



Consolidated Bio Diesel Pty Ltd

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To whom it may concern

Ecotech Biodiesel has been producing Biodiesel in Queensland since 2005, and is currently providing biodiesel to multinational fuel and chemical companies. At full production, Ecotech can employ 10 FTE positions, with an estimated 30 additional positions in fuel logistics with an unknown amount of benefits in the chemical sector where Ecotech's biodiesel is currently used in 15 different formulations.

Please find below Ecotech Biodiesel's Response to "Towards a Clean Energy Economy: achieving a biofuel mandate for Queensland" from the Department of Energy and Water Supply. Ecotech would like to express its support of the initiative, and has answered specific questions posed by the June 2015 discussion paper that is pertinent to Biodiesel and Bio-refining.

The Biofuel Percentage

1. What is an appropriate mandated percentage for biodiesel?

The current rate of diesel consumption in Queensland is 6,700 ML¹. The current capacity of Biodiesel manufacturing in Queensland is 30 ML, which corresponds to a 0.45% of total diesel consumption. An initial 0.5% mandate at the wholesale market starting in July 2016 would see immediate construction of facilities to make up the slight shortage in required volume for 2016/2017. To establish high volume facilities (30 to 50 ML/annum), planning and construction would be required to start immediately in order to see facilities in place to supply volume for the 2017/18 financial year. Consequently, legislation for a biodiesel mandate would see immediate investment and regional development in the Queensland bio-refining industry.

¹ Australian Petroleum Statistics, Office of the Chief Economist, Issue 224, March 2015



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

A doubling of the biodiesel mandate every 12 months for two years would see an additional 104 ML of capacity required during the 2018/19 financial year. A 5% mandate within 5 – 10 years of legislation would see volumes of 335ML which would ensure a healthy industry spread across the entire state of Queensland.

Investment would occur across most regions of Queensland to ensure competitive advantage from logistics, and to utilise feedstock proximity to reduce the cost of production. The increase in mandated volume would also ensure that fuel wholesalers have the time to build infrastructure for blending biofuels, and receive a return on investment due to the increased volume of biofuels.

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

Extraction estimations of \$US25/bbl for Middle East oil and \$US40-65/bbl for shale and tight oil have many believing that fuels derived from fossil reserves will remain inexpensive over the next decade. If emissions caused from these energy sources remain unregulated, then the feed stocks for biofuels would eventually have to match these levels to remain competitive. Continual monitoring of the relationship between world oil price and feedstock production is therefore required to ensure the consumer is not adversely affected.

Liable Parties

1. *Is the Class of Retailer appropriate?*

As 80% of diesel sold in Queensland is through the wholesale market², Ecotech Biodiesel believes that monitoring the mandate at that market is appropriate. The Liquid Fuel Supply Act 1984 refers to a wholesaler as “to every person who in Queensland owns or operates an oil refinery or a seaboard terminal with facilities for the bulk storage of motor spirit”, while the ACCC Oil Code refers to wholesalers as:

- an oil refinery
- a shipping facility
- a facility connected by a product transfer pipeline to an oil refinery or shipping facility or
- a facility connected by a product transfer pipeline to a facility mentioned in the bullet point above.

² Australian Petroleum Statistics, Office of the Chief Economist, Issue 224, March 2015



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Monitoring the biodiesel mandate at the wholesale market would ensure ease of regulation and provide assurance that the total volume of fuel being used in Queensland is accounted for.

Penalties

1. Are these penalties appropriate?

Due to the size of the budgets that run wholesale facilities in Queensland, it is understood that an initial penalty of 200 units at the current rate of \$113.85 would do little to ensure a facility did not comply. A penalty system synchronized to the volume of petroleum product at a facility would ensure that penalties were a disincentive and reflected the gross turnover of the wholesaler.

Expert Panel/Implementation Board

1. Should Queensland have an expert panel or implementation board? If so, which sectors should be represented?

Ecotech has no objection for government to administer the mandate and seek advice from stakeholders where it is necessary. Ecotech believe that each individual industry relating to the mandate should be consulted, and is confident for the government to make decisions in the best interest of Queensland

Protecting the environment

1. Are these sustainability principles appropriate?

Biofuel sustainability principles have now been established in several markets around the world, and the adaption of these principles to Queensland should be straightforward. It is important that the Queensland mandate is not open to criticism from an environmental perspective, while acknowledging the unique position that Queensland coastline has to the Great Barrier Reef.



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Maintaining consumer choice

- 1. What are the issues that need to be addressed if consumer choice is maintained?*

Currently the diesel market in Queensland contains biodiesel in any blend from 0% to 5%, and where a blend is higher, it is at the request of the fuel user. Consequently, introducing a Biodiesel mandate at any level under 5%, will still allow the fuel user to determine their own level of biodiesel by request. This maintains the same level of choice that the consumer has now. Any biodiesel blended by retail outlets at present is in accordance with national fuel standards which a future biodiesel mandate will not effect until the level goes above the 5% standard.

- 2. 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?*

Ecotech believes there are two audiences that should be targeted in a proposed education campaign. The first audience is the general population which should be told of the advantages of a biofuels mandate and the bio-refining industry to the Queensland Economy. The message should centre on regional development, economic advantages, fuel security and environmental benefits. Technical issues such as the compatibility of the fuel should not be discussed, as this will only imply there could be an issue.

The second education campaign should be directed to auto mechanics/apprentices and associated industries involved in the maintenance and care of the transport industry. This campaign should be specifically about technical issues and detail the chemical differences between the fuels, and how the chemistry interacts with combustion technologies and emission profiles. The Institute of Automotive Mechanical Engineers and state based apprenticeship programs could be used to roll out this information.

Ensuring consumer protection

- 1. How can we ensure that fuel companies pass the benefits of biodiesel /ethanol through to consumers?*

The fuel market in Queensland delivers petroleum products at competitive international rates, and the delivery of renewable fuels into the market will occur at competitive margins. The reason that renewable fuel has not entered the market to date is because the market has not been compelled to do so. As long as the mandate genuinely delivers volume of



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biofuels into the market across all competitors, Ecotech is confident that this will occur at competitive rates.

Securing food supplies

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

The biodiesel mandate will assist in drought proofing the market through larger volumes of seed meal being available through the introduction of oilseed crops. As stated in a recent study,³ Queensland has successfully grown sunflower, soybeans, safflower and linseed all of which have a large potential to expand to accommodate demand from a biofuel industry.

If however this meal is exhausted in drought conditions, a provision to allow the Minister responsible to suspend the mandated volume will be sufficient to stop further distorting of the drought feeding market.

Bio-manufacturing – a new approach

- 1. 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?*

Bio refining will grow out of a comprehensive policy incorporating biodiesel and ethanol mandates. If the Biodiesel and Ethanol markets are supported in unison, then the building blocks for a range of molecules of varying molecular weights will be readily available for value adding or to create chemical derivatives.

Additionally, co-products produced through the production mechanisms from both industries will provide extra opportunities for associated markets not directly related to the fuel industry.

An example of this an 18 month trial undertaken by Ecotech and Unity Water a local utility company in Queensland. This project revolves around the use of glycerol (a non-flammable, nontoxic water soluble biodiesel by-product) to replace a toxic, flammable fossil fuel in the

³ Pre- feasibility study of the commercial viability of a Central Queensland Multi-crop Oilseed processing facility and its impact on grower returns, Queensland Government 2013.



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denitrification of sewage. The results thus far have proved glycerol can not only replace the toxic chemical but can perform denitrification at lower dosage rates.

This is one example of the application benefits a bio-refining industry can bring to other areas of the economy not usually associated with energy production.

Summary

A bio-refining industry is a logical and valuable addition to the Queensland economy, and using the biofuel industry as a kick start to that process is well founded. The bio-chemicals that will be produced in the future will come from a range of molecules which is why a mandate on Ethanol and Biodiesel would not only assist the individual fuels, but is necessary to the success of any bio-refining industry.

The level of mandate must not only reflect current capacity, but provide genuine signals to stimulate construction of new facilities with emphasis on developing these facilities in regional areas.

Ecotech is already showing the benefits of bio refining by providing product streams into the Energy and Utilities market, while recycling a waste stream with a no waste facility. A mandate rising to 5% over a 5-10 year time frame would produce 10-15 facilities the size of Ecotech Biodiesel.

Feel free to contact me if any further clarification or information is required, or if Ecotech can assist in further initiatives under proposal.

Yours Sincerely

Dr Douglas Stuart
Technical Development Manager
Ecotech Biodiesel.