



QUEENSLAND FARMERS' FEDERATION

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Submission

1 July 2019

Policy Manager
Queensland biofuels mandates review
Department of Natural Resources, Mines and Energy
PO Box 15456
CITY EAST QLD 4002

Via email: biofuels@dnrme.qld.gov.au

Dear Sir/Madam

Re: Review of the Queensland Biofuels Mandate

The Queensland Farmers' Federation (QFF) is the united voice of intensive, semi-intensive and irrigated agriculture in Queensland. It is a federation that represents the interests of peak state and national agriculture industry organisations, which in turn collectively represent more than 13,000 farmers across the state. QFF engages in a broad range of economic, social, environmental and regional issues of strategic importance to the productivity, sustainability and growth of the agricultural sector. QFF's mission is to secure a strong and sustainable future for Queensland farmers by representing the common interests of our member organisations:

- CANEGROWERS
- Cotton Australia
- Growcom
- Nursery & Garden Industry Queensland (NGIQ)
- Queensland Chicken Growers Association (QCGA)
- Queensland Dairyfarmers' Organisation (QDO)
- Australian Cane Farmers Association (ACFA)
- Flowers Australia
- Pork Queensland Inc.
- Queensland United Egg Producers (QUEP)
- Queensland Chicken Meat Council (QCMC)
- Bundaberg Regional Irrigators Group (BRIG)
- Burdekin River Irrigation Area Irrigators Ltd (BRIA)
- Central Downs Irrigators Ltd (CDIL)
- Pioneer Valley Water Cooperative Ltd (PV Water)
- Theodore Water Pty Ltd.

QFF welcomes the opportunity to provide comment on the Queensland Biofuels Mandates. We provide this submission without prejudice to any additional submission from our members or individual farmers.

The united voice of intensive agriculture



Queensland's 24,00 farm businesses provide environmental services and land stewardship to around 88 per cent of the state's land area. Our farmers produce the highest quality food, fibre and foliage and account for over 24 per cent of Australia's overall production value. The broader sector is key to Queensland's long-term prosperity, contributing around \$30 billion to the Queensland economy in 2016–17 and employing more than 300,000 people across the state.

Queensland's agricultural sector has an established history of managing its waste streams effectively, ranging from innovative value-add products on-farm to combat food waste, organics and nutrient recycling, and bioenergy production. Continuous technology developments are also increasing our sector's ability to actively participate in bioeconomy and biochemical markets, including in the manufacture of bio-based fuels.

Background

The *Liquid Fuel Supply Act 1984* (the Act) requires certain fuel retailers and fuel wholesalers (collectively referred to as fuel sellers) to sell a minimum amount of sustainable biobased petrol and sustainable biobased diesel in Queensland (referred to collectively as the biofuels mandates).

The objectives of the biofuels mandates are to:

- a) provide assurance to existing ethanol and biodiesel producers and stimulate investment in a biofuels industry in Queensland
- b) contribute to regional growth and jobs creation
- c) reduce greenhouse gas emissions from motor vehicles
- d) take advantage of the emerging second-generation technologies for biofuels from a range of feedstock.

The biofuels mandates commenced on 1 January 2017. From 1 July 2018, the biobased petrol mandate increased to 4 per cent. Liable fuel retailers are defined as retailers that, within a quarter period, own or operate ten or more sites, or sell more than 500,000 litres of petrol fuel at any site the fuel retailer owns or operates.

QFF notes that the revenue for the Fuel Retailing Industry has been highly volatile for the past five years, largely due to significant fluctuations in the world price of crude¹. While demand for fuel is largely inelastic, fuel consumption decreased marginally over the past five years due to an increase in fuel saving measures (increased combustion technology efficiency, hybrid and electric vehicle sales etc.), while vehicle sales increased marginally – stabilising demand^{1,2}. Higher petrol prices over the past five years have encouraged the sale of more fuel-efficient imported vehicles, smaller and cheaper models, particularly compact SUVs².

Fuel retailers generate low profit margins and therefore a high-volume of turnover is required to make a fuel retail business viable with most of the industry profit coming from additional services (ATM's and car washing for example), and the sales of non-fuel products (such as food and tobacco); with the industry growing at a slower rate than the overall economy¹.

Ability to Meet Targets

Two years since the introduction of the mandates, considerable action has been undertaken by liable fuel retailers. Prior to the legislated increase of the ethanol mandate from 3 to 4 per cent, the mandate was close to being achieved, with reported ethanol volume sales in the April to June quarter 2018 at 2.7 per cent.

Fuel sites offering E10 increased from 343 (before the biofuels mandates commenced) to 693 sites as at December 2018 – an increase of over 100 per cent. With the increase of E10 availability across

¹ IBISWorld Industry Report G4000. Fuel Retailing in Australia. May 2019.

² IBISWorld Industry Report. Motor Vehicle Wholesaling in Australia. May 2019.

Queensland and the reportable increase in E10 sales, the biobased petrol mandate is delivering assurance for ethanol producers.

QFF notes that the 4 per cent ethanol mandate has not been achieved. The discussion paper notes that to achieve the 4 per cent it is necessary to *“address barriers to increasing consumer demand is necessary to meet the 4 per cent target mandate”*.

One solution proposed in the Paper is to simply increase the number of pumps offering biofuels as *“this will increase visibility to customer”*. This is a naïve and simplistic view, while many modern cars are compatible with E10, this usually results in reduced mileage. This is due to the ethanol component in E10 carrying more water by volume. The water present in this fuel can also cause corrosion on engine or fuel system parts and can cause a build-up of engine residues. In addition, many European vehicles (including Audi, Alfa Romeo and Peugeot), turbocharged, or performance vehicles require a minimum octane rating of 95 or 98 and cannot be refuelled with E10, 91 fuel grades, (or biodiesel blends). Australia is also seeing a decrease in the sales of petrol engine cars and a decrease in the demand for petrol¹ which has and will continue to negatively impact demand for E10 fuels.

While the supply chain for ethanol has expanded, QFF notes that a significant proportion of bioethanol manufactured in Queensland is exported to Victoria, while Queensland has imported bioethanol from overseas. Unlike Queensland and New South Wales, Victoria has no mandate, yet has achieved a larger proportion of ethanol usage for motor vehicles for a variety of other market reasons.

QFF strongly supports all ongoing measures to continue to advance Queensland’s biofuels and biomanufacturing sector as there are considerable opportunities for Queensland’s strong and sustainable agricultural sector. However, a mandate is a blunt instrument, and QFF notes a range of issues to purely promoting the use of biofuels for motor vehicle usage (cars and lorries), not least that the road liquid fuel market is only steady due to the increase in vehicle sales¹.

QFF notes that the real and increasing market for biofuels at scale is in the aviation and shipping sectors – not in the declining market of car and lorry transport. Furthermore, to continue to ‘push’ a mandate for only motor vehicles undermines developments in the increased fuel economy for combustion engines, hybrid car sales, the sales of electric vehicles and the development of the hydrogen market for transport fuels (which are cleaner and have superior life cycle outcomes where solar energy is used in their manufacture).

QFF notes that the Productivity Commission³ has acknowledged that arrangements to support the biofuel industry, such as ethanol mandates should be removed as they deliver negligible environmental benefits and impose unnecessary costs on farmers and the community.

While QFF does not support the removal of the mandate as it does show leadership in this area, the 4 per cent target (or higher target) may only undermine other technology advancements in motor vehicle transport. As such, any targets must be viewed annually, to ensure that there are not unintended consequences from the mandate and the 4 per cent target needs immediate revision given the future reduction in petrol sales.

Instead, the Queensland Government must support the agricultural and fuel-technology sectors to develop large-scale industrial and sustainable fuel markets, including but not limited to jet fuels and fuels for shipping, and bioeconomy opportunities which can utilise agricultural by-products. While the Biofutures Action Plan has sought to do this, achievements to date remain nascent and underdeveloped.

QFF does not support the importation of biofuels as this undermines the dominant agricultural markets and full utilisation of agricultural by-products here in Queensland. QFF also notes that much of the

³ Australian Government. Regulation of Australian Agriculture. Productivity Commission Inquiry Report. No. 79. 15 November 2016.

internationally available biofuels are not sustainably manufactured and are based on virgin agricultural commodities, which may have displaced native vegetation or food production.

Biobased Diesel Mandate

The biobased diesel mandate (biodiesel mandate) requires 0.5 per cent of all diesel fuel sold by fuel wholesalers to be sustainable biobased diesel (biodiesel). The biobased diesel mandate is designed to capture diesel sales by fuel wholesalers which are made to fuel retailers and bulk end users, such as transport depots, agricultural and mining uses.

Liable fuel wholesalers have made significant investments into new and upgraded biodiesel blending and storage infrastructure since the introduction of the biodiesel mandate. This investment will contribute to a positive environment for biodiesel investment in the future; however, the Queensland biodiesel market is still in its infancy and there is currently only one commercial biodiesel production facility in the state.

QFF believes that the policy settings for biodiesel manufacture in Queensland are wrong. One of the major impediments to the industry is access to feedstocks, noting that many valuable agricultural by-products are useful input streams into the biofuel manufacturing sector.

QFF has previously outlined concerns about listing these valuable by-products as regulated wastes. QFF has advocated for the removal of the following 'wastes' from the Regulated Waste Schedule (for example, see <https://www.qff.org.au/wp-content/uploads/2017/04/20170825-Submission-to-DEHP-re-Regulated-Waste-Classification-Review-WEB.pdf>):

- Animal effluents and residues, including abattoir effluent and poultry and fish processing wastes (K100)
- Food processing wastes
- Sewage sludge and residues, including nightsoil and septic tank sludge (K130)
- Vegetable Oils.

While successful in the removal of Tallow (a highly valuable product and a potential product in the manufacture of biodiesel) from the Regulated Waste Schedule (Schedule 7 of the *Environmental Protection Regulation 2008*), many of the above products suitable for biodiesel manufacture, particularly vegetable oils, remain regulated. This additional regulation increases the costs associated with biodiesel manufacture and paradoxically, encourages the application of waste vegetable oils to composts, even when not beneficial (essentially constituting waste disposal of a valuable resource).

The bioconversion of agricultural waste and food processing waste products to produce value-added fuels and chemicals offers potential economic, environmental and strategic advantages over traditional fossil-based products. For example, the kinetics of acid hydrolysis of cellulose isolated from banana skin, cowpea shells, maize stalks through to rice husk is highly efficient and well-proven.

QFF also notes the potential increase in the cost of 'traditional' diesel post 2020 which will drive market opportunities for biodiesel. In accordance with International Maritime Organization regulations (IMO 2020), the sulphur content of fuel used to propel commercial ships outside of already controlled emission areas must not exceed 0.5 per cent sulphur m/m (currently 3.5 per cent) from 1 January 2020. While there are obvious cost implications for the maritime cargo industry, there are also questions about the impact that this regulatory change could have on global diesel prices. The scale of these impact varies between analysts.

According to the International Energy Agency, bulk wholesale prices for diesel could increase by up to 30 per cent as ship operators compete for supplies of cleaner marine fuels in order to comply and avoid potential penalties. Meanwhile, S&P Global Platts Analytics forecasts the shift could add \$7 to the cost of a barrel of crude; and McKinsey expect increases as much as \$15 to \$20 per barrel. Whatever the increase, there will be volatility in the diesel market come 2020. Unlike previous investment cycles, the

prospect of growing electric vehicle demand reducing future gasoline and diesel demand, coupled with shareholder demands for return of capital, has prompted greater capital discipline amongst refiners. Consequently, fewer large new refineries have been sanctioned globally over the last three years. Demand for transport diesel will undoubtedly increase as a consequence of IMO 2020, and if supply remains constrained by the ability of refiners to adapt in a timely manner, prices will rise, driving demand for biodiesel in the shipping and static energy markets.

QFF notes that unlike other countries where diesel vehicles are being phased out due to local air quality concerns and to meet climate change targets; Australia has seen an increase in the sale of diesel vehicles (over petrol sales)¹ which will increase demand for biodiesel products in domestic road transport markets.

Issues for Regional Areas

The geographic location of fuel retailers is depending on fuel consumption, which is closely correlated to population, income distribution and overall economic conditions.

QFF notes that the review paper states that E10 is now available at 60 per cent of service stations operated by liable fuel retailers, predominately in South East Queensland and that the Queensland Government “*wishes to make more E10 available particularly in regional areas*”.

There are a number of issues associated with regional areas. Firstly, the increased supply of E10 cannot displace higher-octane fuel blends given the fuel acceptance criteria of many cars (as noted above). Also, regional populations are forced to drive further for essential services and as part of everyday life; and have little to no access to public transport and other transport alternatives. As such, the costs associated with their mileage should be considered – they need the highest mileage for every dollar spent.

QFF also asks the Government to consider the viability of local businesses (fuel retailers) who rely on the provision other services and products to maintain their businesses. A high volume of turnover is required to make a fuel retailing business viable and the mandated removal of some fuels from pumps to ‘make way’ for E10 (particularly when the number of pumps is already limited and reflective of market size) may not suit local community demand. Each Queensland region is unique. Regional businesses know their local market best and should have full discretion on the fuel products they offer.

QFF notes that the sale of E10 fuel into the domestic transport industry as outlined under the Mandate is aligned to overall petrol sales, particularly of low octane fuels. The demand for these fuels is falling and will continue to fall. As such, any mandate and target must be aligned with changing market conditions to avoid unintended consequences. However, intermediate growth in diesel cars and impending regulatory changes (such as IMO 2020) will drive demand for biodiesel.

The biorefining industry and aligned sectors such as agriculture, require support to meet these new markets and require flexibility to remain ‘on-trend’. A mandate on its own has shown that it will not deliver this support.

If you have any queries about this submission, please do not hesitate to contact Dr Georgina Davis at georgina@qff.org.au.

Yours sincerely

Travis Tobin
Chief Executive Officer