



Biofuel Policy Update

December 2008

Key points

- A government assisted ethanol industry through public policy settings distorts markets and leads to a misallocation of resources. The World Bank has stated that biofuels are responsible for 75 per cent of global food price increases between 2004 and 2007.¹
- According to a new study by the Organisation for Economic Co-operation and Development (OECD)² Government support of biofuel production is costly, has a limited impact on reducing greenhouse gases and improving energy security, and has a significant impact on world crop prices. It suggested research to accelerate development of second-generation biofuels that do not require commodity feedstock.
- The OECD estimates that current biofuel support policies would reduce greenhouse gas emissions from transport fuel by no more than 0.8 percent by 2015.³
- Current biofuel support measures alone are expected to increase average prices for wheat by about 5 percent, corn by around 7 percent and vegetable oil by about 19 percent over the next 10 years.⁴
- APL strongly opposes government assistance for the grain derived ethanol industry as it distorts grain markets by artificially inflating grain prices, ultimately leading to increases in food prices.
- Biofuel mandates provide only limited short term and heavily subsidised employment opportunities, while destroying real jobs in Australia's economy, including the pig industry. APL urges state and federal governments to remove policy support for the ethanol industry and refocus efforts into accelerated research into the development of second generation biofuels.

International Update

- To meet current mandate targets for biofuels the USA and the EU alone will require 240 million tonnes of grain or about 1/8th of the world's grain production. Grain derived ethanol production will exacerbate global food inflation and food shortages.
- In March 2007 the leaders of the European Union, in a package of measures designed to lead the world in the "fight against climate change", committed 2020 to deriving 10 per cent of all transport fuel from "renewables", above all biofuels.
- In July 2008 the UK Government has made a significant concession to slow the use of biofuels, following the release of the findings of the "Gallagher Report"⁵, which was commissioned to study the impacts of biofuels adoption. It is the first significant retreat by a major government from a biofuels target and is a direct reaction to the impact of biofuel production on food prices. Since April 2008, all petrol and diesel in Britain has had to contain 2.5 per cent of biofuels, increasing to 5 per cent in 2010; this step was now pushed back to 2013 or 2014.
- A recent OECD report⁶ called for more open markets in biofuels and feedstocks in order to improve efficiency and lower costs. It also called on governments of OECD countries to

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¹ Booker, C., & North, R., 2008, The Great Biofuels Con, available at

<http://theland.farmonline.com.au/news/nationalrural/agribusiness-and-general/general/the-great-biofuels-con/811124.aspx>

² OECD Directorate for Trade and Agriculture, 2008, Economic Assessment of Biofuel Support Policies, available at

http://www.oecd.org/document/25/0,3343,en_2649_33785_39633881_1_1_1_1,00.html

³ OECD Directorate for Trade and Agriculture, 2008, Economic Assessment of Biofuel Support Policies, available at

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⁵ Gallagher report available at: <http://www.dft.gov.uk/rfa/reportsandpublications/reviewoftheindirecteffectsofbiofuels.cfm>

⁷ Smith, R. 2008, US not Expected to Roll Back Ethanol Mandate, available at

<http://theland.farmonline.com.au/news/nationalrural/agribusiness-and-general/general/article/844706.aspx>



refocus policies to encourage lower energy consumption. It pointed out that while ethanol from sugar cane reduces greenhouse gas emissions by at least 80 per cent compared to fossil fuels, biofuels produced from wheat, sugar beet or vegetable oil rarely provide emissions savings of more than 30 to 60 per cent, while savings from corn-based ethanol are generally less than 30 per cent.

- Taking into account the 2007 US Energy Independence and Security Act and the proposed EU Directive for Renewable Energy, 13 per cent of world coarse grain production and 20 per cent of world vegetable oil production could shift to biofuel production in the next 10 years, the OECD report estimated.
- The United States Environmental Protection Agency is not expected to roll back the Government's mandated ethanol content in fuels, arguing the corn cost incurred have been worth it.⁷

What is Biofuel?

Biofuels are fuels made from renewable materials such as sugars, grains and seeds, instead of fossil deposits such as petroleum and coal. The two most common biofuels are **ethanol** and **biodiesel**. Existing technology uses the following sources:

- Biodiesel – vegetable oils such as canola and palm oil, and tallow
- Ethanol (starch based, first generation) – grains, waste starch, sugar cane, maize, cassava, sorghum and molasses
- Ethanol (Cellulosic based, second generation) – lignocelluloses (i.e. woody or fibrous plant material like wheat straw and sugar cane bagasse). This technology is not commercially available yet.

Australian Government Biofuel Policies

- Some state governments have proposed or already implemented biofuel targets / mandates that impose minimum levels of biofuels to be used in commercial fuels, ranging from 2-10 percent of total petrol consumed.
- The Australian Government biofuels policy sets a 350 million litre national target by 2010, i.e. one per cent of current fuel production. Meeting this target with currently available technology would consume approximately 718,000 tonnes of grain (assuming 80 percent of that biofuel output is grains based and the ethanol yield is 390 litre/tonne).
- This national target is not mandatory; however, it is driven by significant Government support for the upcoming biofuels industry. In 2006/07, \$95million were provided in form of production subsidies and capital grants for producers and compensations for service stations to sell blended fuel at a discounted price; more assistance per litre of ethanol than in the US.
- Presently Commonwealth grants to the ethanol industry are under review by the Rudd Government amid mounting global concerns over links between food shortages and biofuel production. The review is expected to be finalised in the second half of 2008.

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State Biofuel Policies

State	Current Biofuel / Ethanol Policy
New South Wales	In December 2008 NSW Government increased the existing 2 per cent ethanol mandate. From 2009 on 4 per cent of unleaded petrol sold in NSW must be E10 petrol, with that figure rising to 6 per cent in 2010. In addition, regular unleaded petrol will no longer sold in NSW from 2011 and will be replaced with E10.
Queensland	In 2007 the Queensland Government proposed a mandate for a minimum of 5 percent ethanol blend in regular unleaded petrol produced and wholesaled in Queensland to be achieved by 2010; the percentage should be increased to 10 percent as soon as practical after 2010.
Western Australia	The WA Government is committed to a 5 percent target of biofuel consumption by 2010, with the option of a mandate to take effect in 2011 if this target is not reached.
Victoria	The Victorian Government has set a 5 percent target for biofuels while keeping open the option of a mandate if this target is not reached. In February 2008 the Victorian Government inquiry into mandatory ethanol and biofuel targets concluded that mandatory targets should not be imposed given that the cost and risk outweigh the benefits.
South Australia	No ethanol target or mandate
Northern Territory	No ethanol target or mandate
Commonwealth	Biofuel target of 350 million litres by 2010, i.e. one per cent of current fuel production ⁸ .

Ethanol Subsidies

Domestic ethanol and petrol are both subject to excise of 38.143 cents per litre. The excise on ethanol is offset by paying ethanol producers a **Production Subsidy** of 38.143 cents per litre from the Commonwealth budget. Imported ethanol is subject to a **Customs Duty** of 38.143 cents per litre, which imposes an effective import barrier.

The cost of the **Ethanol Production Grants** in 2006-07 was \$42 million, paid to four operators for the production of 110 million litres of ethanol. In addition the Government paid \$3.7 million in **Capital Grants** to biofuel producers for plant expansion and \$3.4 million to compensate service stations for the costs of installing pumps to sell blended fuel (**Ethanol Distribution Program**).

Role of Biofuels in Australia's Carbon Pollution Reduction Scheme (CPRS)

Some biofuels have very high life-cycle emissions because distillation and other production processes are very energy-intensive (and therefore emissions-intensive).

The life-cycle emissions from the domestic **production of biofuels** will be addressed via the carbon price applied to those emissions i.e. the carbon costs would be incorporated in the pump price of these fuels.

Emissions from **combustion of biofuels** and biomass for energy will receive a 'zero rating', in recognition of the carbon sequestered in feedstocks and will therefore not be included in the s in the Carbon Pollution Reduction Scheme. Exclusion from the Scheme effectively is another form of subsidy for the biofuel industry.

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⁸ Mandating 5 per cent ethanol share in Queensland would approximately meet the Commonwealth Government's 350 million litres biofuels target for Australia



Current and Future Ethanol Plants in Australia



Ethanol Plants in Australia, 2008

Ethanol plant	Location (* BAA Member)	Owner (at 01.01.08)	Capacity (ML)	Feedstock (at 01.01.08)	Status (at 31.12.08)	Capacity (ML)
Austcane Ethanol Plant	Far North Qld	Austcane Ltd	0	Sugar	60 ML plant in planning stage	0
Sarina Distillery	Central Qld	CSR Ethanol *	32	Molasses (by product from sugar processing)	In full production	32
Pinkenba Biofuel Project	S-E Qld	Primary Energy	0	Grain (sorghum)	160 ML plant in planning stage	0
Rocky Point Distillery	S-E Qld	Heck Group *	0	Sugar; grain	Plant expansion in planning stage	35
Dalby Bio-Refinery	Sth Qld	Dalby Bio-Refinery Pty Ltd *	0	Grain (sorghum)	80 ML plant to be commissioned October 2008	80
Manildra Ethanol Plant	Coastal NSW	Manildra Group *	120	Starch (by product from flour milling)	Plant expansion in planning stage	120
East Rockingham Bioethanol Project (Grainol Project)	S-W WA	Grainol Ltd	0	Grain (wheat)	190 ML plant in planning stage	0
Kwinana Biofuel Project	S-W WA	Primary Energy	0	Grain (wheat and barley)	160 ML plant in planning stage	0
TOTAL CAPACITY (ML)			152			267

BAA Biofuels Association of Australia

BAA Fact Sheet | Ethanol plants in Australia | 2/2

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APL Policy Position

Australian Pork Limited (APL) actively supports the need for Australia to reduce greenhouse gas emissions and that reduction of emissions in the transport system is an essential part of this action. The pork industry is opposed to government assistance for the grain derived ethanol industry as it distorts grain markets by artificially inflating grain prices.

Most biofuel production systems around the world are not presently viable without significant government assistance measures. To be viable at current oil prices, grain based ethanol in particular appears to require either significant subsidies and tariff protection, or ethanol mandates. At the same time, a decision to mandate will provide only limited short term and heavily subsidised employment opportunities, while destroying real jobs in the economy.

Our analysis shows that a 5 per cent ethanol mandate in Victoria, NSW and QLD is likely to consume 1.8-2 million tonnes of grain unless imported ethanol is allowed to fill the mandate. Such demand will distort grain prices in local regional areas and significantly increase the likelihood of



importing feed grains into the east coast, artificially raising feed grain prices for the feed grain value adding industries that have to compete in international markets.

It has been argued by the proponents of ethanol that the supply of Dried Distillers Grains with Solubles (DDGS), a by-product of the ethanol process, will be a boon for livestock producers and avoid the grain pricing problems identified in this report. However the Centre for Agricultural and Rural Development (CARD) at Iowa State University has indicated that DDGS use will not be anywhere as high as anticipated, particularly in pigs and poultry. Further as it is unlikely that there will be very high levels of DDGS produced in Australia, it is unlikely that there will be low prices for DDGS resulting from surpluses. Therefore, the long run analysis for the USA is likely to apply from the beginning in Australia, resulting in inclusion rates of less than 5 per cent of the diet.

It is doubtful that the espoused benefits of the development of a mandated biofuels industry will offer any significant overall advantage to the community for the following reasons:

- The greenhouse gas emission reductions of biofuels have been overstated by the proponents of biofuels. Life cycle analysis shows that there are significant energy inputs into the biofuel production system, which limit the net greenhouse gas emission reductions, because fossil fuels are used in the feedstock production chain. Importantly there are indications that the life cycle analysis of E10 from grain in Australia will make greenhouse gas emissions worse than using unleaded petrol.
- Regional employment benefits from the development of a mandated biofuels industry are unlikely to be sustainable because modern biofuel plants do not have high labour needs and it is highly likely that there will be employment losses in other value adding industries as a result of an increase in feedstock prices for those industries.
- Biofuels offer some pollution reduction benefits over unleaded petrol and diesel. However, based on current available data, the extent of these benefits is unclear. It may be possible that some of these reductions may be similarly achieved by advances in engine technology and improvements in existing fuels. Some of the benefits of biofuels are also offset by increases in certain pollutants. More data on impacts in Australian conditions is required before a definitive case for pollution reduction advantages of biofuels can be made.

There are many niche markets for which biofuel production, especially second generation biofuels, can co-exist with food production. However, by mandating biofuel consumption and providing subsidies from the consumer to ensure that the mandate is met, the government will interfere with a market previously geared to the production of food, animal feed and a small volume of industrial products.

Competition between fuel and food could emerge and have significant social implications. The impact of such policies will be felt in Australia and by price-sensitive countries impacted by declining crop exports and escalating food prices. In particular there are significant concerns: that mandating and subsidising biofuels will drive up the price of food internationally and put pressure on housing interest rates; that placing marginal land into production will increase erosion and nutrient run off problems; and that biofuel plants will use significant amounts of scarce water for crops and in the plants themselves.

Biofuels are an essential component of a future energy mix, ***but mandating of biofuels in the transport fuel system must be excluded since it creates more problems than it solves. What is required is a long term solution that maps out a strategy for the next 20 years. To achieve the outcomes we seek requires a variety of approaches which allocates resource use efficiently.***

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