

Inquiry into Australia's Future Oil Supply And Alternative Transport Fuels

Submission by Cycle-Safe, Armidale

Summary

- Peak Oil is a reality – the only question is when it will happen.
- The cost of not being prepared in time is likely to be several orders of magnitude higher than the cost of being prepared too early.
- There are many 'no-regrets' policies that will benefit the community irrespective of when oil actually peaks.
- One 'no-regrets' policy is to encourage cycling. The Executive of the National Bike Strategy should be asked to report on what would be required to achieve a target of 25% of all journeys under 5 km on foot or by bike, and appropriate funding provided for their recommendations. As well as safeguarding against peak oil, encouraging cycling would benefit our health and the environment, and also reduce global warming. Bicycle helmet legislation should be reviewed, because of the findings of Hendrie et al. (1999) and Robinson (2005).
- Another 'no regrets' policy is to encourage the development of a cheap solar space heater that could be retro-fitted to the roofs of houses in colder areas.
- Serious consideration should be also given to the possibility of producing ethanol from wood or other cheaply-grown biomass.

The reality of peak oil

There is no doubt that world demand for oil will start to outstrip production, causing prices to rise substantially. There's a 30% chance this will happen before 2010. Even if it happens later, the cost of not being prepared far outweighs the cost of timely preparation. The oil price rises of 1973 became possible because of the dominant 36% share of world oil production by OPEC countries. Even if the peak is after 2010, the major reserves of cheaply-accessible oil are in Middle Eastern countries. Despite alternatives such as ethanol, natural gas and fuel cells, the increasing cost of oil is likely to cause a disruption to society, and a balance of payments problem for our economy.

Minimise the shock

Viable alternatives to oil include LPG, natural gas, ethanol, hydrogen and fuel cells, and encouraging more people to walk or cycle for short journeys, or use public transport. We need enough alternatives to meet demand during the transition period when oil supplies are becoming scarce and expensive. Consider the problems that might otherwise be encountered. How will people get to work? Will subsidised fuel be available for essential voluntary services such as "Meals on Wheels"?

Encourage cycling and walking

Many journeys currently undertaken by car are within easy walking or cycling distance. Even in an outer suburban area, 38% of trips were 5km or less (Socialdata 2002); the proportion would be much higher in rural towns and inner suburban areas. Active Australia is encouraging Australians to walk or cycle for health. Anderson (2000) reported that cycling to work decreases the risk of mortality by approximately 40%.

The National Bicycle Strategy has many laudable aims, but little funding. Consequently, achievements have been marginal. Many local council engineers are not regular cyclists and have little or no experience of how to cater for people who would like to cycle for transport. Children under 10 represent a very small proportion of all cyclists. However facilities constructed by local councils often resemble glorified footpaths useful only for primary school children. Cyclists have to give way at every road intersection, so adult and teenage cyclists prefer to use the roads, rather than the inconvenience of using such "facilities".

An appropriately-funded National Bike Strategy could include a group of cycling experts who could work with local councils to review and evaluate local Bikeplans, prioritise proposals and oversee their implementation. A good target, based on the achievements of other countries, would be to have cycling or walking account for 25% of all journeys under 5 km. The executive of the National Bike Strategy should be asked to report on what would be required to achieve the target of 25% of all journeys under 5 km on foot or by bike, and their recommendations followed.

A review is also needed of bicycle helmet legislation. Only one Australian State (WA) conducted a cost-benefit analysis of helmet legislation. Hendrie et al. (1999) reported: *"In monetary terms, it is unlikely that the helmet wearing legislation would have achieved net savings of any sizeable magnitude. Under the assumptions used in the study, the most favourable estimate of the Net Present Value of the bicycle helmet legislation was \$2.0 million, and this calculation excluded any costs associated with reduced cycling activity."* In fact, the estimated effect of legislation ranged from the very small benefit of \$2 million, to a cost to the community of \$10.6 million (based on one way of calculating the health costs), or a cost to the community of between \$7.6 million and \$15.1 million (based on a second method of calculating the cost of head injuries).

More recent research has also identified a "Safety in Numbers" principle – towns, cities, states and countries where more people cycle have lower risks of injury per km cycled. Indeed, in Australia, injury risks per cyclist actually increased when helmet legislation reduced numbers of cyclist by about 30% (Robinson, 2005).

Strategies to manage the Peak Oil crisis should therefore include a critical review of helmet legislation, incorporating a realistic estimate number of people discouraged from cycling, the costs to health and the environment and consequent increase in risk due to reduced 'Safety in Numbers'.

Review tax policies that encourage driving

Currently, there are many tax policies that encourage driving. Salary packaging of motor vehicles is a well-known example that distorts vehicle choice and usage levels, and hence fuel use. Others are outlined by Denniss (2003).

There have been several proposals for reform. For example, some years ago, a report "Energy and Road Transport", by the Department of Primary Industries and Energy, noted that 73% of all kilometres are driven in urban areas, and that, in 1989-90, the contribution of transport to CO₂ emissions was second only to that of our manufacturing industry. The report suggested replacing fixed costs such as registration and compulsory third party insurance by a 'pay-as-you-drive' levy. There are many ways this could be implemented – a simple levy on fuel, or 'smart-card' technology to levy a variable additional tax according to the accident history of the driver. If the latter, both options could be available – some drivers paying an annual fee and receiving a smart 'zero-rate' card for the purchase of fuel.

An added advantage of this scheme would be reduced road injuries, and perhaps deaths, as well as fewer uninsured drivers. In NSW, an inquiry into compulsory third party insurance acknowledged that claims for certain groups of drivers were about 3 times higher than the premiums they paid. This was considered unfortunate, but necessary, because driving had to be affordable. However, if careless or risky drivers had to pay insurance according to the amount they drove, they would be encouraged to drive less, while still being able to use the car for essential purposes. This would make the roads safer for everyone else.

Encourage alternative fuels, including ethanol

The Bureau of Transport and Communications Economics (BTCE) Report No 94 (Transport and Greenhouse) estimated the viability of replacing petrol with ethanol produced from wood. At the time, they predicted this could be done for about 20c/litre by the year 2010. BTCE calculated that 25 million hectares of trees would be required in the long run. They also warned that Australia had only about 10 million hectares of land highly suitable for planting trees, but of low suitability for farming.

It appears that the above recommendations were not acted upon. However, it's "better late than never". If appropriate funding were provided for this research, it could still help avert the potential chaos, social disruption and balance of payments problem from increasing oil prices. Producing ethanol from grain is expensive and requires oil to be used for cultivation and fertilisation. Producing ethanol from wood seems a more viable alternative.

Encourage solar energy

It is said the sun provides 25 times as much energy on Australia every day as we use in a year. Although gas-fired water and home heating produces less greenhouse emissions than electric heating, natural gas may be needed as a stop-gap if oil shortages start to occur before ethanol is widely available and practical fuel cells have been developed for vehicles. A recent New Scientist article ('Every home should have one', 21 January 2006) commented: *"A micro CHP (combined heat and power) will now pay for itself in about 12 years, a small wind or water turbine slightly less, but it still takes around 50 years for most photovoltaic systems to pay for themselves."*

In Australia, we subsidise photovoltaic systems, but not the development of potentially more useful solar air heating.

Because it could pay for itself in a shorter period of time, solar space heating has the potential for widespread adoption and hence a much greater impact on overall greenhouse gas emissions. Some systems are available commercially, but they tend to be expensive. The technology is simple – an airspace separating a black base to absorb the heat, a transparent cover to reduce heat loss, and a fan to transport the heated air to living areas. With modest development, mass production could make the technology available for less than \$1,000 installed, encouraging most households in colder area to consider installing one, and so reduce heating bills, air pollution and greenhouse gas emissions from home heating by about 50%. The resultant reduction in gas consumption could provide a valuable fuel reserve to cushion the shock if peak oil comes earlier than expected.

Conclusions

Peak Oil is a reality – the only question is when it will happen.

The cost of not being prepared in time is likely to be several orders of magnitude higher than the cost of being prepared too early.

There are many 'no-regrets' policies that will benefit the community irrespective of when oil actually peaks.

One 'no-regrets' policy is to encourage cycling. The Executive of the National Bike Strategy should be asked to report on what would be required to achieve a target of 25% of all journeys under 5 km on foot or by bike, and their recommendations followed. As well as safeguarding against peak oil, this would benefit our health, and the environment and reduce global warming. Bicycle helmet legislation should be reviewed, given the finding of Hendrie et al. (1999) and Robinson (2005).

Another 'no regrets' policy is to encourage the development of a cheap solar home heater that could be retro-fitted to the roofs of houses in colder areas.

Serious consideration should be also given to the possibility of producing ethanol from wood or other cheaply-grown biomass.

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