



Hello,

I would like to make this submission to the Senate Committee hearing on Food Production in Australia. I do not represent any organisation or interest group.

I have copied the submission below with an attachment developing the points I have listed against a grain ethanol mandate in NSW.

I hope this is an acceptable form.

My name and address.

Geoff Ward,

The Effect of Grain Biofuels on Food production in Australia.

Summary.

Grain biofuels will effect the production of food in Australia if plans to expand the industry are implemented.

The Federal Government's excise rebates, capital grants and import protection for grain biofuels are facilitating two State Governments in their push to mandate biofuels. In NSW these mandates will be filled by grain biofuels, in Queensland partly so.

The reasons why we should not develop a grain biofuel industry in Australia far outweigh the reasons why we should. With scientific research and global experience this balance has swung strongly against grain biofuels throughout the course of the last year.

This Senate Hearing should recommend that the Federal Government immediately withdraw any support for grain biofuels in Australia and so pressure any State Government to rethink their policies on mandating grain biofuels.

To do otherwise would be to continue support for a heavily subsidised industry, unsustainable, uneconomic, with insecure production, limited by feedstock supply, dogged by humanitarian concerns and probably soon to be superseded by second generation biofuels.

Discussion.

The effects of the conversion of grain to biofuels around the world on global food supply and price is well documented. Public opinion, academia, media and NGO's are leading the push to question the merits of grain biofuels in the so called food for fuel debate.

The realisation that the subsidisation and the encouragement by mandates and targets of grain biofuels may have been ill conceived is leading the EU to revisit this policy and the EPA in the USA to reconsider the corn ethanol mandate.

Political parties and the environmental movement, as instigators of these policies, are slower to accept the reality that they may have been wrong.

To date Australia has not seriously embraced grain biofuels and current biofuel feedstocks of sugar cane, waste starch from gluten production, cooking oil and tallow in the main do not impact on food production.

However this seems set to change. The Federal Government has in place policies to encourage the further development of a biofuel industry.

Several State Governments, in particular NSW, are actively taking advantage of these policies. They are supporting investment by implementing and proposing mandates that will lead to the use of grain feedstocks for biofuels.

Queensland can partly fill an ethanol mandate from sugar cane but already has a grain ethanol plant near completion at Dalby.

Without much sugar cane the proposed E10 mandate in NSW will have to be filled from grain feedstock and will impact on food production.

The potential to source additional waste starch in NSW is limited.

There is no waste starch from flour milling as has been suggested from various sources and off grade grain has always been used in the livestock industry to produce food. Grain such as soft wheat grown specifically for ethanol production will be grown on acres taken from food production and the manufacture of distiller's grain cannot be redefined as producing waste starch for ethanol as claimed by Tony Kelly MLC.

Likewise any biodiesel mandate can only source limited non grain feedstocks. It also will have to be filled by grain oilseeds. There is a proposal for crushing one million tonnes of soybeans at Port Kembla, producing biodiesel.

The quantity on grain needed to fill the proposed NSW biofuel mandates must be assessed when considering the effect of grain biofuels on food production in NSW.

This is not as simple as dividing 10 percent of the litres of unleaded petrol used, 540 million by 370, the litres of ethanol produced per tonne of grain giving a requirement of 1.46 million tonnes of grain.

Ethanol has only 68 percent of the energy of petrol.

A quantity of ethanol is already produced from 'true' waste starch from gluten production.

Distiller's grain will revert back to food production when fed to livestock. Whether this by-product can be deducted from the impact of grain biofuels on food production is debatable. To avoid energy use in drying, distiller's grain will have to be fed wet to livestock nearby the ethanol plant. This will necessitate the establishment of additional intensive livestock industries. As distiller's grain can only be fed up to 30 percent of rations, the remaining 70 percent will have to be sourced from acres in competition with existing food production.

My estimate of the net grain needed as feedstock to fill an E10 and a smaller biodiesel mandate in NSW could be about 1.4 million tonnes annually.

It would have been difficult to meet this mandated demand for grain in three of the last six years in NSW. If biofuel mandates had been in place existing grain end-users would have been affected to a greater extent and food price inflation more pronounced.

In a drying Murray Darling Basin and with an increasingly variable climate these import parity pricing situations are likely to occur with greater frequency even without a grain biofuel industry. With the mandated use of 1.4 million tonnes of grain in NSW, serious impacts on existing food production systems and inflation can be expected.

There are many other factors that can be considered when debating the merits or otherwise of a grain biofuels industry. As the use of grain for biofuels directly impacts

food production then it is appropriate to briefly list them here. In my opinion, when placed beside the reasons against grain biofuels the reasons for pale into insignificance.

Points put forward by advocates of grain ethanol include

- Cleaner air with ethanol blends—I have not sighted a definitive paper on this issue, a Federal Government paper was expected first half 2008!
- Reduction of greenhouse gasses—this has been shown as minimal by whole cycle studies and far less than sugar cane ethanol.
- Increase jobs and investment in regional and rural areas—they would be heavily subsidised jobs and investment with no allowance for unsubsidised jobs and investment lost by existing food producing industries impacted by mandated grain use.
- Renewable energy source—not when significant fossil fuels are used in production as is the case with grain ethanol.
- Use of waste starch—point covered previously.

My points against a grain ethanol industry are expanded in the attachment.

1 FORMIDABLE PARTNERS: EXCISE REBATE AND A MANDATE

- Protectionist policies belong in our past. See appendix(App) 1a
- Excise rebate: A transfer of wealth from taxpayers to ethanol investors and owners of arable acres. See App. 1b
- Importing ethanol makes more sense than subsidising domestic grain ethanol. See App. 1c
- Net jobs may be negative. See App. 1d
- Grain ethanol will only benefit the entrepreneurs. See App. 1e

2 VARIABLE CLIMATES AND HARVESTS: INFLEXIBLE ETHANOL DEMAND

- Fighting for ethanol's leftovers. See App. 2a
- Fighting for ethanol's leftovers magnified. See App. 2b
- Grain ethanol economics do not add up. See App.2c
- Climate change: greater variability. See App 2d
- Water: greater variability. See App 2e
- Very little for the grain growers, nothing for the rest. See App 2f

3 GRAIN ETHANOL PLANTS: WHITE ELEPHANTS

- Grain ethanol plants will have very short lives. See App.3a
- Disrupted production. See App. 3b
- A grain ethanol industry will not encourage R&D of cellulose ethanol. See App 3c
- An ethanol industry and infrastructure may not be in the future alternate fuel mix. See App. 3d

4 ETHANOL FROM WASTE OR GRAIN.

- Primary grain (food) will be converted to ethanol. See App.4a

5 INCREASING KNOWLEDGE ABOUT THE DEMERITS OF GRAIN ETHANOL NOT RECOGNISED.

- Much scientific effort has been spent on ethanol over recent years. See App. 5a
- World debate. See App. 5b

6 GRAIN ETHANOL: ENVIRONMENTALLY UNFRIENDLY.

- Grain ethanol fails on all fronts. See App. 6 a

7 OTHER POINTS TO CONSIDER

GRAIN ETHANOL, POINTS TO CONSIDER ABOUT THE PROPOSED E10 MANDATE IN NSW.

GEOFF WARD VIEWPOINTS. Dated end May 2008

INTRODUCTION

1 FORMINABLE PARTNERS: EXCISE REBATE AND A MANDATE

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I ASK YOU, WHY ARE WE PROPOSING TO MANDATE E10 IN NSW?

GRAIN ETHANOL, POINTS TO CONSIDER ABOUT THE PROPOSED E10 MANDATE IN NSW.

INTRODUCTION

The NSW Government is proposing to mandate that all standard unleaded petrol in NSW will contain 10% of ethanol. This ethanol will mostly be sourced from grain. We must oppose this grain ethanol industry because of the humanitarian effects of converting food to fuel, the lack of CO2 abatement, its unsuitability to operate in the variable NSW climate and the hindrance an established industry will provide to the development of the preferred cellulose ethanol industry.

The ethanol industry debate worldwide has been muddied by misinformation and spin doctoring, not helped by the terminology. Barrels, litres, US gallons, bushels, tonnes, millions and billions can easily be daunting. Ethanol, biofuels, grain ethanol, waste are all terms used glibly to suit the occasion. In this discussion of the proposed E10 mandate I am setting out the problems of processing ethanol from grain in NSW.

1 FORMIDABLE PARTNERS: EXCISE REBATE AND A MANDATE

(a) Protectionist policies belong in our past.

It is hypocritical for farmers to demand and governments to implement protectionist policies with respect to grain ethanol when for years we have fought tariffs and USA/EU farm subsidies. As an exporting nation, Australia must support global trade and benefit from comparative advantages between trading partners.

(b) Excise rebate: a transfer of wealth from taxpayers to ethanol investors and owners of arable acres.

Mandated and subsidised grain ethanol will increase the price of grain and arable acres and so benefit rural areas. However, as in Iowa, the rest of the population will object to this transfer of wealth when it is pointed out that the NSW E10 involves a \$230 million annual subsidy of Federal money to NSW. The Productivity Commission recently questioned the value of this excise rebate. If the Federal Government wishes to support regional and rural areas this money would be better spent directly in these areas rather than have ethanol investors 'clip' it on the way past. Better still the annual \$230 million could be spent on research and the encouragement of cellulose ethanol.

(c) Importing ethanol makes more sense than subsidising domestic grain ethanol.

Grain ethanol is seen as a stepping stone to the eventual implementation of cellulose ethanol. It would be better to import the sugar cane ethanol from Brazil and sell our grain.

Currently Brazilian ethanol futures are priced at about A\$0.30 / litre delivered Paulinia, San Paulo.

Carbon credits could make ethanol made from sugar cane and 'true' waste economical.

This combination of imported, sugar and waste ethanol would offer much better CO2 abatement, less humanitarian effect and nil distortion of NSW agriculture.

(d) Net jobs may be negative.

A grain ethanol industry will take the limited resources of arable acres and water from existing industries so any jobs lost must be deducted from those few created by this new capital intensive industry.

(e) Grain ethanol will only benefit the entrepreneurs.

A mandate is the Rolls Royce of subsidies, a carrot for any investor, a situation to carefully consider. Allowing for energy differences, the excise rebate of 38.143 cents per litre of ethanol is equal to 57.215 cents per litre of petrol. That's one big carrot.

2 VARIABLE CLIMATE AND HARVEST: INFLEXIBLE ETHANOL DEMAND

(a) Fighting for ethanol's leftovers.

NSW's variable climate and harvest is the principle factor making a grain ethanol industry impracticable. Iowa's grain ethanol experience, with its relatively certain climate, is not admissible to the NSW E10 debate. On the other hand, Texas has a more variable climate and it is no surprise that its Governor is calling for relief from the USA ethanol mandate.

A NSW E10 without ethanol imports translates to conversion of 1.6 million tonnes of grain to ethanol. This is about 40% of the NSW harvest in 3 of the last 6 years.

Allowing for domestic grain use and the traditional flow of grain to Victoria and Queensland we would have seen about a 2 million tonne deficit in grain production in these three years.

Increasing production in a drought is not possible underlining the impracticability of the grain ethanol industry in NSW.

(b) Fighting for ethanol's leftovers magnified.

Localised shortages occur in NSW, both in grain and starch quantity when grain is pinched from drought. Domestic 'import parity' localised pricing will occur with local grain end users disadvantaged. A local grain ethanol plant would increase the occurrence and severity of these domestic 'import parity' situations. Other end users will shift their operations to ports where they can have access to imported grain in response to this more commonly occurring event of import

parity pricing. The dominance of a grain ethanol plant in the MIA or in any of our NSW river valleys has the potential of tearing the fabric of these communities apart. Localised 'import parity' will mean greater movement of grain across the established transport routes which stretch from production areas to the ports. The infrastructure for this freight movement does not exist.

(c) Grain ethanol economics do not add up.

To overcome grain shortages from droughts, grain would have to be stored for up to two years or transported long distances. The provision of infrastructure to store or transport grain would be a significant cost to the grain ethanol industry, one of the factors making it uneconomic compared to sugar ethanol in a more certain climate.

(d) Climate change : greater variability.

Climate change experts are predicting a hotter, dryer NSW with even greater variability of harvests.

It is strange that the NSW Government is on one hand building a desalination plant in response to these climatic predictions while on the other proposing a grain ethanol industry whose operation under the same climatic predictions will be even more unworkable.

(e) Water : greater variability.

Grain ethanol plants need water for operation and irrigation water to grow grain to provide some certainty of supply. This water availability is also becoming more variable. Water buybacks for environmental flows, minimum tillage decreasing runoff and again climate change all make a grain ethanol industry impracticable.

With the Murray Darling Basin drying how can we add the additional burden of a grain ethanol industry onto it's water resources.

(f) Very little for the grain growers, nothing for the rest.

Under export parity conditions the ethanol plant will only pay the export price for grain and so returning no greater profits to the grower. If E10 is mandated and the supply of grain is limited by drought, grain prices will run to import parity.

The only way a farmer will benefit is from the increased occurrence of import parity situations that the increased demand for grain E10 will bring about.

However this comes at a significant cost. Export industries that value add grain such as beef and dairy and a range of food production including wheat gluten, flour and malt will all be priced out of the global market. Import competing grain end users such as the pig producers will find business impossible.

Domestic food costs will rise for all.

3 GRAIN ETHANOL PLANTS : WHITE ELEPHANTS

(a) Grain ethanol plants will have very short lives.

The economics and greenhouse gas abatement of a grain ethanol plant are improved if the distillers grain protein byproduct can be used wet in livestock rations. Because of this a grain ethanol plant will be associated with an intensive livestock operation nearby. Cellulose ethanol does not have this protein byproduct and so a change to the preferred cellulose ethanol will compromise the economics and CO₂ abatement of the grain ethanol/livestock complex. Bear in mind also that these grain ethanol plants may not be sited favorably to use cellulose feedstock.

(b) Disrupted production.

Under drought import parity situations the governments may have to halt ethanol production. What will be the trigger and the compensation? Political decision will trump the market? Where will the replacement fuel come from?

(c) A grain ethanol industry will not encourage R&D of cellulose ethanol.

An established grain ethanol industry will be a hindrance to the development of the preferred cellulose ethanol. It will have no incentive to change to cellulose and in fact, if sited in the wrong location and faced with possible cheaper ethanol production they would actively campaign against it. Politicians, faced with compensation for encouraging the grain ethanol industry, will likewise have little incentive to get behind a cellulose ethanol industry.

Put another way, cellulose ethanol feedstock will probably be sourced between the tropics where there is greater photosynthetic activity. The grain ethanol industry now developing in temperate areas will not be advocates of this competition. This will be a very unfortunate as cellulose ethanol could be the real replacement for transport fossil fuel we are all hoping for. Australia is fortunate in having millions of acres undeveloped in our tropics which would be ideal for large scale cellulose ethanol production to supply both domestic and export markets.

(d) An ethanol industry and infrastructure may not be in the future alternate fuel mix.

With reports that work is progressing rapidly on modified E.Coli bacteria that excrete oil and algal biodiesel, ethanol may be eclipsed by biodiesel. For Governments to back an ethanol industry with taxpayers money in a rapidly evolving biofuel scene is irresponsible. Surely it is best to skip this first generation biofuel phase which really has very limited potential.

4 ETHANOL FROM WASTE OR GRAIN.

(a) Primary grain (food) will be converted to ethanol.

The Victorian Parliamentary report was told at an interview with Manrilda group in 2007 that about 50% of the NSW ethanol produced at that time came from waste. This means that there only 200000 tonnes of grain was processed in such a way as to leave a 'true' starch waste byproduct. Although some ethanol may be produced from sugar waste at Harwood it is clear that 1.4 million tonnes of grain would be used as primary ethanol feedstock. In an attempt to distance the E10 policy from the food for fuel debate Minister Tony Kelly recently stated in Parliament that 'Ethanol is a by-product of the manufacture of distillers' grain.'

Since the ethanol produced from a tonne of grain is worth about five times that of distillers grain this must be close to the best spin heard in parliament for a long time.

5 INCREASING KNOWLEDGE ABOUT THE DEMERITS OF GRAIN ETHANOL NOT RECOGNISED.

(a) Much scientific effort has been spent on ethanol over recent years.

With increasing knowledge over the last five years the merits of grain ethanol have been diminished. Lack of CO₂ abatement, deleterious effects on global supply and prices of food and environmental concerns have all been proven.

Politicians from all parties are taking the head in sand approach in the face of these new facts and world debate, perhaps simply because it entails admitting they were wrong.

(b) World debate.

Many are calling for the USA to back away from its corn ethanol mandate and subsidy. The EU is reconsidering its grain biofuel targets and leading figures around the world are calling for caution and debate.

A NSW decision to mandate E10 will have a significant impact on this global debate now raging about the merits of grain ethanol. The decision will be noted and be used to support debate by on side or the other.

6 GRAIN ETHANOL ENVIROMENTALLY UNFRIENDLY.

(a) Grain ethanol fails on all fronts.

Any decrease in exports will contribute to humanitarian problems in some countries. They will have to increase their production from marginal or new land, both environmentally damaging. Any CO₂ release from this must be billed to the grain ethanol industry here in NSW.

By increasing demand for grain, the grain ethanol industry has added to the rapidity of these price increases to a level beyond the capacity of world agriculture to respond sustainably.

Monoculture of corn in Iowa and the high price of N fertiliser have seen a swing back to a legume based rotation. Irrigated monoculture dictated by an ethanol plant in our river valleys would likewise be ill-advised.

7 OTHER POINTS TO CONSIDER.

Public acceptance of ethanol appears weak. E10 would be easier to 'sell' politically if we imported the more environmentally friendly sugar cane ethanol and avoided the baggage of a disastrous adventure attempting to convert up to 40% of a poor NSW harvest into ethanol

The NSW mandate will add ethanol to all standard unleaded petrol. This will take away the rights of those people not happy with 'taking food from a starving family to fuel my car'. Their only alternative will be to buy the more expensive premium grade which will not contain ethanol.

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