July 2015
Project Manager – Queensland Biofuel Mandate

Response to: **"Towards a clean energy economy: achieving a biofuel mandate for Queensland" – Discussion Paper**

A first step … is the introduction of a biofuel mandate that will initially require a certain proportion of ethanol to be incorporated into Queensland fuel. To achieve this outcome, the Queensland Government proposes to introduce the Liquid Fuel Supply (Biofuel Mandate) Amendment Bill 2015 which prescribes a phase-in of ethanol blended fuel. The Government is considering commencing with a two per cent target.

The following is the submission by Renewable Developments Australia (RDA) to the aforementioned discussion paper questions. RDA has chosen only to address questions that have a specific impact on RDAs operations and projects or where RDA has particular expertise relevant to the question. For Questions that have not been answered it can be assumed that RDA has no fixed opinion or position.

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

While, the ethanol excise arrangements supports the suppression of the price of ethanol relative to petroleum fuel, E10 blends are currently sold at only a slightly lower price in comparison to 91RULP.

It is the view of RDA that price and the perception of quality are the primary determinants in consumer behaviour. In that context the proposed change to excise arrangements will erode the ability to offer a price advantage to some extent, but will not influence perceptions of quality.

The introduction of a mandata will result in the increased availability of E10 fuel and a corresponding increase in consumer use can be expected. However at the proposed level of 2%, this increase is likely to be very modest in the absence of other measures.

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

It should be noted that the current excise rebate (38c/L) translates to 3.8c/L for E10 vs RULP. A more typical price differential at the pump is 2c/L which indicates that the full rebate is not being passed on to the consumer in the current market. The reasons behind this warrant some review and the outcomes of the review may in part address impacts associated with changing excise arrangements.

As mentioned in our response to Question 1, our view is that both price and quality are determinants of consumer behaviour. This is evidenced by the observed trend in petrol sales away from RULP and towards PULP (NSW IPART – 2012), although it is possible that some of this change may be driven by stricter fuel specifications on newer vehicles.

The IPART report also indicated that this trend is most acute in NSW where an ethanol mandate is in place. It is possible that this may be a reflection of consumer perception being that EBP is inferior quality.

Accordingly, RDA suggests that an education program that:

- Highlights the green credentials of biofuels;
- Positions the product as a home grown product of Australia and Queensland; and
- addresses perceptions of inferior quality

may go some way to off-setting the negative sales impact that may result from changes to the excise arrangements.

3. Is a two per cent ethanol mandate appropriate?

The Discussion Paper notes that Queensland has "three proposed ethanol plants in various stages of development (with the potential to) produce a further 230-290ML of fuel grade ethanol."

This is factually incorrect – RDA's Pentland Bio-fuel Project being developed by RDA on conjunction with the Australian Renewable Energy Agency and the National Australia Bank proposes a Stage 1 Output of 300 megalitres per year starting in 2018. If sufficient demand exists this project is scalable to over 1 billion litres per year.

The current combined production capacity of the 3 ethanol producers in Australia is in the order of 450 million litres (ML) per annum. The 3 existing plants claim to be able to increase production to 610 ML. The production capacity of existing Australian ethanol producers is known to be sufficient to meet NSW's demand under their 6% mandate, assuming ethanol consumption in other States remains unchanged. The capacity of existing Australian ethanol producers to meet demand would be less uncertain if a significant mandate for RULP was also introduced in Queensland. However, it is clear that the supply requirements of a 2% mandate on RULP can be met and exceeded via existing production alone.

Consequently RDAs position is that a 2% mandate is too low and will fail to encourage investment in additional production. RDA suggests that an initial mandate of 4% is preferable with the caveat that the mandate must be sourced from Queensland production. Alternatively if 2% remains the preferred initial level a clear and ambitious program for increases in the mandate percentage will be necessary for the policy to be effective (refer to response to Question 4).

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

RDA considers that increasing the mandate by 2% per year toward 10% is realistic and achievable. Assuming the program starts with a 2% mandate in 2016 this will lead us to a 10% ethanol mandate by 2020. A 10% mandate is in place in many other advanced economies, and while this program may be seen as aggressive by some, experience around the world clearly demonstrates that it is achievable.

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

Refer to response to Question 4.

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

The ethanol mandate will need to remain in place until such time as there is no longer a vested interest by oil companies to keep products derived from outside of their traditional supply chain out of the fuel market. A change in the market to this condition is likely to be many years into the future and any legislation will need to have a long life to make the large capital investment needed to increase supply financially attractive – perhaps 20 years.

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

RDAs view is that for a mandate to be an effective tool, exemptions must be difficult to obtain and only granted under strict conditions to ensure that certainty of market is maintained for producers. RDA considers that exemptions should only be granted in the event that adequate supply is not available from Queensland production facilities at reasonable market prices. No doubt there will be some disagreement on what a reasonable market price is, but this is an issue that can be resolved relatively quickly and certainly before the proposed July 2016 commencement date.

15. Are these penalties appropriate?

16. Do they incentivise liable parties to meet their obligation?

RDA considers the penalties to be appropriate for small operators but insufficient to act as a suitable deterrent for large oil companies.

20. Are these sustainability principles appropriate?

Principle 1: *Biofuel production in Queensland must not negatively impact biodiversity, ecosystems and areas of high conservation value.*

While this principle is laudable in intent, the application of such a principle would place biofuels at a disadvantage to any large scale development (e.g. mining) as it effectively restricts the production of feedstock to existing farmland. Provision must be in place to encourage the development of new cultivation within the sustainability principles such as currently exists under Section 22A of the Vegetation Management Act.

RDAs view is that the assessment of biofuels projects should at a minimum be subject to the same rules of impact assessment as any other development and that consideration should be given to means of fast tracking assessment of low greenhouse gas energy developments to encourage investment in the sector.

Principle 2: *The production and use of biofuels must result in a net reduction of greenhouse gas emissions compared with conventional fossil fuels.*

RDA supports this principle and suggests that it could be strengthened further by quantifying the net reduction of greenhouse gasses e.g. *"The production and use of biofuels must result in a net reduction of greenhouse gas emissions* ***of at least 50%*** *compared with conventional fossil fuels".*

Principle 3: *Biofuel production must involve:*

- *sustainable use of surface and groundwater resources*
- *maintenance of soil quality and minimisation of soil degradation*
- *avoiding negative impacts on water quality due to nutrient and sediment run-off.*

RDA considers Principle 3 to be sound.

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

The biofuel sector should be subject to the same measures that are applied to any other industry. The provisions as they exist in existing legislation are adequate and need not be changed with a particular focus on biofuels. It should be noted that alcohol distillation and oil refining are already "Environmentally Relevant Activities" as defined by the *Environmental Protection Act 1994* and are hence subject to the same regulatory arrangements as any other large industrial facility. To suggest more stringent measures particular to biofuels would stifle investment in and development of the sector.

Conversely, RDA suggests that in order to encourage investment and development, streamlined assessment and approvals pathways for greenfield biofuels project would be beneficial in the medium term until the industry is more established and secure.

22. What other environmental risks must be considered in relation to an expanded biofuels industry?

RDA considers that adequate provisions already exist in the various approvals pathways for all relevant environmental risks to be adequately assessed.

23. How should they be enforced?

Provisions for enforcement already exist in legislation and regulation – principally under the *Environmental Protect Act 1994* and associated Policies and Regulations. RDA sees no need to make special arrangements for the biofuels industry.

24. What are the issues that need to be addressed if customer choice is maintained?

RDA notes the desire to ensure customer choice is maintained in the market place. However RDA does not consider there is consumer choice available in the current market. It is often very difficult to obtain E10 fuels and availability of E85 is extremely limited. Furthermore it is certainly not possible to preferentially select fuel refined in Australia as opposed to Singapore or refined from Australian sourced oil.

The Discussion Paper cites approximately 15 per cent of Queensland's 2.5 million vehicles as being incompatible with E10 fuel. But in most instances since 1986, and virtually all models of car currently in production, are E10 compatible. Furthermore, a number of car manufacturers are have or are planning to introduce E85 flexible vehicles which can run on blends from E0 to E85.

RDA's position is that there is no need for a choice of unblended fuels – regular unleaded and premium unleaded – aside from the requirement to provide for the portion of the fleet that is incompatible with EBP. RDA considers that existing fuel standards are adequate in other respects.

25. Will choice of fuel increase costs to retailers or consumers?

Forcing retailers to carry a greater variety of product may increase distribution overheads without careful management.

However, RDA considers that with a sound business model and development strategy, it is possible to deliver ethanol into the Queensland fuel market at prices that are competitive with fossil fuels. Accordingly RDA does not accept that a biofuel mandate must come at a cost to consumers.

26. Would a targeted education campaign on the actual benefits and disadvantages of biofuels/ E10 contribute to informed consumer choice?

Consumers have a well-established pattern of preferentially consuming products that are considered to be:

a. environmentally friendly; and/or
b. Australian made.

Consequently RDA considers that an effective education campaign that highlights the environmental benefits of biofuels and the increased Australian content compared to other products has very significant potential to influence consumer behaviour.

27. What are the key messages that must be included in any education campaign for biofuels? Who is the primary audience and what is the most appropriate mechanism to target them?

RDA has no particular expertise in consumer marketing but suggests the key messages of "environmentally friendly" and "Australian Made" would be a good place to start.

30. What is an appropriate method for estimating a 'reasonable' ethanol price?

At a very simple level, ethanol has around 70% of the energy density of RULP. This equates to E10 having 97% of the energy value of RULP, and on this assumption approximately 3% less fuel efficient than RULP – although in practice we understand that this varies between vehicles and is less evident in cars designed for alcohol based fuels. Consequently to present equivalent value for consumers, E10 should be approximately 3% lower than an equivalent ULP.

Normal market behaviour will cause fuel wholesalers to seek discounts on bulk ethanol suppliers. In this case. where this occurs, they should in addition pass on any price advantage derived from the excite rebate on to the customer in full. The intent of the excise rebate policy is to provide a price advantage for Australian produced ethanol blends. It is important to ensure that this benefit flows to consumers.

Under this scenario RDA considers that the 3% required to achieve energy cost parity with RULP can be met and exceeded resulting in a net saving to consumers.

32. Will an effective 'floor' in grain prices, as a result of a mandate signal to grain growers an opportunity to increase production and investment on-farm?

RDA does not consider grain to be a cost effective feedstock for the production of ethanol. Increased ethanol production at the scale necessary to support any kind of meaningful mandate will almost certainly be derived from sugarcane, sweet sorghum and lignocellulosic (2nd Generation) production. It is unlikely that the mandate will have a significant impact on grain prices, nor signal an opportunity to increase production.

33. What mechanisms if any should be put in place to avoid distorting the drought feeding market next time drought conditions persist in Queensland?

Further to our response to Question 32, RDA considers that the majority of production will be derived from high biomass irrigated feedstocks such as sugarcane and sweet sorghum that are less susceptible to drought than grain feedstocks. Accordingly we see that the potential to impact on the drought feed market is very limited and is unlikely to require policy intervention.

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?

The scope for bio manufacturing in Queensland is enormous, particularly with the opportunities to develop new agriculture projects in the North where adequate additional water resources can realistically be developed.

Ethanol is a feedstock for many industrial processes and can be used for bio-plastics, paints amongst many other things. Manufacturing has been in decline for many years in Australia and RDA considers bio-manufacturing as an opportunity to reverse this trend.

To facilitate this investment the Government should consider:

- streamlined approvals processes for projects
- fee relief for project applications
- start-up phase payroll tax exemptions (e.g. 5 years)
- support for academic institutions researching and developing technologies in these areas

35. What additional actions can the Queensland Government take to increase the likelihood of project opportunities becoming operational projects?

The most efficient means of generating feedstock for large scale production is irrigated agriculture of high biomass feed stocks such as sugarcane and sweet sorghum. The single biggest impediment to developing irrigation projects is access to water. Enactment of the reforms to the Water Act as passed in November 2014 would be a good are a good start. Importantly there must be a clear process to apply for "reserve" volumes in the Resource Operations Plans that does not rely on Government initiated action as is currently the case. There also needs to be a process for an applicant to seek amendment to ROPs to access additional water for allocations rather than being forced to wait for periodic reviews that may be not due for a number of years.

RDA notes the focus on ethanol and to a lesser extent biodiesel in the discussion paper. While RDA intends to be a major ethanol producer, we are of the opinion that in order to drive innovation in the market, any biofuel mandate should not be limited to a particular blending agent or product – at least not in the long term.

For example, the use of *Ethyl Tertiary Butyl Ether* (ETBE) is common in Europe and Japan and can be made using a process fed by ethanol and natural gas – with Queenslands LNG industry there is a clear opportunity for synergies between industries. Biobutanol is another biofuel that has clear market potential.

Accordingly RDA considers that the most appropriate form for of legislation for Queensland will simply:

- encourage investment and jobs in Queensland; and
- lower the greenhouse gas intensity of our transport fuels

Accordingly a mandate in the form of a renewable energy content mandate or a greenhouse gas intensity mandate (similar to legislation that commenced in Germany this year) may be the most appropriate long term solution.

In the short term this will be achieved through ethanol and biodiesel, however it is our view that it is important to encourage investment in new technology as well as encouraging the roll-out of established technology.

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?

RDAs view is that the most valuable steps the Government can take toward encouraging investment in the sector is to streamline approvals processes and water access arrangements associated with agricultural and biofuel developments to minimise the high risk spending that moves a project from idea to concept to bankable and then to construction.

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

Most centres with a strong agricultural base, particularly those with irrigated agriculture, have some potential to become hubs in this industry. RDA considers that there is greater potential in new development areas rather than existing owing to established competition for feedstock (e.g. there are already sugar mills in sugar growing areas who will resist diversion of feedstock to biofuels).

Development hubs should ideally be supported by regional centres where many of the appropriate technical skills will be readily available. Some regional centres that could be considered are:

- **Charters Towers**
- **Townsville**
- **Toowoomba/Dalby**
- **Emerald**
- **Mackay**
- **Bundaberg**

I can be contacted on [redacted]

Kind Regards,

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