Committee Secretary
Senate Select Committee on Fuel and Energy
PO Box 6100
Parliament House
Canberra ACT 2600
Australia

Introduction

CSR Limited has been operating in Australia for 154 years. The company is a leading diversified manufacturing company with operations throughout Australia, New Zealand, China and South East Asia. For the year ending 31 March 2009, revenues were $3.5b with capital expenditure of approximately $415m. The company essentially operates within four divisions. These comprise Building Products, Sugar, aluminium smelting, through our shareholding in the Tomago aluminium smelter and development of land associated with former operations.

CSR Sugar is the 7th largest sugar company in the world. The sugar division is involved with farming activities, operates seven sugar mills in North Queensland and in a joint venture with Mackay Sugar Cooperative Association Limited, 3 sugar refineries, located in Melbourne, Mackay and Auckland.

The CSR Ethanol Business

At the Plane Creek site near Mackay, CSR Distilleries owns and operates an ethanol production facility which produces automotive grade anhydrous ethanol. This forms the basis of CSR Ethanol's renewable energy business. We are the largest sugar based ethanol producer in Australia. The company has just completed an expansion of the fuel ethanol capacity at this site. The capital investment was $17.8m and capacity increased from 38mla to 60mla. The Sarina facility uses molasses drawn from CSR's own operations in the immediate area and the Burdekin region together with product from other mills in the Mackay Region. The co-product of the fermentation process is generally known as dunder, branded as BioDunder™. CSR blends this with nitrogen and phosphorous to produce a complete liquid fertiliser used in precision agriculture, mainly for the sugar industry. CSR Ethanol has won numerous awards for this innovative and cost saving product. Recently the company won the NAB Agribusiness Award for Value Adding and the DuPont Innovation Award for Agriculture and Food production and this year was a finalist in the Queensland Government Sustainable Industries Awards. From a Government policy perspective, the basis of these recent investment decisions was the current producer rebate, equivalent to the current excise level on ethanol of 38.14 cpl and the Coalition White Paper of 2004 with a phased in excise approach based on energy neutrality principles post 1 Jul 2011.

Policy Impact on Development of Future Investment

CSR has identified additional projects to produce ethanol from sugar by-products for automotive purposes, bringing lower prices to motorists and reducing the pressure on petroleum imports. However the Coalition White Paper has not been enacted in legislation. Given this was developed in 2004 and that the climate scientists now have a greater degree of certainty regarding climate change, it is timely to re consider the 2004 policy and determine whether this is the most appropriate approach to ethanol excise for the future. In addition, the Henry review into taxation, the Department of Resources, Energy and Tourism Green Paper process, combined with the imminent CPRS legislation suggest that it is timely to reconsider the objectives of renewable fuel excise policy overall. New South Wales has introduced a renewable fuels mandate, the Biofuel Ethanol Content Act 2007 (as amended) and despite the IPART review recommending the Act be subject to an independent economic appraisal, the New South Wales Government has rejected that advice. The Queensland State Government has also introduced draft mandate legislation in accordance with the Fuel (Ethanol Content) Bill 2009. CSR does not believe that mandating ethanol demand is a preferred policy. This encourages imports at the expense of local investment and does not provide for the development of a robust market. In effect, the NSW mandate is a 3 month mandate with exemptions at the minister's discretion. The "sovereign" risk associated with this legislation is regarded as too high for a public company such as CSR to base an investment. The company is of the firm view that policy should be federally based without cross subsidy or policy confusion between state and federal counterparts. Importantly mandates do not differentiate between low carbon cycle processes or those with high carbon footprints. A federal policy can be used to achieve that.

Major Issues to be Considered in Developing Future Policy

1. Food versus Fuel

The rapid fly up in oil prices combined with the large expansion of corn based ethanol in the USA raised questions internationally about the impact this had on higher food prices. This is a complex issue with various opinions as to what caused a rise in certain food prices and it is not within the scope of this submission to review global food markets and their operation.

Suffice to say that sugar is not regarded by the Food and Agriculture Organisation of the United Nations as a food staple.

The major sources of the world's food are three crops viz rice, wheat and maize, which comprise 60% of the world's food intake. Roots and animal products are the two other major sources of food energy.

Recognized food studies commonly categorize sugar along with coffee and cocoa. The absence of these products from global markets will essentially have no impact on starvation rates. A World Bank policy research paper released in July 2008 concluded that while large increases in [grain based] biofuels production in the United States and Europe contributed to the steep rise in global food prices, "sugar-based ethanol did not push food prices appreciably higher".

Arguments against sugar based ethanol have been based on the need for additional land clearing or replacement of food crops. In Australia there is very little opportunity for more suitable land to be brought into sugar production. The biggest threat to sugar farming has been the forestry MIS promoters which have removed valuable prime agricultural land from sugar production and locked that land away for 15 to 20 years, probably never to return to sugar again. Some other regions are under threat from urban encroachment. Australia's strict land clearing laws prohibit broad scale clearing of new land for agriculture, including sugar cane.

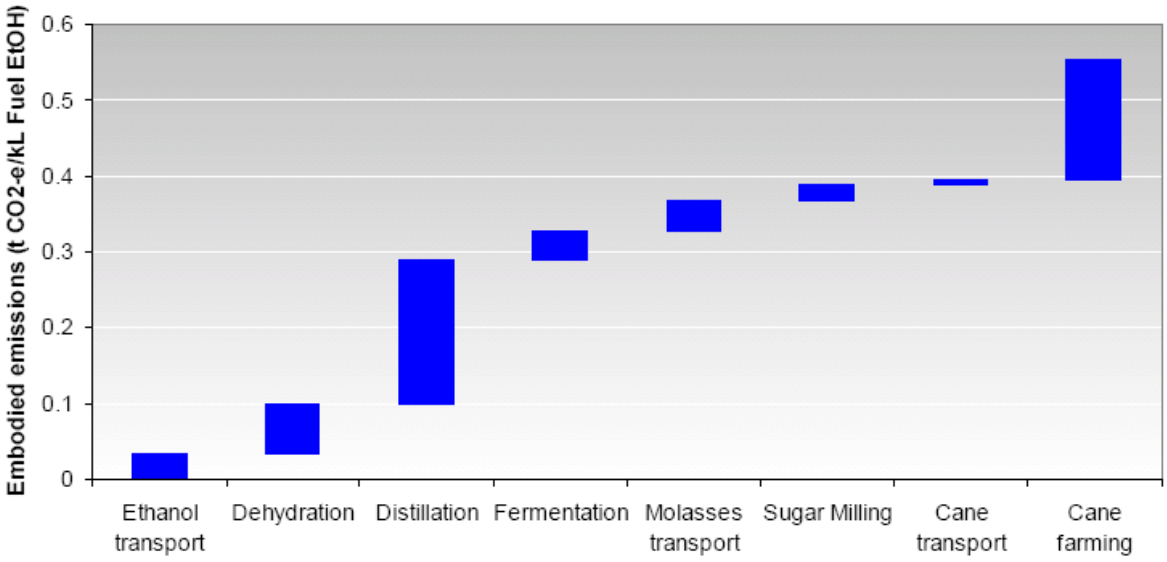
2. Ethanol and Fuel Security

Australia imported 3533 Ml of refined petrol in 2007/8, against a total demand of 19.2 billion litres. That equates to over 18% of demand being met by imports. Universal usage of E10 blends by Australian motorists would reduce demand by approximately 1922 million litres (without adjusting for energy content), roughly halving the demand for imports.
The Australian sugar industry would be capable of meeting this demand. Approximately 4 mta of raw sugar are exported annually and if this was all converted to ethanol the maximum potential ethanol production would be approximately 2.4 billion litres pa.

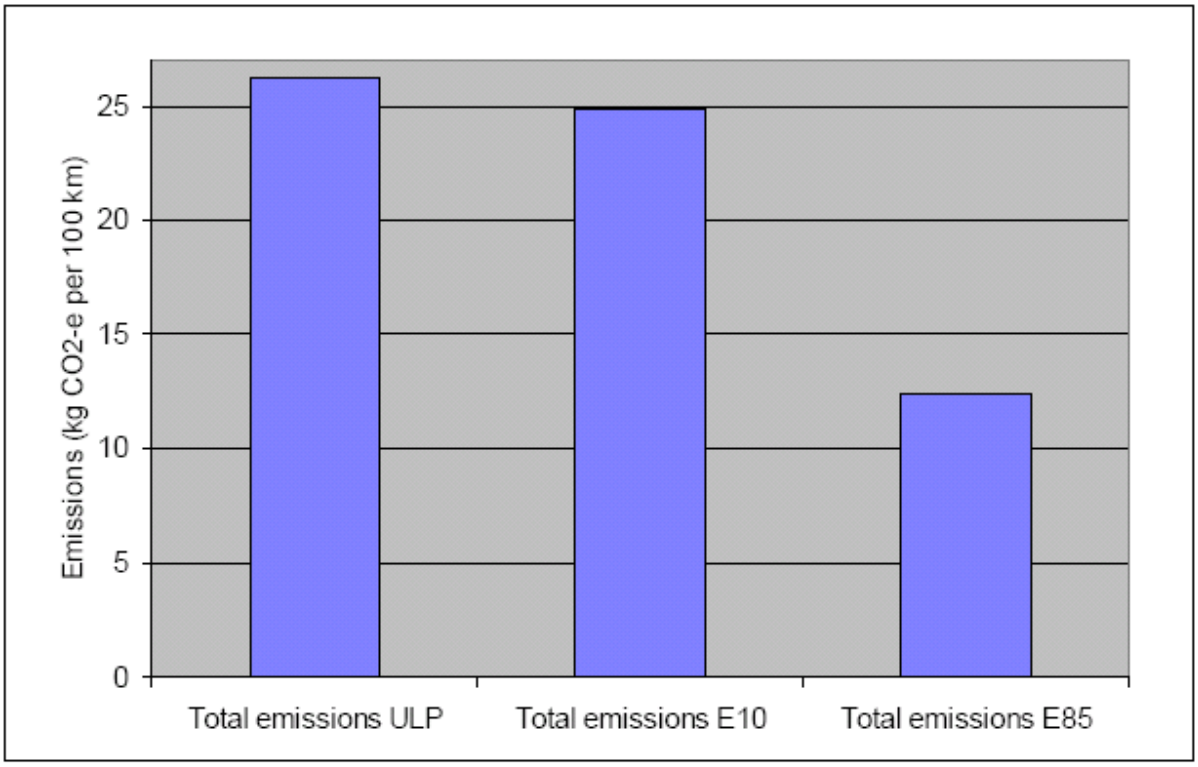
3. CSR Ethanol offers significant CO_2 abatement from a non-food source

Based on a carbon footprint analysis of CSR Ethanol's production chain conducted by Energetics Pty Ltd in 2008, one litre of CSR ethanol produces less than half the CO_2 emissions of one litre of petrol.

This analysis takes into account the full emission cycle across farming, harvesting, milling and delivery to market. The research was peer reviewed by the CSIRO and is summarised in the chart showing the sources of embodied Greenhouse Gas Emissions in the fuel ethanol from the Sarina distillery.



The Life Cycle Assessment (LCA) was used to compare the emissions of ULP, E10 and E85 on a per km basis. The basis for E85 is where the E85 is used in an engine designed for ULP, but data are adjusted for the respective energy contents of ULP and ethanol. This is conservative as the fuel economy for purpose built E85 engines is higher than assumed here.

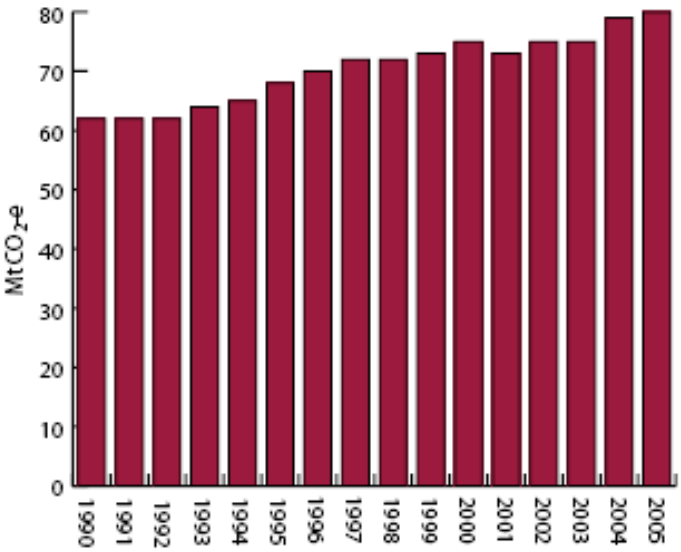


The overall comparison on a full combustion cycle shows that the scope 1 emissions for combustion of petrol are much higher than the total emissions of the farming and production cycle for ethanol. Hence there is a substantial benefit to the carbon load on the environment by using ethanol rather than ULP.

4. Potential Impact on Emissions is Large

Australia uses about 20 billion litres of petrol per annum, which in turn generate about 50 million tonnes of CO2-e every year or about 2.5 tonnes CO_2-e per 1000l's of petrol. Transport emissions overall represent about 15% of Australia's GHG emissions and have grown 30% since 1990.

Figure 7: Total transport emissions, 1990–2005



Sugar based ethanol has the potential to reduce Australia's transport emissions by 5.6 million tonnes per annum, almost equivalent to 5 years growth in emissions. This provides some breathing space for the introduction of more fuel efficient vehicles, which can also benefit from ethanol fuels.

5. Excise Policy does not adequately reward CO_2 abatement or encourage investment

Ethanol is currently excise rated at 38.143 cpl. Until 30 June 2011 an ethanol manufacturer receives a producer rebate under the Energy Grants (Cleaner Fuels) Scheme Act 2004.

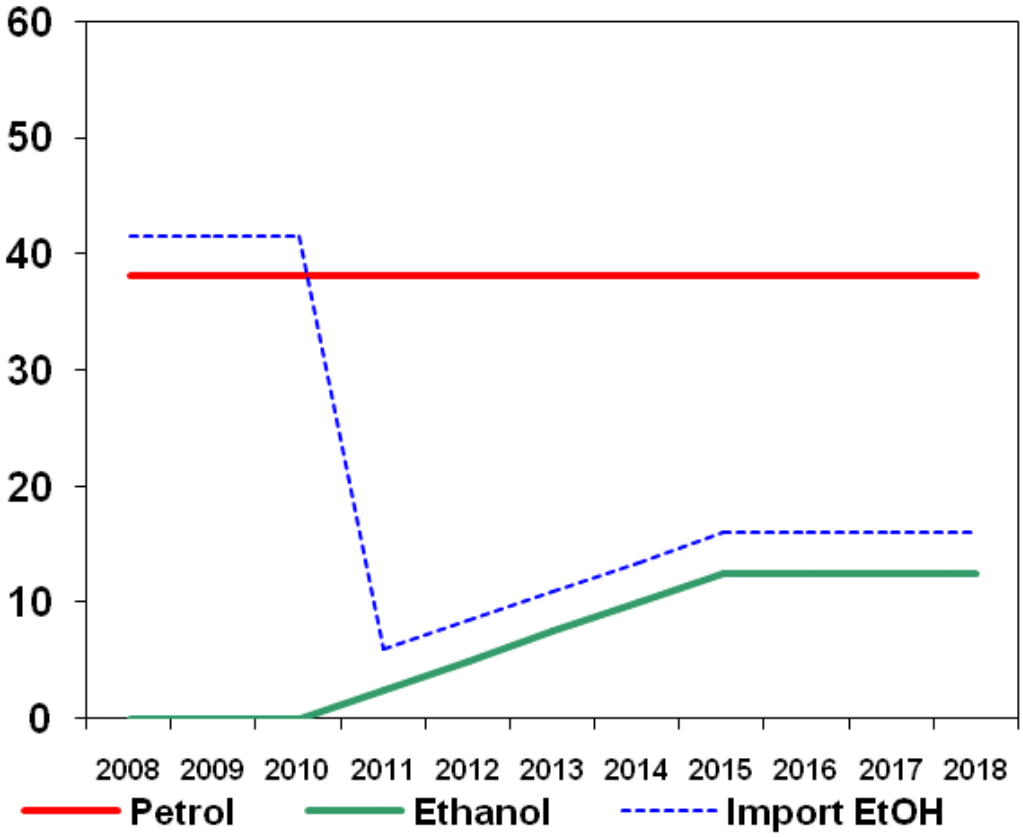
This rebate has effectively been passed through to the motorist with E10 being discounted at the pump by 3 to 4 cpl. This is equivalent to a 30 to 40 cpl discount on the ethanol contained in the 10% blend. The motorist has been encouraged to choose the E10 product by way of product discount and this has been useful in growing market acceptance for the product.

In June 2004 the then Government produced a Fuel Excise Reform White Paper. This signalled the introduction of a banded fuel excise system with differing rates of excise to bring about fuel energy neutrality, including a 50% discount on full energy content for alternative fuels. Petrol and diesel were considered high energy fuels, ethanol and LPG mid energy and methanol was classed as a low energy content fuel. Ethanol being rated a mid energy fuel was to have an excise rate to be applied of 12.5cpl. It was intended that the excise would be phased in by 2.5cpl per annum commencing in 2011 and reaching the full rate by 2015.

The White Paper was never enacted and the industry was much slower to develop than expected due to early consumer scares about the suitability of ethanol in motor vehicles.

Post the Producer Subsidy administered by the Department of Innovation, Industry Science and Research, the Tax Office will then administer the subsidy phasing it out over 5 years under the Cleaner Fuel Grants Scheme. Coinciding with this transition the excise will apply equally to locally produced ethanol and imported ethanol. Until then imported ethanol pays the full value of excise.

CSR's recent investments were predicated on the June 2004 White Paper position and this is demonstrated in the graph below.



Imported ethanol faces an FOB duty of 5% (except where bilateral free trade agreements operate) and an import freight cost. In reality imports will be priced to meet the market on an after excise basis.

Effective Tax on Ethanol & Petroleum cpl

The focus on climate change and the imminent introduction of the CPRS suggests that the question of the application of excise to fuels which have lower emissions footprints should be re-considered.

Furthermore the method by which the cent for cent carbon tax rebate is applied under CPRS does not necessarily favour biofuels. When carbon prices are rising the excise adjustments lower the petrol excise providing a very small benefit to biofuels, but if carbon prices happen to fall at the point of application of the excise adjustment there is a small disincentive to use biofuels. Details of this can be found in the Exposure Draft of the Carbon Pollution Reduction Scheme (CPRS Fuel Credits) Bill 2009.

Essentially there is low to no benefit for lower carbon fuels under CPRS.

6. CSR proposes carbon footprint adjustments for excise determination

This is a simple proposal based on:

- Retention of energy neutrality (retain the energy bands)

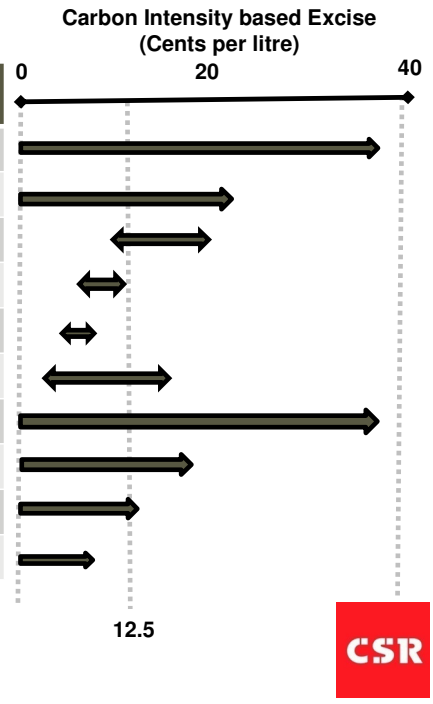
- Align the levels of excise of alternative fuels to the carbon footprint of a standard fuel e.g. petrol

Under this **policy the lower the carbon footprint – the *lower* the excise rate.**

This is illustrated by the worked examples in the table below.

Principle:
The lower the carbon footprint – *the lower the excise rate*

Fuel	Tonnes CO2e/kL	Energy Adjusted Tonnes CO2e/kL
Petroleum	2.5	2.5
LPG	1.7	2.2
Ethanol (Grain)	0.8 – 1.5	1.2 – 2.2
Ethanol (Mol)	0.5 – 0.8	0.7 – 1.2
Ethanol (Sugar)	0.3 – 0.5	0.4 – 0.7
Ethanol (2nd Gen)	0.2 – 1.0	0.3 – 1.5
Diesel	2.8	2.8
Biodiesel (Tallow)	1.3	1.4
Biodiesel (WCO*)	0.9	1.0
Biodiesel (2nd en)	0.5	0.6



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Different processes will have different footprints and therefore on an energy adjusted basis a different level of excise. It is interesting to note that while there has been much focus on second generation ethanol, some second generation processes have higher footprints than traditional molasses based ethanol.

7. **Biofuels can now play a part in building a lower carbon future**

- **Aligning excise to carbon emissions encourages the community to lower carbon fuel emissions without raising petrol prices.**
- **Aligning policy to sustainable investment encourages the investment community to build low footprint manufacturing processes.**
- **The policy has broad application as it can be applied to all fuels, not just ethanol.**
- **Policies that support the development of a sustainable alternate energy industry will also have added benefits of improving energy security, regional development and reduce imports.**
- **It is expected the policy is effectively tax neutral.**
- **Methodologies to produce carbon footprints are now well described and the WTO could play a role to assist in this in combination with the Global Bio-Energy Partnership for instance.**

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15 July 2009