Inquiry into Australia's future oil supply and alternative transport fuels

Senate Rural and Regional Affairs and Transport Committee, 2006

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Transport is a vital element of any country's economy and the most important issue that will influence future Australian transport is the sustainability of our oil-based economy. This showed up in 2005 in two ways.

Firstly, the rapid rise in the price of oil caused us to think about the security of oil supplies. A recent report by the Bureau of Transport and Regional economics, under the title "Is the World Running Out of Oil?" showed a chart of new oil discoveries over five year periods, illustrating that the volume of oil discovered every five years has been decreasing since the mid 1960s. In the same report there was a chart showing that the world peak in oil production may be around now, or in the very near future. If this were so it would create a seller's market of unprecedented proportions.

Burgeoning demand in developing nations puts increasing pressure on oil companies to extract more and more from the world's oil wells but it is becoming increasingly evident that total reliance on greater output and continual new discoveries may not be realistic. Despite oil company forecasts of rising production to meet continually rising demand, it would be imprudent not to prepare for the eventuality that oil becomes more expensive or a situation where using more and more oil becomes too costly in other than monetary terms. It should be stressed, though, that oil would likely remain the dominant component of the global transport fuel mix for the next 25 years or more.

Secondly 2005 showed how rapidly the cost of major climate events is rising and the publicity surrounding events such as Hurricane Katrina and the 2003 heatwave that caused the death of 30,000 Europeans increased public awareness of the effects of global climate change and the relationship to greenhouse gas emissions.

Three quarters of Australia's oil use is consumed in transport, roughly half of that by cars and a quarter by commercial vehicles. Australia is not self-sufficient (we import 22% of our requirements now) and in the future it is likely we will have to rely increasingly on imported oil (ABARE projections indicate that we will be importing over 50% of our oil by 2030), with a commensurate detrimental effect on our balance of trade together with other risks of dependence.

Transportation in Australia is forecast to take an increasing share of oil consumption over the next 20 years. There is a need to develop a forward-looking policy on

Australian transport fuels. Defence policies are formed on the basis of possible threats to national security. Health policies recognise prevention is better than cure. The same should apply to transport fuels policy.

The Australian Government Biofuels Taskforce in August 2005 supported the 350 million litre (ML) target for ethanol by 2010. After several years of debate about the rights and wrongs of ethanol, this was a useful start on the road towards an alternative to total dependence on oil. It was wise to check out the environmental effects before making a decision. However, 350 ML is only around one percent of Australia's oil consumption. The proposal is to use ethanol to mix with unleaded petrol (ULP) on a 1:10 basis, known as E10. Clearly, if E10 is acceptable to the majority of motorists, there must be an opportunity for 10 times as much ethanol to be produced, even before there could be a need to examine higher percentage mix options.

A plan for increasing ethanol production beyond 350 ML is needed. (The Taskforce report says that the oil companies support the plan, but oil companies could have no reasonable basis for objecting to a competing product representing one percent of consumption. Newspaper reports that the oil companies say the target will easily be exceeded sound comforting, but exceeding a target of 1% is hardly going to make much difference in the total oil equation.) When ethanol was first mooted several years ago there was talk of engines being damaged and that warranties could be voided, but latest information on the website of the Federal Chamber of Automotive Industries shows that just about every car made in the past 19 years, and many older ones too, can run satisfactorily on E10.

The Biofuels Taskforce also examined biodiesel. Australia is likely to produce 500 ML of biodiesel by 2007 but this would represent less than 4% of Australia's diesel production, and that percentage will reduce as oil consumption increases. Innovative schemes for the production of biofuels (both ethanol and biodiesel) are going to be needed if they are to progress beyond being niche fuel additives. Australia's biofuels industry is small and fragmented. Australia has one of the world's highest ratios of land area to population and is fortunate to still have enought land to grow crops for both food and fuel. Research is needed to ascertain what crops are most suitable for use as feedstock for biofuels and whether crops grown for biofuels could contribute to solving Australia's salinity problems, helping farmers and the economy while reducing transport emissions.

Australia is one of the biggest international suppliers of natural gas and the world's largest per capita user of automotive LPG yet there are only a few hundred vehicles on Australia's roads using compressed natural gas (CNG) or liquefied natural gas (LNG). Australia's plan for transport fuels should provide for and encourage extensive take-up of natural gas either in a gaseous form, or after conversion of the natural gas to a liquid fuel.

Today's motor vehicles are much more fuel efficient than even a decade ago, yet our average car consumes no less fuel than a decade ago because of rising sales of larger passenger vehicles. Rising fuel costs are a disincentive to buy larger vehicles than necessary, but sudden increases can cause social distress.

Local carmakers claim that they make large cars because that is what their customers want, but the recent rapid fall in market share of the local products shows that the customers only want large cars as long as fuel is only a very minor proportion of a car's operating cost. Most large vehicles are sold to people or companies who are able to claim as a tax deduction the cost of the vehicle and the operating cost. If we recognise that burning oil is a contributor to the greenhouse effect that causes climate change we should remove all incentives that may cause people to use bigger vehicles than necessary. If increased reliance on imported oil (as forecast by ABARE) is likely to worsen balance of payments, we should do everything possible to discourage avoidable travel and transport.

The average Australian uses six and a half litres of oil per day as compared with the world average of 1.8 litres per person. Most industrialised countries have targets for improving transport fuel efficiency. Australia's target for improving fuel efficiency of vehicles may compare favourably with the United States, but compares only poorly against the European Union and Japan as shown in the following table.

| Country | Year | Standard L/100km |
|------------|------|---------------------|
| USA | 2009 | 9.4 |
| California | 2009 | 9.1 |
| Canada | 2010 | 7.4 |
| China | 2005 | 6.8 |
| Australia | 2010 | 6.8 |
| EU | 2008 | 5.3 |
| Japan | 2010 | 4.9 |
| | | |

For all the above reasons, Australia needs a long-term national plan in relation to transport fuels. The plan must recognise and the many uncertainties around future fuels, the huge investments in infrastructure that will be required, and the need for a balanced portfolio of options, including maximising indigenous oil supply, developing alternative fuels and higher efficiency vehicles to supplement oil. The plan must put a high value on improving energy efficiency and reducing consumption through provision of alternatives to vehicular travel.