



Response to the Expanded Senate inquiry into Fuel and Energy

June 2009

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Executive Summary

The Australian Lot Feeders' Association (ALFA) appreciates the opportunity to provide input into the expanded Senate inquiry into fuel and energy. This response augments ALFA's prior submission to this review and accordingly, we will not endeavour to repeat the detail within the arguments presented. However, needless to say, these arguments are still relevant despite the time that has elapsed since it was lodged.

There is increasing recognition by consumers in Australia and overseas that there is good and bad ethanol based on the feedstuff utilised. Grain derived ethanol has a number of negatives and it is for this reason that the general public and a growing list of organisations are rapidly distinguishing between the two.

In particular, Government assistance and protection towards grain derived ethanol production has a range of unintended and negative consequences;

- It increases grain and food prices particularly during low grain production periods.
- distorts grain markets by providing an artificial competitive advantage to the ethanol industry over other users of grain in the market place
- creates complacency and fosters inefficiency rather than increased competitiveness
- leads to a misallocation of resources towards inefficient and unviable ethanol production
- stymies the investment and commercialisation of superior second generation ethanol production technologies
- supports a company which is already a monopoly ethanol producer in NSW
- are an inefficient use of tax payers' dollars as first generation biorefinery infrastructure may not be able to be converted to second generation ethanol technologies when these are commercialised in the near future
- cost the Federal Government hundreds of millions of dollars in lost excise revenue
- are inconsistent with Australia's World Trade Organisation stance in support for deregulation and reduced Government protection.

Conversely, non grain based and second generation ethanol technologies are more cost-effective, environmentally beneficial, have greater energy output to input ratios and eliminate 'food versus fuel' arguments.

ALFA believes that the Federal and State Governments should differentiate their support and protection with respect to 'good' and 'bad' ethanol production so that preferential treatment is provided towards superior non-grain based and second generation ethanol technologies. The current Government policy arrangements are neither justified nor sustainable and the quicker that Australia converts to these 'good' ethanol technologies the better off it will be from all perspectives.

Recommendations

- **The immediate removal of excise relief and import tariffs for grain based ethanol production**
- **Preferential Government treatment provided for superior non-grain and second generation ethanol production technologies. Eg fuel excise relief to incentivise and expedite the investment and commercialisation of second generation ethanol technology.**

Introduction

ALFA is the peak representative body for the lot feeding industry representing approximately 90 per cent of feedlot capacity in Australia.

The Australian feedlot industry has a value of production of approximately \$2.7 billion while employing some 2000 people (all in rural areas) directly and almost 7000 more indirectly. Approximately 40 per cent of Australia's total beef supply, 80 per cent of beef sold in major domestic supermarkets and the majority of production growth in the beef industry over the last 10 years has originated from the expanding feedlot sector. More than one third of the national slaughter comes to market after being finished in feedlots and more than 60 per cent of feedlot beef is exported into premium international markets.

Australia's variable grain production is coming under mounting pressure to serve our countries respective food and fuel needs. Grain represents the single largest cost of production for beef, pork, milk and chicken. In a normal season 80% of Australia's east coast grain production is consumed by these intensive livestock industries with the feedlot sector being the largest user among these with 3.7 million tonnes.

The world is set to face considerable challenges to meet its ever increasing demand for food over the next few decades with the role of Australia's intensive livestock industries likely to be critical. Whilst historically we have been able to meet the needs of a rising population due to the implementation of technology advances and best management practices, the ability to continue to achieve this will become increasingly difficult. The availability of arable land is declining over time due to urban encroachment, there is less water available for agriculture due to climate change and competing needs, more irregular climatic events is forecast to reduce crop yields, there is decline in public sector research and development into agriculture, carbon based inputs to agriculture are becoming more expensive and our variable grain production is coming under increasing pressure to meet the growing food and fuel needs of our population.

Grain is the key ingredient for approximately 84% of Australia's current ethanol capacity. With current State and Federal Government ethanol policies providing no preferential treatment for second generation technologies (thereby stymieing investment and commercialisation), the current reliance on grain based ethanol production will likely continue for some time yet. Given that Australia already struggles to meet current grain demand for 'food' (for instance grain has to be imported from Western Australia to the east coast during dry periods) let alone future fuel demand, increasingly irregular grain supply into the future (due to climate change) and rising grain demand (fuelled by distortionary Government assistance and protection measures for the ethanol industry) will inevitably create food price pressures.

Role of Australian Governments in relation to biofuels

There are a suite of State and Federal Government assistance and protection measures for the ethanol producing sector.

State and Federal Governments in Australia provided \$95 million in support to the biofuels industry in 2006/07, with the ethanol component providing more assistance per litre than in the US¹.

At a Federal Government level, assistance to meet the current 350 megalitre biofuels target comprises capital grants up to \$10 million per plant, excise relief from the 38.143c/litre fuel tax until 2015 and an effective tariff (ie 5% plus the 38.143c/ litre excise) on imported ethanol until 1st July 2011. There is also a \$15 million 'Second Generation Biofuels Program' which aims to support the research, development and demonstration of new biofuel technologies. The Program provides grants ranging from a minimum of \$1 million to a maximum of \$5 million and will fund up to 50 per cent of eligible expenditure on approved projects.

¹ International Institute of Sustainable Development – 'Biofuels – at what cost?' 2008

ALFA's concerns with the current excise relief arrangements are that they;

1. Provide an effective subsidy to grain based ethanol producers leading to inflationary grain and food price pressure along with potential job losses in rural areas for negligible fuel security and environmental benefit. The fuel excise relief provided to the NSW monopoly ethanol producer Manildra for example is approximately \$114million per year. For the 350,000 tonnes of wheat annually purchased by the company, this equates to an effective subsidy of \$320 for each tonne, significantly more than current market prices (approx \$240/tonne delivered port zone). This not only provides a competitive advantage against other domestic grain consumers but also allows it to purchase grain at prices higher than normal demand and supply fundamentals would dictate. As a result, this applies inflationary pressure on grain prices to levels beyond normal market equilibriums.
2. Do not provide any preferential treatment for superior second generation ethanol production technologies, thus stymieing investment and delaying its commercialisation. Current opinion is that such technology won't be commercialised for another 5-10 years. The Federal Government should encourage the early onset of second generation technologies given that they are more cost-effective, environmentally beneficial, have greater energy output to input ratios and eliminate 'food versus fuel' arguments. However, current fuel excise relief arrangements are identical between grain based and second generation ethanol technologies despite the latter's recognised advantages. As a result the disadvantages of current technologies are perpetuated and investment into the research and commercialisation of superior second generation ethanol technology is delayed. ALFA believes that the current \$15mill 'Second Generation Biofuels Program' does not provide enough commercial incentive for investors to actively research second generation technologies. Whilst comparisons need to be placed in perspective, in early 2007, the U.S. Department of Energy provided a comparatively larger amount (\$385 million) in grant funding to six second generation ethanol plants².
3. Supports a company which is already a monopoly ethanol producer in NSW. As stated previously, the current arrangements provide Manildra an effective subsidy of \$114million per year. While the market distortions from this 'infant industry' type assistance is significant, the fuel distributing and service station sector has also publicly raised concerns about the misallocation of resources and supernormal economic rents achieved by Manildra's monopoly position in the market.
4. Are an inefficient use of tax payers' dollars as first generation biorefinery infrastructure needs to be significantly altered to enable delignification for lignocellulosic technology (second generation ethanol production) to occur. Funding towards assets that will become obsolete and technologically redundant is poor Government policy when the future of ethanol production is with second generation technologies.

In addition to Federal Government assistance, the NSW and Queensland Governments have introduced (or propose to introduce) mandates of ethanol content in fuel to create an artificial and inflexible demand for ethanol (and hence grain) which is disconnected to supply. Grain and food prices will be particularly impacted when grain production is low. For instance, in NSW, using the Government's own figures, if the 2002/03 drought was replicated after 2011 (a likely scenario given climate change predictions), the NSW mandate will divert over 22% of the states grain crop away from food production. In Queensland where currently sorghum is the principle ingredient for 65% of current ethanol capacity, a repeat of the same drought will see a diversion of 62% of the states sorghum crop away from food production.

² "DOE Selects Six Cellulosic Ethanol Plants for Up to \$385 Million in Federal Funding". United States Department of Energy. 2007-02-28. <http://www.doe.gov/news/4827.htm>.

This discriminates against other grain users in the market place who have to then pay inflated prices for the remaining quantities of grain that may or may not be available. Given Australia's variable climate and the likelihood that it will vary further with the onset of climate change, ethanol mandates will create a perpetual drought with grain supplies indefinitely struggling to meet the food and fuel needs of society. Notably, the Garnaut report indicated that wheat yields could decline by 21.8% to 2100 if no mitigating action is undertaken³.

It is for these reasons that the National Farmers' Federation, the Service Station Association, Australian Convenience and Petroleum Marketing Association, NSW Council of Social Service, the Grains Council of Australia, the Greens Party, the NSW Farmers' Association, AgForce, Victorian Farmers' Federation, Queensland Farmers' Federation, Western Australia Farmers' Federation, South Australian Farmers' Federation, Australian Lot Feeders' Association, Australian Dairy Farmers', Australian Pork Limited, Australian Chicken Meat Federation, Australian Egg Corporation Limited and the Stock Feed Manufacturers' Council of Australia all oppose a mandate of grain derived ethanol content in fuel. **Notably, even the policy of the representative body for the biofuels industry, the Biofuels Association of Australia is not supportive of ethanol mandates due to grain derived food versus fuel issues.**

Impact of State Government ethanol mandates upon Federal Government revenues

Another consequence of State Government ethanol mandates that is not widely known is the impact on Federal Government revenue. Specifically, given the fuel excise relief provided to the ethanol industry, the legislative requirement to produce a certain amount of ethanol via such mandates significantly increases the amount of excise revenue lost to the Federal Government than would be the case without such Government intervention.

As the below table demonstrates, the financial impact of the lost fuel excise revenue varies over time due to size of respective mandates and the gradual increase in excise revenue that is to be paid by the ethanol industry over time (ie from 2.5c/ litre in 2011 to 12.5c/ litre in 2015). The table assumes that the Queensland Government mandate is implemented as publically stated.

As can be seen from the table, between 2009 and 2015 the Federal Government will have lost nearly \$2billion as a consequence of the mandates. In 2011, when it is proposed that both the NSW and Queensland Governments will have a 10% ethanol mandate in place, over \$366million will be lost to the Federal Government in that year alone.

Cost of mandates to the Federal Government through lost excise revenue

	2009	2010	2011	2012	2013	2014	2015
NSW mandate (\$)	92,028,379	138,042,568	214,991,447	199,911,947	184,832,447	169,752,947	154,673,447
QLD mandate (\$)	0	81,051,968	151,479,186	140,854,436	130,229,686	119,604,936	108,980,186
Total	92,028,379	219,094,536	366,470,633	340,766,383	315,062,133	289,357,883	263,653,633

Notably, the implementation of State based mandates do not have any monetary consequences for State Governments, yet they have considerable negative impacts on industry and the Federal Government.

Given that the most recent Federal Government budget predicted a record \$57.6 billion deficit for 2009-10, it cannot afford to lose such large revenue amounts as a result of the decisions of their State Government counterparts.

³ Garnaut 'Climate change review' report, 2008

Role of alternative sources of energy

ALFA has chosen to confine its comments on this issue to the role of second generation ethanol technologies.

There is increasing recognition by consumers in Australia and overseas that there is good and bad ethanol based on the feedstuff utilised.

First generation ethanol technologies generally use food crops as the primary ingredient. However, there are significant concerns about the environmental, social and economic impacts of first generation biofuels. An alternative is second generation biofuels which are produced from the non-sucrose, non-starch and non-oil parts of plants and do not compete with food production. These biomass feedstocks include agricultural waste, forest waste and dedicated biomass energy crops grown on marginal land.

Current concerns for many, but not all, of the 1st-generation grain based ethanol technologies are that they:

- due to competition with food crops, can only produce biofuel up to a certain level before threatening food supplies and increasing food prices;
- are not cost competitive with existing fossil fuels such as oil,
- are an expensive option for energy security taking into account total production costs excluding government grants and subsidies;
- provide only limited greenhouse gas reduction benefits (with the exception of sugarcane ethanol) and at relatively high costs in terms of \$/tonne of carbon dioxide (\$/t CO₂) avoided;
- are accelerating deforestation (with other potentially indirect land use effects also to be accounted for);
- potentially have a negative impact on biodiversity; and
- compete for scarce water resources in some regions.

To the contrary, second-generation biofuels offer a number of superior advantages:

- They don't utilise food producing crop biomass as a core ingredient meaning that there are no food versus fuel issues.
- They are able to be produced from a much wider range of raw material, including cheap, low-maintenance perennial crops that can be grown on a wider variety of land than conventional food or oil crops. This can significantly lower the cost of the feedstock.
- The resulting fuels are high-quality and clean-burning, with potentially a much lower life cycle greenhouse gas emission profile than other liquid fuel options (lignocellulosic ethanol can reduce greenhouse gas emissions by around 90% when compared with fossil petroleum)⁴
- The cultivation process (if any) could be less environmentally intensive than for ordinary agricultural crops. Lower intensity of cultivation will result in even lower greenhouse gas emissions from cultivation.
- They can be co-produced with electricity.

Unfortunately, second generation biofuel technologies have not yet been commercialized with industry insiders suspecting that this is still approximately 5-10 years away. From a scientific perspective the challenge that second generation biofuel processes need to address is to extract useful feedstocks from this woody or fibrous biomass (where the useful sugars are locked in by lignin and cellulose) in a cost efficient fashion. From a policy viewpoint, the challenge is to provide commercial incentives to encourage research and investment so that commercialization is expedited. However, as stated previously, the current Federal Government biofuel policy arrangements do not differentiate between first generation and second generation. Accordingly, the disadvantages of current technologies are perpetuated and investment into the research and commercialisation of superior second generation ethanol technology is delayed.

⁴ <http://ies.jrc.ec.europa.eu/wtw.html> Concawe Well to Wheels LCA.

Conclusion

ALFA strongly urges Australian Governments' to learn from the mistakes of overseas countries and discontinue its assistance for grain derived ethanol production given its clear role in the significant grain and food price increases experienced in recent years.

Australian Federal and State Government assistance and protectionist intervention will only exacerbate the grain and food price impacts of foreign Government biofuels policy. Grain derived ethanol mandates like any form of Government intervention, will distort market place dynamics leading to a disconnection between grain demand and supply. Such intervention is a blunt tool and provisions within proposed State Government mandate legislation to address grain supply shortfalls will never be as transparent, timely and effective as the normal market at work.

Importantly, market dynamics cannot effectively resolve these demand and supply inconsistencies by itself. Accordingly Government intervention needs to be removed for grain derived ethanol production so that market forces can prevail and grain and food prices revert to equilibrium levels.

Australia's variable climate is only likely to become more volatile under projected climate change scenario's. Given this increasing influence, grain production cannot be relied upon to meet the increasing food and fuel demands of society irrespective of grain yield improvements and the future introduction of second generation ethanol production technologies. Continuing to support grain derived ethanol production while waiting for such technologies to be commercialised will only be to the detriment of consumers and intensive livestock industries.