



29 June 2015

Project Manager – Queensland Biofuel Mandate
PO Box 15456
CITY EAST QLD 4002

Dear Sir

**RE: Proposal to introduce the Liquid Fuel (Ethanol) Amendment Bill in 2015
Submission by Mackay Sugar Limited in response to the Discussion Paper**

As a potential ethanol and bio-commodity manufacturer in Queensland, Mackay Sugar Limited welcomes the opportunity to comment on the proposed introduction of a biofuel mandate in Queensland by 1 July 2016. We have reviewed the June 2015 Discussion Paper, and offer comments to the consultation questions raised in the paper.

Mackay Sugar is one of Queensland's largest publicly unlisted companies, owned by over 1,000 canegrower shareholders, and producing around 20% of Australia's raw sugar from approximately 6.5 million tonne cane annually. Mackay Sugar has interests in Sugar Australia Ltd, Australia's largest sugar refiner, and employs over 900 people directly at four north Queensland mills.

Mackay Sugar has a diversification strategy to ensure we remain internationally competitive, and in 2013 commissioned a 38MW renewable cogeneration plant. This project supplies about 30% of Mackay's electricity and has been specifically designed to supply the future energy requirements of a biofuels or bio-refinery facility using molasses or sugar as feedstock. This is consistent with the recently released 30 Year Sugar Industry Strategy for the Central Region Sugar Group, where 50% of the industry's revenue will come from non-sugar products by 2045.

Sugar cane is ideally suited to the tropical regions of Queensland, and is a unique high-yielding biomass crop that provides food (human and livestock), renewable energy (electricity and biofuels), and is an excellent carbohydrate source for the production of high value food additives and industrial chemicals. Mackay Sugar has invested considerable funds and resources investigating the viability of producing both first and second generation ethanol, and we host the Mackay Renewable Biocommodities Pilot Plant (operated by the Queensland University of Technology) at our Racecourse Mill site.

Internal studies have shown that local ethanol production from 'C' molasses can be competitive with unleaded petrol, and the vinasse by-product is a valuable soil conditioner for cane farms. The use of 'C' molasses as the feedstock ensures there is no impact on food (sugar) production, and life-cycle analyses indicate greenhouse gas abatement of over 80% when compared to unleaded petrol.

Mackay Sugar's feasibility studies highlight the challenges in distributing ethanol blended fuels to a wide-spread market, gaining public acceptance of an alternative fuel, and enticing petroleum suppliers and distributors to market a blended product. These problems do not exist in Brazil, our major international sugar competitor, due to strong government support of an ethanol industry.

In fact, massive growth in the Brazilian sugar industry over recent years can be largely attributed to ethanol production, offering sugar manufacturers a diversified income, and reducing the country's dependence on imported petroleum. Brazil's current ethanol target is 25%. With Australia's petroleum imports now exceeding 80%, and the potential of the Queensland sugar industry to contribute large quantities of renewable fuel, Mackay Sugar supports the introduction of an ethanol blend mandate to provide market certainty for new producers.

We understand that a mandated target must be set at levels to ensure that new cost-competitive ethanol producers progressively enter the market, with no upward pressure on fuel prices due to supply constraints or inefficient manufacturing. This has been successfully achieved with the Commonwealth Government's 20% Renewable Energy (Electricity) Target, which has a ramping percentage and firm timelines that provide market entrants confidence to invest.

It is considered that a similar pre-defined ramping target would be successful for a Queensland ethanol mandate. Given that the proposed 2% initial target represents less than 50% of Queensland's current ethanol production capacity, Mackay Sugar recommends that a higher initial target, ramping up to a nominated final target over a defined time scale, and being maintained for a further period, would provide the required investor confidence. Subsequent reviews of the scheme should not change the annual targets, only the penalties for non-compliance by liable parties, taking into account the ethanol supply.

Mackay Sugar participated in the \$2.3m Federal Government funded "North and Northwest Queensland Sustainable Resource Feasibility Studies" which was completed by GHD (Engineers) in March 2014. The study clearly identified that a new cane growing industry in north Queensland provided best returns when the project was based on the successful Brazilian model of an integrated sugar / ethanol / cogeneration processing plant. However, results also showed that the multi-billion dollar investment is very sensitive to a strong ethanol market, with 130 ML being produced each year. This project alone would produce more than double Queensland's current ethanol consumption.

Most importantly, major competitors to the Australian sugar industry include Brazil, Thailand and India, who typically have access to renewable energy markets to supplement their income and drive their industry expansion. Without access to similar markets, Australian sugar producers are significantly disadvantaged and will find it difficult to justify industry expansion to reduce production costs and remain competitive.

Mackay Sugar supports the introduction of a mandate for ethanol fuel blends in Queensland, but considers that the following issues are critical to the sustainable development of an ethanol industry:

- Unequivocal support from all political parties for a firm ethanol mandate, to eliminate sovereign risk for investors (the recent RET Review demonstrates the negative impact of future potential policy changes).
- A pre-defined and firm ramping target structure (similar to RET) for investor confidence:
 - initial annual target (minimum 3%)
 - ramping linearly (e.g. over 5 years)
 - Final annual target (6% - 10%)
 - final target held constant (e.g. for 10 years)
- Enforceable penalties for non-compliance:
 - penalties reviewed periodically, taking into account ethanol supply relative to annual targets (do not change targets)
 - public register of complying and non-complying liable wholesalers/retailers
- Public education on the benefits of ethanol:
 - universally acceptable fuel for most post-1986 vehicles
 - reduced greenhouse gas emissions (up to 80% cf unleaded fuel)

- reduced emission-related health issues in metropolitan areas
 - sucrose based ethanol does not impact human food production
 - supports a Queensland manufacturing industry
 - improves balance of trade figures with reduced fuel imports
 - insurance against a future carbon price
 - insurance against future oil price hikes
- Commonwealth Government commitment to maintaining the current biofuel excise arrangements for domestic suppliers, and full excise applying to imported ethanol.
 - Support from Queensland Bulk Ports to host or expand ethanol storage and shipping facilities to minimise supply chain costs in moving bulk ethanol to Brisbane.
 - Scheme should cater for, and encourage, higher blend ratios (up to E85) and the introduction of flex-fuel vehicles, similar to Brazil.
 - Support from peak motoring bodies in Queensland.

The appendix includes Mackay Sugar's response to some of the questions raised in the Discussion Paper.

Please contact John Hodgson, Business Development Manager on [REDACTED] should you wish to discuss Mackay Sugar's submission in more detail.

Yours faithfully



Quinton Hildebrand
Chief Executive Officer

APPENDIX

RESPONSE TO DISCUSSION PAPER QUESTIONS

1. *Will the changes to excise arrangements proposed by the Federal Government have an effect on the use of biofuels by consumers?*

The phasing in of 12.5 c/L excise could be expected to increase E10 blended fuel by 1.25 c/L, but should still deliver an E10 price advantage over unleaded petrol.

2. *What measures can be taken to offset any possible negative impacts by the proposed changes to excise arrangements by the Federal Government?*

Public education that consumers are still receiving an equivalent fuel at a slightly reduced price, together with other environmental and Queensland economic benefits, will be important.

3. *Is a two per cent ethanol mandate appropriate?*

As the current manufacturing capacity in Queensland is over 4%, the proposed 2% figure seems exceptionally low. We recommend that the initial figure is at least 3%.

4. *Should the percentage increase, and if so, over what time period should any increases occur?*

We recommend that the target ramps linearly to between 6% and 8% over a 5 year period. Queensland C molasses feedstock would supply an 8% ethanol ratio without any sugar sacrifice, or ethanol production from other industries.

6. *What timeframe would stakeholders need to prepare for and meet this requirement?*

Two years would be sufficient to develop and construct a molasses-based ethanol plant.

7. *When do you think that a mandate will no longer be necessary?*

We recommend that the final mandated target (after 5 years ramping) be held constant for 10 years. This would give an early-mover producer a reasonably secure 15 year investment window.

8. *Is the class of retailer appropriate? Should the definition be expanded to include those with less retail sites?*

The definition of a major retailer appears reasonable, however all retail sales should be taken into account when calculating the annual E10 volume.

9. *Is there an alternative method of defining the retailer? For example, should all sites that sell three or more petrol blends be included under the definition? Or should all sites that trade over a certain volume of fuel be included?*

Refer Question 8.

10. *Is this level of detail appropriate for liable entities?*

It is considered that the proposed reporting requirements are suitable, but these should be simplified to avoid additional administration costs. The reporting system should cater for higher ethanol blends such as E85, not just E10.

An alternative compliance system could be similar to the RET certificate system which works well (LGCs). An analogy would be for ethanol producers to sell certificates with their ethanol (1 per litre), and liable parties (wholesalers and major retailers) surrender certificates to the Queensland Government annually, equal to the target percentage of their total petrol sales. This demonstrates compliance, and a penalty applies to non-complying volumes. Potential problems include market liquidity (limited number of producers) and the value of certificates (should they be part of the original ethanol sale).

12. *Can this information and data be used in other ways to support industry?*

A public register should be readily available, listing complying and non-complying liable parties. Perhaps retail outlets should display their quarterly “blend performance” against target.

14. *How can government ensure that an exemption framework is not used as a way for liable parties to negate their responsibilities?*

Exemptions should be by application only, and assessed and granted once, at the outset of the scheme. It is suggested that lack of ethanol supply should not warrant exemption, however the penalty amount be reduced accordingly in such a year.

15. *Are these penalties appropriate?*

It is suggested that penalties should be applied on a per litre shortfall basis. The penalties would be reviewed annually, and in a year where ethanol supply did not reach the mandated target, the penalty may be a small amount, or even zero.

17. *If the mandate increases should the penalties change?*

The penalty should not be linked to the target in any year, but be linked to the supply vs target. Inadequate supply would result in low penalties, sufficient supply results in higher non-compliance penalties.

20. *Are these sustainability principles appropriate?*

Yes. Sugar mills and growers have environmental licenses in place and the addition of ethanol production would need to comply with current license conditions.

21. *Should more stringent environmental measures be applied to the biofuel sector?*

It is recommended that all biofuel producers report life cycle analyses of their fuel production (energy intensity and embodied greenhouse emissions per litre) relative to unleaded petrol, and these results are published for public education.

23. *How should they be enforced?*

We suggest an initial accreditation as a registered biofuel producer, compliance with DEHP licenses, and an annual Statutory Declaration confirming such compliance to remain accredited.

34. *What is the role of the Government in attracting a new bio-manufacturing industry in Queensland? Are there specific policy mechanisms or actions that will attract investment and development?*

Mackay Sugar views the bio-manufacturing industry as a progressive development from an established biofuels industry, where biotech and fermentation technology expands to include high value chemicals. It is considered that Government support in the following areas would help facilitate this transition:

- Identifying technologies and products, both domestic and international
- Market research assistance
- Collaborative research agreements
- Joint Venture facilitation
- Pilot plant scale-up supporting grants (high risk phase)

36. *Development of the biofuel industry, specifically ethanol, has struggled from a lack of long term certainty and a problematic history. How do stakeholders including the Government provide the long-term certainty necessary for the development of, and investment in, bio-manufacturing?*

Brazil's strong commitment to an ethanol industry has driven the development of a flex-fuel car manufacturing industry, and more recently, has resulted in Brazil being a favoured investment location for start-up bio-technology companies. The resources and infrastructure available for biofuels is obviously a good fit for bio-manufacturing.

37. *What regional centres could become hubs for bio-refinery investment/development in Queensland?*

The Central Region Sugar Group has a 30 year plan that includes at least three alternative bio-refinery products by 2045. With the QUT Biorefinery at Racecourse, surplus low-cost renewable energy available, close port facilities, large local engineering workshops and more than 7 mt cane processed annually, we believe that Mackay is an ideal centre for a biotechnology hub.

38. *How could Queensland science support the development of the industry? How should it build on previous research (including the involvement of key end users)?*

Mackay Sugar has been involved with renewable energy research projects with both QUT and the Uni of QLD. It is suggested that technical and market research be undertaken on selected promising new products/technologies, in collaboration with international biotechnology companies to fast-track projects. To attract these companies, we need to provide low cost resources and financial incentives to reduce the scale-up risk of commercialising the technologies.