

# QUEENSLAND BIOFUTURES

## 10-Year Roadmap and Action Plan PROGRESS REPORT

Our vision is to build a \$1 billion sustainable and export-oriented industrial biotechnology and bioproducts sector attracting significant international investment and creating regional, high-value and knowledge-intensive jobs.

Launch  
2016



Completion  
2026

## Unite & Recover

In 2016 the Queensland Government embarked on an ambitious journey to develop the biofutures sector and capitalise on Queensland's opportunities for economic development, regional diversification and job creation. The global impact of the COVID-19 pandemic subsequently highlighted vulnerabilities in Australia's food and fuel security and supply chains, accelerating opportunities to develop new and existing bioproducts and biobased industries. The COVID-19 pandemic has also resulted in increased opportunities for local manufacturing. For example, Wilmar BioEthanol in Sarina – Australia's largest manufacturer of sugar-based ethanol – pivoted their business during the pandemic to increase production of pharmaceutical grade ethanol for use in hand sanitisers and disinfectants to meet unprecedented demand. Significant advances in the biofutures sector in the previous four years has seen Queensland's bioeconomy well-positioned to deliver bioenergy, biochemicals, and bioplastics. More companies are adopting bio-friendly solutions to reduce their energy costs, emissions and disposal of waste. That in turn will grow the biofutures sector and create regional jobs and investment. I look forward to continuing the Queensland Government's support of projects with the potential to create jobs, help re-build our economy, improve the state's food and fuel security and contribute to our waste reduction and climate change targets.

**The Honourable Steven Miles MP**  
**DEPUTY PREMIER and MINISTER FOR STATE DEVELOPMENT**



## Case study – Virgin Australia/Gevo, Inc. biofuel trial

An Australian-first trial of sustainable aviation fuel (SAF) was completed at Brisbane Airport in 2019 with an alliance including Gevo, Inc. (US-based biofuel producers), Virgin Australia, Queensland Government, Brisbane Airport Corporation and supply chain partners DB Schenker and Caltex.

The project—which received national and international acclaim—saw four isotainers of Gevo's low-carbon aviation fuel imported from the USA to Queensland where it was blended, certified as Jet A-1 fuel, transported for storage at Brisbane Airport and uplifted by aircraft operating in and out of the port.

During the trial, over one million kilometres were flown by more than 700 domestic and international flights using the SAF mix. With SAF representing a significant opportunity for reducing aviation emissions, the trial paves the way for a longer-term supply of sustainable aviation fuel to all airlines flying into Brisbane's airports, and positions Queensland as a world-leading location for investment in the manufacture and distribution of SAF.



Queensland  
Government

# Achievements under the Queensland Biofutures 10-Year Roadmap and Action Plan

## Strategy 1

Provide direct support for specific industry development initiatives

- 32 projects approved for funding through four biofutures programs, representing the potential for more than \$1.9 billion investment and over 2600 jobs should all projects be realised.
- 10 projects announced under the \$5 million Waste to Biofutures Fund, creating an estimated 94 jobs while investing more than \$26 million into Queensland's economy, resulting in innovative, scalable waste processing technologies that can be deployed statewide, particularly in regional Queensland.
- Four biofutures research projects approved under the Advance Queensland Research Fellowships program.
- Attracted Southern Oil Refining's \$25 million Northern Oil Advanced Biofuels Pilot Plant to Gladstone in 2017, a catalytic step towards securing a large-scale advanced biofuels industry in Queensland.
- Delivered Australia's first sustainable aviation fuel and 100 per cent renewable diesel trials through the Virgin Australia/Gevo, Inc. sustainable aviation fuel trial at Brisbane Airport and the Southern Oil Refining/Scania heavy-industry vehicle renewable diesel trial in Gladstone.
- Allocated \$1 million towards development of a business case for a Future Foods BioHub in Mackay and launched an investment prospectus and webinar. The BioHub will be industry led, leverage existing agricultural strengths and position the region at the forefront of the future foods revolution.
- Continued to engage with Queensland's biofuel producers such as Wilmar BioEthanol to develop Queensland's biofuel and bioproducts industry and secure a pipeline of renewable products to meet consumer and industry demand.

## Strategy 2

Identify and promote the opportunities available for investment in Queensland

- Queensland was the first state to attend the annual BIO World Congress on Industrial Biotechnology (now called BIO IMPACT) in the USA and has attended the event for 10 consecutive years to promote Queensland as a biofutures investment destination.
- Sponsored a range of key industry events including the 2020 Bio-based Aviation and Marine Fuels Summit in Gladstone and Bioenergy Australia's 20th Annual Conference in Brisbane in 2019, which attracted more than 300 national and global investors, researchers and bioenergy producers.
- Appointed Professor Ian O'Hara as the Biofutures Industry Envoy to raise the profile of Queensland as an investment destination.
- Appointed an Adjunct Professor Chris Tindal as Queensland's Strategic Biofutures Advisor to help connect global and domestic stakeholders and identify strategic market opportunities.
- Support continues to be provided on a case-by-case basis to identify opportunities to streamline the development assessment processes.
- Launched the Biomass Dashboard, which provides investors with a simple tool to assess the potential of feedstocks individually or in combinations on a local government area basis across Queensland.

## Strategy 3

Provide strong government leadership to create and maintain an attractive environment for investment

- Queensland was acknowledged as the nation's leader in bioenergy policies in the 'Bioenergy State of the Nation Report' released by KPMG/Bioenergy Australia in November 2018.
- Established a dedicated Biofutures Queensland unit to work across government, industry and research sectors and drive development, investment and R&D in industrial biotech and bioproducts.
- Continued collaboration ensuring holistic and integrated outcomes across Queensland Government priority areas including hydrogen, resource recovery, sustainability, transport, agriculture, industry innovation, renewable and affordable energy and Queensland's transition to a zero carbon economy.
- Queensland became the first jurisdiction globally committing to join the global below50 campaign, supporting the production and use of sustainable biofuels.
- The Queensland Government continues to work in collaboration with other state and national bodies on efforts to align Australian fuel standards with international best practice.
- Introduced a Queensland Biofuels Mandate providing certainty for industry to invest, innovate, create jobs and provide a foundation to grow a biomanufacturing industry.