

## Submission to the Review of the Future of Australia's Taxation System

May 2009

### Objective

This submission argues for the retention of the favourable taxation treatment of bio-fuels such as ethanol, produced in Australia, given the positive contribution of bio-ethanol to Greenhouse Gas abatement, carbon particulate reduction, imported fuel cost reduction and rural & regional development.

### Introduction

The Manildra Group of companies are leading producers of food products and related goods and also a major producer of bio-fuel ethanol. Manildra has been at the forefront of the environmentally friendly production of bio-fuel ethanol for many years in rural NSW. The ethanol is an output at the end of a production cycle which involves the production of some 150 other food related products from gluten to flour, starch and glucose – the original source material being wheat - and allows the company to add value to what would otherwise have been a waste stream.

### The Problem

Under the current excise taxation law, bio-fuel ethanol will move to an excise rate of 38.143 cents per litre from 1 July 2011.

#### **The Australian bio-fuel industry is not viable at this rate of excise.**

Under proposals announced by the then Prime Minister in December 2003,(refer attached Appendix A) excise on ethanol was scheduled to rise from (effectively) zero to 2.5 cents per litre from 1 July 2011, rising to 12.5 cents per litre on 1 July 2015. That commitment was the basis on which very substantial investments in ethanol capacity were made by industry. However the changes to alternate fuels excise as then announced by the Prime Minister have never been legislated.

Favourable excise treatment for bio-fuel ethanol was proposed on the basis that its use addresses a number of issues within the Australian community:

- Declining levels of domestic oil stocks means Australia imports more and more petroleum from overseas. The total Australian fuel trade deficit now stands at \$18,500 million, up from a deficit of "only" \$2,500 million in 2002/03.
- Passenger motor vehicle emissions are one of the major contributors to Greenhouse gasses from transport sources.

- Cars are also a major source of hazardous air pollution which causes hundreds of needless deaths in Australia's major capital cities every year.

## Background

### Importation of Fuel Stocks:

Australia now has a trade deficit of over \$1 billion a year in refined automotive fuels and a total fuel deficit (petrol, diesel & crude) of nearly \$18.5 billion a year. This now represents over 80% of our total Trade Deficit.(refer Attached Appendix B)

This deficit has existed each year since 2001 and has been growing steadily to reach the current year deficit figure. In addition, there is a similar deficit in imported refinery feed stocks.

The United States Department of Commerce has estimated that every US\$1 billion in their trade deficit costs the US economy 19,000 jobs. There is no reason to expect that a similar grim logic would not prevail in Australia.

There is every indication that the current trend is going to continue, meaning that we will be increasingly reliant on the rest of the world for our petroleum products at a time when the cost of those products is only likely to rise and when their supply is sometimes problematic.

While it is unlikely Australia will ever be wholly self reliant again, any step we as a nation can take to reduce our dependence on imported petroleum products must be seen as positive.

Bio-fuels replace imported petroleum, reducing our trade deficit and supporting domestic job creation in regional areas.

### Greenhouse

Between 1991 and 2005, passenger vehicle fuel consumption increased by 25.7%, vehicle travel increased by 32.6% and the fleet average rate of fuel consumption (FAFC) declined by 6.0%.

If Australia is to do anything meaningful about Greenhouse emissions from transportation in the next 2 decades while new generation technologies such as electric hybrid and hydrogen fuel cell powered vehicles are developed, then a realistic policy option which can be integrated with current motor vehicle technology must be implemented soon on a wide scale at minimal cost.

## Air Quality

Air quality is an important consideration in a country like Australia where over 80% of the population live in the coastal cities. While catalytic converters fitted to engine exhausts and other significant technological improvements to motor vehicles in recent years have significantly improved emission outcomes from new vehicles, there is no doubt that we face a significant air quality problem in our major cities and it will only get worse.

Over the last decade or so, research has indicated that our health may be adversely affected at lower levels of air pollution than was previously suspected.

Car emissions are the major source of microscopic particles that are now considered to be especially hazardous to health. The majority are emitted directly from the vehicle exhaust pipe but others are formed by secondary processes as a result of atmospheric chemistry arising from the interaction with exhaust gases.

These particulates are impossible to see individually but form a fine cloud like smoke which eventually becomes the brown atmospheric haze which is now evident in cities like Sydney on many days of the year.

These microscopic particulates from vehicle emissions are increasingly recognised as a major source of respiratory illness causing hundreds of needless deaths and significant disability from respiratory distress and asthma attacks every year.

Research undertaken by the Bureau of Transport Economics<sup>1</sup> in 2003 indicates that approximately 1,200 people die each year in Australia and that victims suffer 21,000 extra days of asthma attacks as a direct result of 10 micron particulate air pollution. The economic cost of this death and morbidity to Australia is also very high with the research group calculating it at around \$3.3 billion per annum.

This research did not factor in the effects on people aged under 30 as a result of limitations in the data and so the actual effects were no doubt much worse.

In fact, another study by the National Environmental Protection Council in 1998 pointed to a figure closer to 2,400 deaths per annum and an health annual cost to the community of over \$17 billion.

This means deaths from this type of pollution well exceed the annual road toll yet it receives almost no publicity because it is a silent killer and the direct casual link with the source of this deadly pollution is not well established in the public mind.

---

<sup>1</sup> Johnson Amoako, Dr Anthony Ockwell & Madhumita Lodh, *The Economic Consequences of the Health Effects of Transport Emissions in Australian Capital Cities* (BTRE 2003)



However, the benefits of oxygenated fuel (petrol blended with say ethanol) are well established in the USA where its use is a Federal Government mandated requirement in air pollution “hot spots” throughout the US.

### The move to bio-fuel ethanol

To address these issues in the short term is not easy. There is a significant investment in the installed base of passenger vehicles and refinery infrastructure as well as reseller distribution networks. However, international demand for action on Greenhouse and the domestic imperative to act on air quality issues mean that something must be done in the short to medium term.

Our increasing dependence on imported petroleum is also a serious issue from both a national security and a balance of payments perspective.

A report<sup>2</sup> on the prospects for reducing Greenhouse gas emissions from US transport sources in 2003 prepared for the Pew Centre on Global Climate Change concluded that:

*“For at least the next decade, the U.S. transportation system will continue to be powered primarily by conventional, petroleum-based liquid fuels. As a result, the most productive near-term options to reduce GHG emissions will be fossil fuel or carbon pricing policies, energy efficiency improvements, and the blending of low-carbon replacement fuels with petroleum liquids.”*

Obviously, in the short term, no one strategy will achieve massive reductions in GHG emissions from passenger vehicles but a combination of strategies will, together, achieve substantial benefits.

The Pew Centre study concludes that in the medium term blending biofuels with petroleum fuels is one of the more cost effective ways to reduce GHG emissions from passenger vehicles. As a bio-fuel is “grown” - thereby withdrawing CO<sub>2</sub> from the atmosphere - it effectively can eliminate a proportion of the fuel as a net GHG contributor.

Depending on the efficiency with which a given bio-fuel is produced, a 10% blend of ethanol as a bio-fuel could, for example, reduce the Greenhouse contribution compared to the base petrol fuel by between 3% and 7%.

As the bio-fuel industry develops and the technology becomes more efficient, this percentage can be expected to increase.

---

<sup>2</sup> David L. Greene & Andreas Schafer, *Reducing Greenhouse Gas Emissions from US Transportation*, (Pew Centre on Global Climate Change 2003)

### Cleaner Air in the major cities:

Bio-fuels have further advantages in that some (such as ethanol) are also "oxygenators" - they add oxygen to the base petrol fuel which would not otherwise contain an oxygen component.

This has long been mandated in areas of the United States where pollution is at its most serious and has the effect of reducing particulate matter and hydrocarbons as well as ozone and carbon monoxide (CO). Other oxygenators are available such as MTBE but this chemical is subject to scrutiny due to issues associated with the contamination of ground water.

Recent studies<sup>3</sup> have demonstrated the ability of oxygenators like ethanol to reduce the fine particulate matter emitted from vehicle exhausts that is the very cause of such massive health and economic costs to our society by about 50%.

Carbon Monoxide which is a precursor to ozone formation and a significant pollutant in its own right is also reduced by up to 30% by the addition of an oxygenator like ethanol. Even new cars gain a significant benefit in terms of CO reduction as the oxygen seems to enhance the effect of the catalyst in removing the CO.

Other toxic substances which form part of car exhaust emissions can also be significantly reduced by the additional of biofuels like ethanol.

One of the most toxic compounds emitted by cars would appear to be benzene – an aromatic hydrocarbon which along with other related aromatic hydrocarbons such as xylene can be reduced by up to 25% by the addition of only 10% ethanol to the fuel.

While the addition of ethanol will reduce the majority of damaging pollutants, it can have the effect of slightly increasing levels of acetaldehyde – a very low toxicity compound. These increased levels are a small price to pay for the significant reductions in deadly particulates and hydrocarbons. The reality is that acetaldehyde emissions are very low in modern cars with catalytic converters.

Adding oxygenators to fuel clearly has many advantages, which is why 30% of all petrol sold in the US is legally required to be blended with an oxygenator<sup>4</sup>.

Traditionally, this has taken the form of a chemical such as an alcohol or an ether e.g. ethanol or MTBE. Indeed, Europe has made significant use of MTBE as has California

---

<sup>3</sup> Gary Z. Whitten and Smog Reyes, *Air Quality and Ethanol in Gasoline* (2004)

<sup>4</sup> US Energy Information Administration, *Monthly Data 2004*

while the Midwestern and Eastern US have tended to use ethanol because of their proximity to the corn growing States.

However, the discovery that MTBE can cause significant long term pollution to ground water has resulted in its being banned in many US States (including California) and phased out in others. As a result, ethanol is increasingly the oxygenator of choice in the USA although it remains in use as an additive in Europe albeit in much lower proportions.

Few US States have mandated the use of ethanol given the Federal mandate for oxygenated petrol as a means of reducing air pollution.

### **Promoting self reliance in petroleum:**

A domestic bio-fuels industry can have a significant impact on Australian self reliance in petroleum products and thereby reduce our dependence on imported products.

Since 2001, Australia has rapidly accumulated a significant deficit in petroleum products, costing dollars and jobs.

The renewable fuels industry has the potential to make a significant dent in that figure as it assumes a more meaningful role in regional economies – thereby helping our balance of payments and helping to assure our fuel supply against interruption in an uncertain international security climate.

The production capacity of fuel ethanol in the USA now exceeds 9,000 million US gallons, demonstrating that in an economy that is proficient at agricultural production, significant production capacity is possible.

### **Regional Development:**

The remaining benefit of encouraging the long term sustainability of a bio-fuel industry in Australia is the impact it has on regional development. Bio-fuels must be "grown" then harvested, transported, processed and finally delivered to the refinery.

This cycle is repeated on a continuous basis and is capable of supporting whole communities in regional Australia as, apart from the direct employment which the processing plants generate, there are numerous jobs from those indirectly employed on the farm, in the associated communities, in transport companies etc.

In addition, fuels like ethanol are produced as part of a process which itself has the potential to offer many other products such as gluten, starch, glucose, brewers maltose, bottled industrial CO<sub>2</sub> gas etc which are themselves profitable to the



manufacturer and therefore the community. These spin-off products improve the energy efficiency of the process as well as the cost effectiveness of the end product and offer further job creation to the local community.

Based on conservative studies from both the USA and Europe, the biofuels industry is a significant creator of employment. However, some recent Australian studies have ignored the impact of indirect job creation which in agricultural industries can be substantial.

The ratio of direct jobs to indirect jobs in this industry is high, 11 to 1, so for example the Manildra plant at Nowra currently employs 230 workers directly but supports approximately another 2,200 equivalent fulltime jobs when the multiplier effect is taken into account.<sup>5</sup>

However, an ethanol factory is an integrated process and without a market for the ethanol, the whole process stops and the economy of a regional community is consequently hit very hard.

Renewable fuels such as ethanol and biodiesel have an important role to play in Australia's energy future just as they already play such an important part in the United States in providing clean air, economic development and reducing dependence on oil from the Middle East.

By ensuring through the taxation system that a percentage of the passenger transport fuel is renewable, the government would be:

- Taking action to reduce GHG emissions from the transport sector
- Reducing deadly air pollution in our cities
- Boosting rural & regional economies and jobs
- Reducing dependence on imported petrol

The Government is not mandating the choice of fuel or the supplier - that would be a matter for the market.

However, at this time and given the other obvious benefits of ethanol in reducing pollution in air quality "hot spots" like Sydney, Melbourne and Brisbane, it is clear that ethanol would be the bio-fuel of choice. There are potential advantages from a combined program with the States in mandating a fuel oxygenator in these cities to simultaneously address the pollution issue.

---

<sup>5</sup> John M. Urbanchuk, LECG Consultants, *The Contribution of the Ethanol Industry to the American Economy in 2004*

As a separate matter, a maximum percentage blend of 10% for ethanol would continue to be fixed to ensure that no difficulties, real or imagined, could arise with the installed motor vehicle base. This is already part of the fuel quality standard and no further action is required.

However, to reiterate the well known facts, there is little or no impact on engine performance from an E10 blend as ethanol increases the octane rating of the vehicle and the use of a 10% fuel blend is within most manufacturers' warranties. Indeed, most major oil companies in the USA advertise their support for the use of ethanol blends in that country.

### **Taxation support mechanism**

Taxation has always been an effective mechanism to support emerging industries like bio-fuels where there is direct competition from heavily subsidised international corporations that form the basis of the fossil fuel petroleum sector.

The initial basis on which the industry was supported in the context of reduced excise and a producer support mechanism will see significant change in the next few years and there remains real uncertainty about the final form of the total impact of the sum of excise changes, producer support, tariffs on imports and the clean air and Greenhouse Gas abatement measures.

Given the massive levels of investment made by the Manildra Group in recent years on the expectation of the status quo with respect to the taxation regime, the level of uncertainty which now prevails in the context of the current Taxation Review and the overall reassessment of the former Governments arrangements by the current Government, the bio-fuel industry is left with a high degree of doubt as to the future taxation regime.

### **Summary of Taxation Issues**

Manildra is concerned about the overall negative impact of the currently legislated fuel excise arrangements due to be implemented from 1 July 2011, and the Carbon Pollution Reduction Scheme (CPRS), due to be implemented from July 2011. Essentially, any positive benefits from the CPRS for bio-fuels will be both delayed and capped in the early years of the scheme, while 1 July 2011 will see the application of net taxes on ethanol and bio-diesel rising to 38.143 cents per litre in 2015.

The CPRS legislation, as it stands, will have very little if any impact on whether a consumer would choose to use ethanol/petrol or biodiesel/diesel blends in preference to higher carbon petrol and biodiesel.



The reason for this is that a stronger influence over fuel choice will be delivered by the excise rates for ethanol and biodiesel and the Fuel Tax Credit for diesel. The net excise on ethanol and biodiesel will be implemented from 1 July 2011 and the magnitude of these tax increases will outweigh any positive benefit from the CPRS.

The neutral treatment (other than the 5% tariff) of imported fuel ethanol will also represent a significant medium term threat to the emerging domestic industry. Once the taxation, Greenhouse and clean air implications of the current arrangements take effect, the opportunity for the petrol companies to import ethanol and substitute it for locally produced bio-ethanol or even petrol will be significant.

This will have real and very adverse effects on Rural & Regional Australia. Currently, bio ethanol is a significant employer in Rural & Regional Australia and part of the development of towns like Nowra. If the importation of bulk ethanol becomes an economically attractive proposition in a few short years, then the economic and social impact on towns like Nowra will be very negative.

**The net effect of the totality of the excise *status quo* which will take effect in the next few years will be that Australian bio-fuels simply will not be a part of the Australian transport fuel mix, probably from as early as 2010, thereby increasing the (already massive) fuel trade deficit even further as well as putting at risk the significant rural and regional jobs and investment the industry has made to date.**

In the view of the Manildra Group, it is essential that the Review of Australia's Future Taxation System takes into account the need to ensure that the domestic production of bio-ethanol is part of our national future.

**Manildra Group**



## PRIME MINISTER

### FUEL EXCISE REFORMS

Today I announce an overhaul of the fuel excise system. These reforms will result in a more consistent and neutral tax regime for fuels used in vehicles.

The government announced in the 2003-04 Budget that excise rates will be set for all fuels capable of being used in an internal combustion engine. It has been decided that no excise will apply to new fuels until 1 July 2008. Excise will then be introduced in five equal annual steps to a final rate on 1 July 2012.

For administrative simplicity, a banded excise system will be adopted, with differing rates for high, medium and low energy fuels. Excise on diesel and petrol remains unchanged under the banded system.

Alternative fuels entering the excise net will receive a discount of 50% on the full energy content rate. Excise on petrol and diesel will remain at 38.143 cents per litre (cpl). Excise on LPG and ethanol will be 12.5 cpl – half their energy content value.

Excise will not be levied on domestic (eg heating and cooking) uses of gaseous fuels such as LPG. Business use of gaseous fuels (LPG, CNG, LNG) in non-transport applications (eg power generation) will also be effectively excise free.

The 50% discount applying to alternative fuels entering the excise net was set having regard to a range of industry, regional and other factors.

The government has also announced additional assistance for the LPG sector to assist its transition into the excise net. A \$1000 subsidy will be made available from 1 July 2008 – the point at which excise first applies to LPG at 2.5 cpl - to consumers who purchase a dedicated or dual fuel LPG vehicle that is delivered new. This subsidy will be available for three years.

The excise reforms announced today represent a first tranche in the development of a comprehensive package of transport-related measures, including broad-based reform of the business excise credit system and future road funding. Details of further reforms are being developed and will be announced in 2004.

Final rates for fuels (including discounts) are shown in Table 1 below. The transition path for fuels entering the excise net is shown at Table 2 below.

**TABLE 1: NEW EXCISE RATES**

| Fuel type  | Energy Content<br>(megajoules per litre)           | EXCISE RATE<br>(cents per litre) | ALTERNATIVE<br>FUELS<br>(cents per litre) |
|--|--|----------------------------------|---|
| <i>High-energy content fuels</i><br>Petrol, diesel, biodiesel, GTL<br>diesel | Above 30   | 38.143                           | 19.1<br>(biodiesel)                       |
| <i>Mid-energy content fuels</i><br>Eg. LPG, LNG, ethanol,<br>dimethyl ether  | Between 20 – 30                                    | 25                               | 12.5<br>(LPG, ethanol,<br>LNG)            |
| <i>Low-energy content fuels</i><br>Eg. Methanol                              | Below 20   | 17                               | 8.5<br>(methanol)                         |
| <i>Others:</i><br>Eg. CNG  | Between 38 – 41<br>(megajoules per cubic<br>metre) | 38<br>(cents per cubic<br>metre) | 19<br>(cents per cubic<br>metre)          |

**TABLE 2: TRANSITION PATH FOR FUELS ENTERING THE EXCISE NET**

| Fuel type                                       | 1 July<br>2003 | 1 July<br>2004 | 1 July<br>2005 | 1 July<br>2006 | 1 July<br>2007 | 1 July<br>2008 | 1 July<br>2009 | 1 July<br>2010 | 1 July<br>2011 | 1 July<br>2012 |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <i>High-energy content</i><br>Biodiesel         | 0              | 0              | 0              | 0              | 0              | 3.8            | 7.6            | 11.4           | 15.3           | 19.1           |
| <i>Mid-energy content</i><br>LPG, LNG, ethanol  | 0              | 0              | 0              | 0              | 0              | 2.5            | 5.0            | 7.5            | 10.0           | 12.5           |
| <i>Low-energy content</i><br>Methanol           | 0              | 0              | 0              | 0              | 0              | 1.7            | 3.4            | 5.1            | 6.8            | 8.5            |
| <i>Other</i><br>CNG (cents per m <sup>3</sup> ) | 0              | 0              | 0              | 0              | 0              | 3.8            | 7.6            | 11.4           | 15.2           | 19.0           |

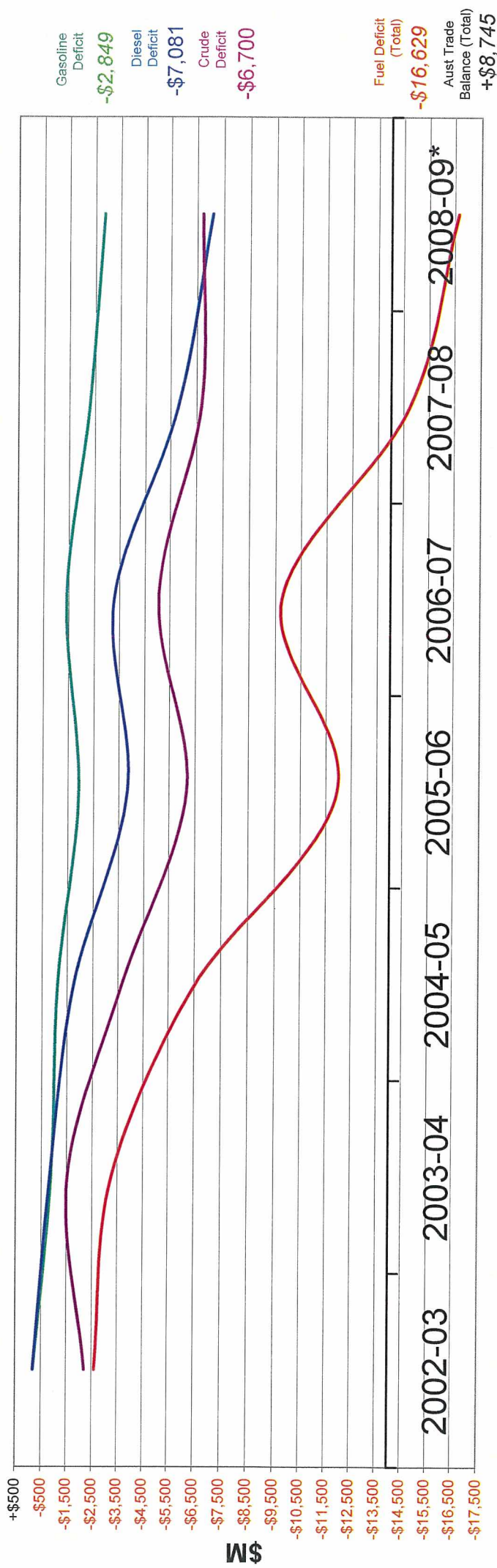
16 December 2003



# Australian Petroleum Industry Trade Deficit

Gasoline, Diesel, Crude Oil & Other Refinery Inputs

APPENDIX B



| \$ Million                          |  | * Based on Feb 2009 data |           |           |           |           |           |           |          |
|-------------------------------------|--|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|----------|
| Year                                |  | 2002-03                  | 2003-04   | 2004-05   | 2005-06   | 2006-07   | 2007-08   | 2008-09*  | Feb 2009 |
| Gasoline Deficit                    |  | -\$202                   | -\$888    | -\$1,124  | -\$1,923  | -\$1,404  | -\$2,274  | -\$2,849  | -\$301   |
| Diesel Deficit                      |  | -\$195                   | -\$842    | -\$1,767  | -\$3,834  | -\$3,278  | -\$5,793  | -\$7,081  | -\$335   |
| Crude Deficit                       |  | -\$2,208                 | -\$1,539  | -\$3,666  | -\$6,182  | -\$5,042  | -\$6,664  | -\$6,700  | -\$325   |
| Fuel Deficit (Total)                |  | -\$2,605                 | -\$3,270  | -\$6,557  | -\$11,939 | -\$9,724  | -\$14,731 | -\$16,629 | -\$962   |
| Aust Trade Balance (Total)          |  | -\$15,946                | -\$21,495 | -\$22,626 | -\$14,520 | -\$12,757 | -\$21,280 | +\$8,745  | +\$2,889 |
| % Fuel Deficit / Aust Trade Surplus |  |                          |           |           |           |           |           | 190%      | 33%      |
| % Fuel Deficit / Aust Trade Deficit |  | 16%                      | 15%       | 29%       | 82%       | 76%       | 69%       |           |          |

Statistics From: <http://www.abareonlineshop.com/>

1998-99 to 2007-08 Statistics Source Table 311 Australian Commodity Statistics. Deficit History Stats ABARE DATA

\* 2008-09 Stats Basis: Imports 8 Months, Exports 8 months, Balance of Trade Deficit 8 Months (all extrapolated to 12 months) ABARE DATA

28/04/2009

Petroleum Statistics ABARE55 Formula 12 months.xls