy projects.²²⁶ The committee heard how, in southern regions such as Bundaberg, Wide Bay and Maryborough, high-value permanent crops, such as macadamias and avocados, are increasingly competing with sugarcane for arable land.²²⁷ Unlike annual crops, tree plantations typically occupy land for 20 years or more, limiting flexibility for cane rotations and reducing the overall land base available for sugar production. In some cases, these transitions appear to be driven more by the prospect of capital gains in land value than by a long-term commitment to production agriculture that supports integrated supply chains.²²⁸

QCAR described significant competition for land and industry fragmentation, emphasising that numerous proponents approach growers but 'we need to start pulling it together and developing a strategy and a plan for this state and this country'.²²⁹

GW3 stated that there are challenges in terms of 'how we strategically plan residential growth along with the demands of agriculture' and suggested that future planning will be required to find the right balance between industry and population growth.²³⁰

9.2. Irrigation

QFF noted that water security and irrigation dependency are also central to the long-term viability of sugarcane production. In particular, southern growing areas rely heavily on supplementary irrigation, meaning that changes in water availability, system efficiency and regulatory settings directly affect farm management decisions and profitability.²³¹

Townsville Enterprise stated that developing water infrastructure was the most important investment priority, noting that this would 'unlock thousands of hectares of land' for cane supply to meet future demand.²³²

9.3. Regional plans

Stakeholders commented on the importance of regional plans. Canegrowers advocated for a greater focus on agricultural land in regional plans. It noted that agricultural land was being considered as what is left over after other issues such as infrastructure and urbanisation have been considered.²³³ Canegrowers lauded the government's

²²⁶ QFF, submission 34.

²²⁷ QFF, submission 34.

²²⁸ QFF, submission 34.

²²⁹ QCAR, public hearing transcript, Brisbane, 19 November 2025, p 33.

²³⁰ GWC, public hearing transcript, Mackay, 9 September 2025, p 5.

²³¹ QFF, submission 34.

²³² Townsville Enterprise, public hearing transcript, Townsville, 10 September 2025, p 12.

²³³ Canegrowers, public hearing transcript, Brisbane, 11 February 2026, p 10.

commitment to reviewing regional plans. However, it noted that he would like regional plans to facilitate the capacity for the sugar industry to pre-empt issues. It stated that this lack of consideration of agricultural issues in regional plans has impacted the ability of Canegrowers to inform millers that land use issues may result in a risk to the future viability of a local mill.²³⁴

Canegrowers stated that, if growers understand the state of urbanisation in their region, they will know where they are heading and be able to plan for the future.²³⁵ Without this understanding, growers will only know only that, in one year or another, the industry may reach a tipping point that will result in the collapse of the local sugar industry.²³⁶ Canegrowers drew the committee's attention to Rocky Point as one milling region that could benefit from this greater strategic understanding in relation to land use.²³⁷ It noted that sugarcane can be grown in marginal land where other economic activity is not viable.²³⁸

9.4. Land tenure arrangements and fragmentation

An issue that came to the committee's attention in the course of the inquiry was that of land tenure and the fragmentation of cane land.²³⁹ The committee heard from several stakeholders that lifestyle or hobby blocks are being purchased by 'blockies', and areas of cane land being taken out of production.²⁴⁰

Canegrowers Mackay stated that rising land values are increasing council rates for growers, which may reduce the availability of productive cane land.²⁴¹ It noted that the biggest threat to cane land is 'cashed up miners' who are 'buying 100-acre cane farms to run 10 cows on because they like doing it'.²⁴²

One witness pointed to an example near Pleystowe Mill at Rosewood Plains, where approximately 50 acres of high-quality cane land had been converted into a rural lifestyle property with only a small number of cattle. The witness argued that the underlying cause of this fragmentation is the declining economic viability of sugarcane production, stating that farmers are selling their land because they are no longer able to make a sufficient return from growing cane.²⁴³ Evidence was also provided that Australia's total sugarcane area has declined significantly over the past two decades, from approximately 438,000

²³⁴ Canegrowers, public hearing transcript, Brisbane, 11 February 2026, p 10.

²³⁵ Canegrowers, public hearing transcript, Brisbane, 11 February 2026, p 10.

²³⁶ Canegrowers, public hearing transcript, Brisbane, 11 February 2026, pp 10-11.

²³⁷ Canegrowers, public hearing transcript, Brisbane, 11 February 2026, p 11.

²³⁸ Canegrowers, public hearing transcript, Brisbane, 11 February 2026, p 11.

²³⁹ RDA-GWR, submission 9; Canegrowers Mackay, Public hearing transcript, Mackay, 9 September 2025, pp 7-12.

²⁴⁰ RDA-GWR, submission 9.

²⁴¹ Canegrowers Mackay, public hearing transcript, Mackay, 9 September 2025, pp 11, 19.

²⁴² Canegrowers Mackay, public hearing transcript, Mackay, 9 September 2025, p 19.

²⁴³ Graham Townsend, Townsend Industries, public hearing transcript, Mackay, 9 September 2025, p 23.

hectares in 2000 to around 327,000 hectares today.²⁴⁴ The committee heard that similar conversions are occurring across cane-growing regions as farmers exit the industry.

However, ‘blockies’ were not viewed as a problem by all stakeholders. The Burdekin Shire Mayor stated that she does not like to see farms being used for anything other than agriculture, but said that the Burdekin has ‘relatively enough land’ to facilitate ‘blockies’.²⁴⁵ Sky Renewables similarly noted that ‘there is no shortage of unused land in the Burdekin Shire which can be converted to cane farms’.²⁴⁶

Committee comment



The committee notes evidence from stakeholders regarding pressures on sugarcane land arising from urban expansion, competing agricultural uses and the fragmentation of cane farms into smaller lifestyle holdings. These trends, combined with rising land values and increasing production costs, may reduce the long-term availability of cane supply.

Stakeholders also highlighted the importance of regional planning frameworks in balancing agricultural land use with population growth and infrastructure development. Evidence to the committee suggested that greater recognition of agricultural production in regional plans may assist the industry to anticipate land use changes and manage risks to the long-term viability of sugarcane farming and milling in some regions.

The committee further acknowledges evidence regarding the importance of water security and irrigation infrastructure for the ongoing viability of cane production. A coordinated approach involving government agencies, Government Owned Corporations and industry partners could support irrigation modernisation and improved water management technologies, enhancing water-use efficiency and helping maintain yields in the context of increasing pressure on water availability.

The committee also notes stakeholder concerns regarding climate variability and land tenure arrangements. The Queensland Farmers’ Federation indicated that projected changes in rainfall patterns may increase the risk of yield variability in some regions. In this context, stakeholders emphasised that land use planning incorporating climate adaptation measures, together with consideration of land tenure arrangements and industry fragmentation, will be important to support the long-term sustainability of sugar production and future diversification opportunities.

²⁴⁴ Graham Townsend, Townsend Industries, public hearing transcript, Mackay, 9 September 2025, p. 23.

²⁴⁵ Burdekin Shire Council, public hearing transcript, Townsville, 10 September 2025, pp 8-9.

²⁴⁶ SKY Renewables, submission 1, p 3.



Recommendation 11

The committee recommends that the Queensland Government examine options to address fragmentation across sugarcane farming entities, including land tenure and structural arrangements that support more efficient industry scale.

10. Benefits for growers in diversification opportunities (TOR 7)

Many submitters framed diversification as key to the survival of the industry, as a way of providing benefits to both millers and growers, and as a way of addressing economic and power imbalances between millers and growers.²⁴⁷

However, submitters such as AgForce outlined the balance that must be struck in grower diversification and the preservation of crystal sugar production. It recommended that sugar production must remain a long-term core business strategy of the milling sector, with diversification into biofuels complementing, not displacing, existing raw sugar manufacturing, rather, aiming for increased value per hectare in line with emerging demand.²⁴⁸ When considering the best pathway forward, AgForce considered that the better utilisation of bagasse would align with the *Sugar Plus Roadmap* objectives and the existing sugarcane business model. It identified the cogeneration of electricity from bagasse as the most promising pathway forward, offering the most synergies, leverage, and economic value to parties and benefits to regional communities.²⁴⁹ However, it noted that diversification is only achievable providing it is underpinned by supportive policy levers and by modernising all mills, which will deliver more efficient sugarcane processing into crystal sugar, while enabling diversification of production into co-generation of electricity or biofuels.²⁵⁰

Canegrowers stated that the future viability of the sugarcane industry depends on diversification beyond the production of raw sugar, and argued that an enduring, large-scale biofuels industry would support this transition.²⁵¹ Regarding the importance of diversification, Canegrowers stated:

*The sugarcane crop is a long crop. It is a minimum five-year crop from when you plant it. It is not like a horticulture crop or a brief crop where you change your mind in 90 days and grow something else. Once you are committed, you are committed. Therefore, you need to have a system whereby you do not have to rely on the world sugar price.*²⁵²

²⁴⁷ GW3, submission 7, p 4.

²⁴⁸ AgForce, submission 24, p 9.

²⁴⁹ AgForce, submission 24, p 10.

²⁵⁰ AgForce, submission 24, p 10.

²⁵¹ Canegrowers, public hearing transcript, Townsville, 10 September 2025, p 20.

²⁵² Canegrowers, public hearing transcript, Townsville, 10 September 2025, p 23.

Wilmar noted that diversification is essential to protect against market pressures and improve industry resilience.²⁵³ It stated that ‘bioenergy offers the opportunity to extend the viability of Australia’s sugar industry for generations to come’.²⁵⁴ It noted that bioenergy is not new to the sugar industry, with every sugar factory generating electricity. It stated that cane growers will benefit from more resilient regional supply chains underpinning the viability of sugar mills and provide potential revenue diversification opportunities for growers.²⁵⁵

RDA-GWR similarly stated that, while sugar would continue to play a role in the industry, diversification into higher-value products could strengthen long-term viability.²⁵⁶ It argued that Queensland has much of the framework needed to harness sugarcane bioenergy:

*We would be fools not to capture this opportunity ... the launch pad for the rocket is here. The infrastructure is here. The growers are here. The cane is here. The mills are here. The port and the terminals are here. The biosecurity arrangements are here. The research and development is here. The water schemes are here. The opportunities are basically unlimited. We are not building industries from the ground floor up. To a large extent, we are almost there.*²⁵⁷

Canegrowers noted that the opportunities around bioenergy, particularly LCLFs and cogeneration, is a unifying point in the industry.²⁵⁸

10.1. Grower and miller power imbalances

The nature of the sugarcane industry means there is a tension between growers and millers. Growers are structurally dependent on local mills due to the perishability of sugarcane and the regionally monopolistic nature of milling infrastructure, which gives millers greater bargaining power.²⁵⁹ QSL observed that the sugar milling sector can be characterised as one of limited competition. The small number and geographic distribution of mills mean most growers have no practical alternative but to supply their local mill.²⁶⁰

QSL suggested that this structure would likely extend to bioenergy and other products developed through existing mill infrastructure.²⁶¹ It argued that safeguards are needed to ensure growers receive a fair share of revenue from emerging industries and that benefits are not captured solely by millers at the expense of sugar returns. It suggested that lessons from Marketing Choice should inform new frameworks, such as transparent

²⁵³ Wilmar, public hearing transcript, Brisbane, 11 February 2026, p 2.

²⁵⁴ Wilmar, public hearing transcript, Brisbane, 11 February 2026, p 2.

²⁵⁵ Wilmar, public hearing transcript, Brisbane, 11 February 2026, p 2.

²⁵⁶ RDA-GWR, public hearing transcript, Mackay, 9 September 2025, p 13.

²⁵⁷ RDA-GWR, public hearing transcript, Mackay, 9 September 2025, p 18.

²⁵⁸ Canegrowers, public hearing transcript, Brisbane, 11 February 2026, p 11.

²⁵⁹ Kalamia Cane Growers Organisation Limited, submission 27, p 7; W Griffin, ‘Mill pay dispute costing farming families millions’, Canegrowers, 22 July 2024, <https://www.canegrowers.com.au/news-media/media-releases/mill-pay-dispute-costing-farming-families-millions>.

²⁶⁰ QSL, submission 39.

²⁶¹ QSL, submission 39.

marketing and price pooling models for bagasse and bioenergy or linking grower remuneration for new products to the sugar price as an external benchmark.²⁶²

AgForce suggested that the investment of public funds should be conditional on producer benefit, noting that ‘sugarcane manufacturers and producers have an intertwined relationship; producers (and communities) must directly share in the value of any publicly supported investment to manufacturing sector, for the benefit of improved producer and miller relationships’.²⁶³ Canegrowers similarly noted this intertwined relationship, stating that, while it was not unusual in any industry for there to be commercial and political tensions between processors and farmers, the industry is in agreement that what they need is a commercially viable and profitable sugar milling sector, ‘otherwise we just have big patches of grass’.²⁶⁴

10.2. Sharing benefits with growers

QSL outlined the payment arrangements that govern the relationship between cane growers and millers in Queensland. Unlike many agricultural production systems, growers do not sell their cane directly for an immediate payment. Instead, growers enter into Cane Supply Agreements with their local miller and receive a share of the sugar produced from their cane. This arrangement is governed by the Cane Price Formula, which has formed the basis of cane payment arrangements in Queensland since the early 1900s.²⁶⁵

Under this system, grower payments are determined by the price achieved for raw sugar and the sugar content of the cane supplied. QSL explained that the formula effectively allocates the first four units of sugar produced from cane to the miller, with growers holding price exposure for the remaining sugar produced from their cane. Growers may nominate a sugar marketer to determine the pricing mechanism used to set the sugar price.²⁶⁶

QSL emphasised that this pricing arrangement applies only to the raw sugar crystal produced from the cane. The submission noted that ‘the grower only receives payment for the raw sugar crystal generated from their cane’, and that any additional revenue associated with non-sugar products sits outside the Cane Price Formula and must be negotiated separately. Its submission further noted that payments for non-sugar products are not consistently provided across the industry, with some growers receiving no additional revenue for by-products derived from their cane, including molasses and cogeneration. QSL therefore argued that it is ‘imperative and appropriate that growers be fairly compensated for bioenergy and other products which may be derived from their cane outside the Cane Price Formula’. QSL suggested that failure to ensure appropriate compensation could act as a barrier to grower support for diversification and may

²⁶² QSL, submission 39.

²⁶³ AgForce, submission 24, p 9.

²⁶⁴ Canegrowers, public hearing transcript, Brisbane, 11 February 2026, p 11.

²⁶⁵ QSL submission 39.

²⁶⁶ QSL submission 39.

incentivise millers to prioritise non-sugar products at the expense of sugar production and grower returns.²⁶⁷

Committee comment



The committee notes the concerns raised by grower representatives regarding the balance of commercial power between growers and millers within the sugar supply chain. Evidence provided to the inquiry indicated that growers are often price takers in global sugar markets and have limited ability to influence the terms under which their cane is processed and marketed.

The committee acknowledges that the development of a sugarcane bioenergy industry may introduce new commercial arrangements between growers, millers and other investors. While the committee recognises the importance of attracting investment in mill infrastructure and downstream processing, it also notes the concerns expressed by growers that diversification opportunities should deliver tangible benefits across the entire supply chain.

The committee considers that maintaining confidence among cane growers will be essential to ensuring a reliable supply of feedstock for any future bioenergy industry.



Recommendation 12

The committee recommends that the Queensland Government consider policy settings that promote transparent negotiations and fair commercial outcomes between cane growers and millers in the development of sugarcane bioenergy projects.

11. Consideration of food versus fuel (TOR 8)

The ‘food versus fuel’ debate, which questions whether agricultural resources should be directed towards producing food or biofuels, is often raised in discussions about ethanol production. It has been argued that increased demand for biofuel feedstocks displaces food crops, leading to increased global food prices as well as environmental harm.²⁶⁸

²⁶⁷ QSL submission 39, p 3.

²⁶⁸ DJ Tenenbaum, ‘Food vs. fuel: diversion of crops could cause more hunger’, *Environmental health perspectives* Vol. 116(6), 2008: pp. 254-7.

11.1. Australia's context

Australia ranks among the world's most food-secure nations and is a substantial net food exporter.²⁶⁹ Wilmar stated that, the 'food versus fuel' issue is not a significant concern in the Australian sugar industry context:

*Australia exports approximately 80% of its sugar production, with these exports accounting for less than 2% of global sugar output. This means domestic demand for sugar is easily met and there is ample surplus available for alternative uses such as ethanol manufacture. As a result, increasing ethanol production from sugarcane would not compromise food security or limit the availability of sugar for local consumption.*²⁷⁰

In 2023, the Australian Government supported development of the *Australian Sustainable Finance Taxonomy* to help direct public and private investment toward net zero-aligned activities and strengthen participation in global low-carbon markets.²⁷¹ The taxonomy sets sustainability criteria for sectors including biofuels and biogas, incorporating safeguards on land use and land use change, protection of high-biodiversity and high-carbon-stock areas, and the inclusion of indirect land use change in lifecycle emissions assessments.

The 2025–26 Federal Budget also committed to developing a National Food Security Strategy, which is expected to consider how expansion of biofuels feedstock production may interact with domestic agriculture.²⁷²

While Australia is well placed from a food security perspective, demand for agricultural feedstock is likely to increase as the biofuels sector grows. Producers will respond to market signals, making robust sustainability certification and accurate lifecycle emissions accounting critical to market access and pricing. In this context, improvements in crop yields, better use of rotational and fallow land, and greater utilisation of by-products such as bagasse are likely to be prioritised to support both biofuel production and food security outcomes.²⁷³

11.2. Displacement of crystal sugar production

Stakeholders generally advised the committee that the development of a sugarcane bioenergy industry in Queensland would not displace crystal sugar production. Sugar remains the most valuable product produced by mills, and many proposed bioenergy pathways utilise by-products such as bagasse, molasses, cane tops and trash rather than diverting sugar from existing production.²⁷⁴

²⁶⁹ ABARES, 'Australian food security and the Covid-19 pandemic', report, 2022, <https://www.agriculture.gov.au/abares/products/insights/australian-food-security-and-COVID-19>.

²⁷⁰ Wilmar, submission 22, p 10.

²⁷¹ Australian Sustainable Finance Institute *Australian Sustainable Finance Taxonomy* Version 1 2025; Queensland Government, submission 5.

²⁷² Queensland Government, submission 5.

²⁷³ Queensland Government, submission 5.

²⁷⁴ SKY Renewables Ltd, submission 1; AgForce, submission 24.

Several stakeholders emphasised that diversification should complement, rather than replace, the production of crystal sugar. AgForce noted that the greatest diversification opportunities arise from utilising sugarcane by-products rather than diverting sugar itself, allowing the industry to pursue additional revenue streams ‘without compromising food security or impacting our existing sugarcane export industry’.²⁷⁵

QCAR explicitly linked bioenergy expansion with the need to expand, rather than divert, cane production. It stated the industry’s objective is ‘not displacing sugar production but expanding sugarcane production to feed into the bioenergy industry’.²⁷⁶ QCAR noted that canefarmers would not walk away from producing sugar just to produce ethanol.²⁷⁷ QSL echoed this sentiment, stating:

*Despite the challenges in a volatile market, raw sugar production offers Queensland producers a valuable proposition beyond just price that to this point it is difficult for other sugarcane products to surpass.*²⁷⁸

Burdekin Renewable Fuels (BRF) stated that it does not anticipate that a sugarcane bioenergy industry would displace the production of crystal sugar, noting that ‘sugar is still a very valuable part of the crop and we should keep making sugar’.²⁷⁹ In relation to the future development of new sugarcane crop varieties, BRF stated that ‘we have to try and find a happy medium: a crop that can produce good amounts of sugar with biomass as well’.²⁸⁰

Some project proponents similarly highlighted that bioenergy initiatives can operate without reducing sugar production. SKY Renewables, for example, supported the development of a sugarcane-based bioenergy industry in Queensland, highlighting significant economic, environmental, and regional development benefits. Its submission centred on Project Lion, a proposed export-focused bioenergy project in the Burdekin Shire. The project would process sugarcane tops and trash (currently burned as agricultural waste) into biomass briquettes, convert them into renewable natural gas, and export the product to gas-reliant Asian markets. SKY Renewables stated that Project Lion does not create a ‘food versus fuel’ conflict, as it uses agricultural waste rather than reducing crystal sugar production.²⁸¹

However, several stakeholders cautioned that the expansion of bioenergy should be carefully managed to avoid unintended impacts on food production. AgForce argued that crystal sugar manufacturing should remain a core function of the milling sector, with diversification aimed at increasing value per hectare rather than replacing existing production.²⁸² Similarly, QFF highlighted the need to safeguard the ‘right to farm’, noting

²⁷⁵ AgForce, submission 24, p 21.

²⁷⁶ QCAR, public hearing transcript, Brisbane, 19 November 2025, p 33.

²⁷⁷ QCAR, public hearing transcript, Brisbane, 19 November 2025, p 33.

²⁷⁸ QSL, public hearing transcript, Brisbane, 19 November 2025, p 7.

²⁷⁹ BRF, public hearing transcript, Townsville, 10 September 2025, p 3.

²⁸⁰ BRF, public hearing transcript, Townsville, 10 September 2025, p 3.

²⁸¹ SKY Renewables, submission 1.

²⁸² AgForce, submission 24.

that future bioenergy development should ensure agricultural land, labour and resources remain available for food production and that land-use planning and supply chain impacts are carefully considered.²⁸³

Overall, evidence to the committee suggested that most stakeholders view bioenergy as a complementary opportunity that could strengthen the economic resilience of the sugar industry while maintaining crystal sugar production as its core activity.

Committee comment



The committee notes that sugarcane occupies a relatively small proportion of Australia's total arable land base. As such, the expansion of biofuel production from sugarcane is unlikely to pose a significant risk to domestic food availability. The committee further observes that Australia is a major exporter of both grain and sugar, and that decisions regarding the allocation of agricultural production between food and energy markets must be considered within the broader context of global commodity markets and Australia's role as an export-oriented agricultural producer.

²⁸³ QFF, submission 34, p 10.

Appendix A – Submitters

<i>Sub No.</i>	<i>Name / Organisation</i>
1	SKY Renewables Ltd
2	Institute of Automotive Mechanical Engineers
3	Canegrowers Burdekin
4	Burdekin Renewable Fuels
5	Queensland Government
6	MicroBioGen
7	Greater Whitsunday Alliance
8	Burdekin Shire Council
9	Regional Development Australia – Greater Whitsunday Region
10	Isis Central Sugar Mill Company Ltd
11	Bowen Pipeline Company Pty Ltd
12	Mackay Sugar Ltd
13	Mackay Regional Council
14	GrainCorp
15	Wide Bay Pacific Pty Ltd
16	Australian Sugar Manufacturers
17	Townsville Enterprise Ltd
18	Queensland University of Technology Centre for Agriculture and the Bioeconomy
19	Confidential
20	Bioenergy Australia
21	LanzaJet Inc
22	Wilmar Sugar and Renewables

- 23** Royal Automobile Club of Queensland
- 24** AgForce Queensland Farmers Ltd
- 25** Mio Ag and Co
- 26** Licella
- 27** Kalamia Cane Growers Organisation Limited
- 28** Brisbane Airport Corporation
- 29** Whitsunday Regional Council
- 30** Nufarm
- 31** Australian Gas Infrastructure Group
- 32** Gas Energy Australia
- 33** Carlie Sommers
- 34** Queensland Farmers' Federation
- 35** Queensland Cane Agriculture and Renewables Ltd
- 36** Canegrowers Burdekin Ltd
- 37** JetZero Australia Pty Ltd
- 38** Queensland Canegrowers Organisation
- 39** Queensland Sugar Limited
- 40** Confidential
- 41** Jemena
- 42** Business Chamber Queensland

Appendix B – Public Briefing, Brisbane, 19 November 2025

Department of Primary Industries

Graeme Bolton Director-General

Ashley Bacon Deputy Director-General, Agriculture

Queensland Treasury

Mark Stone Executive Director, Gas and Sustainable Fuels

Shaun Legatte Executive Director, Strategy, National, Analytics, Transmission
& Programs, and Supply & Storage

Paul Walsh Director, Future Fuels

Department of State Development, Infrastructure and Planning

Shaun Ferris Deputy Director – General, State Development

Joanne Paterson Director, Biofuels, Emerging Industries, State Development
Group

Appendix C – Public Hearing, Mackay, 9 September 2025

CANEGROWERS - Mackay

Joseph Borg Chairman
Brett Leach Deputy Chairman

CANEGROWERS - Proserpine

Glenn Clarke Chairman

Greater Whitsunday Alliance

Kylie Porter Chief Executive Officer

Eton Irrigation

Austin Evans General Manager

Regional Development Australia - Greater Whitsundays Region

Robert Cocco Chief Executive Officer
Stephen Cutting Deputy Chair
Paul Schembri Committee Member

Townsend Industries

Graham Townsend Proprietor

Appendix D – Public Hearing, Townsville, 10 September 2025

Individuals

Nick Dametto, Member for Hinchinbrook

Please note: Mr Dametto resigned from Queensland Parliament on 13 October 2025

Robert Lyon, cane grower

Organisations

Burdekin Renewable Fuels

Greg Rossato	Chairman
Philip Marano	Director
Richard Wall	Deputy Director

Burdekin Shire Council

Pierina Dalle Cort	Mayor
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CANEGROWERS

Owen Menkens	Chairman
Gregory Watson	Manager (Burdekin)

Hinchinbrook Shire Council

Ramon Jayo	Mayor
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KALGROW

Allan Parker	Manager
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Queensland Cane Agriculture and Renewables

Cy Kovocich	Deputy Chairman (Burdekin)
Michael Kern	Chief Strategy Officer
Lawrence Di Bella	District Manager (Herbert)

Townsville Enterprise

Chris McDougall	Director, Regional Development and Investment
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Appendix E – Public Hearing, Brisbane, 19 November 2025

Australian Sugar Manufacturers

Ash Salardini Chief Executive Officer

Institute of Automotive Mechanical Engineers

Peter Blanshard Chief Executive Officer

JetZero

Ed Mason Chief Executive Officer

Adam Douglas Industrial Manager

Licella Holdings Limited

Andrea Polson General Manager

LMS Energy

Mark Jonker Chief Strategy Officer

Jarrod Irving General Manager

Queensland Cane Agriculture and Renewables

Michael Kern Chief Strategy Officer

Lawrence Di Bella District Manager – Herbert

Robert Carey Herbert District Committee Member

Queensland Sugar Limited

Mark Hampson Chief Executive Officer

Queensland University of Technology

Ian O'Hara Deputy Dean, Faculty of Engineering

Darryn Rackemann Faculty of Engineering and Research Program Leader in
Centre for Agriculture and the Bioeconomy

Royal Automobile Club of Queensland

Ian Jeffreys Principal Economic and Affordability Specialist

Andrew Kirk Principal Technical Researcher

Wide Bay Pacific

Clive Keenan Managing Director

Appendix F – Public Hearing, Brisbane, 11 February 2026

Australian Sugar Manufacturers

Ash Salardini Chief Executive Officer

Wilmar Sugar and Renewables

Shayne Rutherford Chief Executive Officer

Mackay Sugar Limited

Carl Morton Chief Executive Officer

CANEGROWERS

Dan Galligan Chief Executive Officer

Owen Menkens Chairman

Statement of Reservation



Statement of Reservation

Primary Industries and
Resources Committee

Inquiry into Sugarcane Bioenergy
Opportunities in Queensland





Acknowledgment of Country

We acknowledge the Traditional Owners of the lands, seas, skies and waterways from across Queensland.

We pay our respect to the Elders, past, present and emerging, for they hold the memories, traditions, the culture and hopes of Aboriginal peoples and Torres Strait Islander peoples.

This artwork by The Hon LEEANNE ENOCH MP is called "The Power of Many" from her "Connections" series. It represents the paths we take to reach our goals and the many important and often powerful connections we make with each other along the way.

Queensland Labor Opposition

The Queensland Labor Opposition believes the report's recommendations represent a missed opportunity.

Given the current disruptions to global energy markets that mean we can no longer rely on easy access to energy, this could have been an opportunity to take meaningful action and build on Queensland's capacity to deliver fuel security.

Instead, the report's recommendations do not go far enough.

They fail to provide any meaningful reorientation for state government action and fail to consider how our state can protect our fuel security. In that respect, this is not a plan. This is a continuation of a clear pattern that stakeholders have been pleading with the Crisafulli LNP Government to end.

The parliamentary committee has now spent nine months to come back with recommendations for the government to "advocate" and "explore".

Not one recommendation commits to financial investment, a measurable target or a delivery date. Canegrowers have stated plainly to the committee that "*if [the inquiry] is just about doing more investigations and taking no action, we will be really disappointed*".

The LNP-dominated parliamentary committee's report has disappointed them.

In the opinion of the Queensland Labor Opposition, what the committee's recommendations demonstrate is that the Crisafulli LNP Government intends to avoid dealing with the issue and delay it indefinitely; and not deliver any meaningful outcomes for Queensland.

This is made clear by the LNP-dominated parliamentary committee's deflection of responsibility to the Australian Government, with recommendations 1, 5 and 7 all requiring "advocating" or "collaborating" with the Australian Government to establish a "national" policy roll-out to achieve outcomes.

While Commonwealth-State collaboration on bioenergy policy is undoubtedly desirable, the consistent recommendation of advocacy rather than action raises serious questions about the Crisafulli LNP Government's willingness to exercise its own jurisdiction.

Queensland has a \$180.6 million Sovereign Industry Development Fund. The report's own committee comment acknowledges that this fund "*refers only to 'exploration' of biofuels rather than commitment to investment.*" It further acknowledges that the Queensland Energy Roadmap, the government's principal energy policy document, "*largely focused on coal assets, transmission infrastructure, and renewables such as solar and batteries, with ... no dedicated allocation for agricultural bioenergy.*"

These observations, which is noted are buried in committee comment rather than elevated to decisive recommendations, amount to a concession that the Crisafulli LNP Government's own policy framework is inadequate to the task. This was evident during the committee hearings process, when questioning by Queensland Labor Oppositions members of the committee revealed that the Crisafulli LNP Government failed to consult any sugarcane growers or stakeholders in producing the Queensland Energy Roadmap.

And yet the LNP-dominated parliament committee's remedy is not to fix that framework. The LNP-dominated parliamentary committee's remedy is to recommend that the Crisafulli LNP Government talk to Canberra about it.

The Queensland Labor Opposition believes that Queensland should lead on sugarcane bioenergy and not wait for our Commonwealth counterparts. State Government holds the relevant levers to drive real outcomes. We call on the Crisafulli LNP Government to use them.

Queensland Labor Opposition

Adding to its list of failures, the report also fails to address, in great detail, an outlined pathway to action for a new tariff for Cane Supply Agreements that would see both growers and mills benefit from co-generation.

This will only leave industry with little confidence that Government members of the committee truly understand how tariff structures can impact the price of supply into the grid and how a Cane Supply Agreements exclusive tariff could drive benefits for millers and lower cost of purchase points for growers.

Tariff structures and cogeneration into the grid was the most consistent point of energy price and supply discussion raised throughout the inquiry, yet this report does little to address real outcomes.

Moreover, the sugar milling infrastructure is deteriorating across Queensland, with the inquiry noting that the Isis Central Sugar Mill is 130 years old, with many of the facilities incapable of the modern energy transition. Without revenue security, the cane rail network upgrade could end up being completely in-viable.

Yet, the LNP-dominated parliamentary committee report completely ignores the evidence, simply stating that the government should “explore mechanisms” to support mill modernisation.

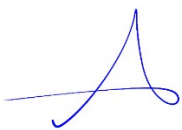
There has been no funding commitment made, or capital expenditure program outlined as the Crisafulli LNP Government fails to act to save jobs, broaden our economy and deliver the fuel and energy security that Queenslanders deserve.

All in all, the Queensland Labor Opposition believes the Crisafulli LNP Government needs to take responsibility for Queenslanders and stop passing the buck.

The Crisafulli LNP Government needs to put their money where their mouth is, or risk proving what Queenslanders already suspect – that the Crisafulli LNP Government is all announcement and no action.



JAMES MARTIN MP
MEMBER FOR STRETTON
DEPUTY CHAIRPERSON OF THE COMMITTEE



TOM SMITH MP
MEMBER FOR BUNDBERG
SHADOW MINISTER FOR PRIMARY INDUSTRIES AND RURAL DEVELOPMENT
SHADOW MINISTER FOR MANUFACTURING

On behalf of the Queensland Labor Opposition