

To:

The Secretary
Senate Rural and Regional Affairs and Transport
Parliament House
Canberra ACT 2600

From:

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

In addressing the terms of the enquiry, I would like to submit the following:

A. Projected Oil Production and Demand

Production (Australia)

Australia's oil production peaked in 2000 and has been declining ever since. Peak discovery of new oil occurred in the 1960's [11]. Production started to decline some 30-40 years later and is unlikely to recover in a meaningful way. Australia and the world's future production can be anticipated from past discoveries.

Production (World)

World conventional oil production may have peaked already and, if not, likely will within the next 15 years [3].

Exxon Mobil forecast a peak in non-OPEC oil production in five years [7].

It is apparent that despite the recent high prices extra supply has not been forthcoming. This reflects the existing margins on oil production. OPEC average price per barrel is about US\$1.50 and non-OPEC about US\$6 [6]. The cost of production has no relation to the market price.

World discovery of oil peaked in the 1960's. For every barrel of oil discovered in the last year about four were consumed. Between the years 2000 and 2004, oil company investments in discovery were greater than the value of the oil found. These companies are now returning money to shareholders in preference to losing it on exploration programmes. Most new company reserves are acquired by buying up smaller companies [5].

Demand

Australia's demand for oil on a world scale is relatively small. Unfortunately it is necessary to purchase oil on the world market competing with major users such as the USA, China, India, Europe and Japan. As is well known, economic expansion in China and India is creating significant extra demand upon all primary resources, including oil and gas. This new demand is likely to continue into the foreseeable future.

B. New Sources of Oil and Other Fuel

The energy density of petrol is the highest for any fuel other than in a nuclear power plant. Replacing such a fuel would be an immense challenge. Some alternatives include:

Hydrogen

Whilst a lot of fuss is made over hydrogen, it is merely a means to store energy. To obtain hydrogen, some other form of energy is required. Most modern hydrogen is made from natural gas. One day it may be useful in electric motor vehicles in which a fuel cell recombines hydrogen and oxygen releasing heat and water vapour.

The energy investment to create hydrogen is wasteful to some extent and the source fuel would be better used itself for transport.

Ethanol

Ethanol has about 68% of the energy density of petrol [9]. The production of ethanol requires more energy from fossil fuels than the ethanol contains. Use of ethanol as an energy source does not make sense.

The basic inputs for ethanol production are by-products of sugar cane (molasses) and wheat production. Introducing ethanol as a transportation fuel puts it into competition with food production. Wheat products in particular are used as feedstock for pigs. It must be considered whether we are prepared to have transportation fuel compete with food production for basic inputs.

There is no evidence that ethanol is either renewable or environmentally friendly. When burnt with petrol some pollutants are reduced and others are created. Because ethanol has a lower energy density, fuel consumption rises.

Replacing fossil fuel with ethanol amounts to burning the food supply.

Solar/Wind/Geothermal/Various

These forms of energy production provide little value in transportation fuel although they are valuable for other uses.

Conservation

The only ready supply of new oil lies with conservation measures. These have the added benefits of improving the nations' balance of trade and reducing emissions of greenhouse gases.

A number of conservation measures are proposed below.

C. Flow-on Impacts of high transport fuel cost.

Not addressed in this submission.

D. Options for Reducing Transport Demand

Any meaningful measure has to be implemented by Government. A regulatory framework for citizens and business is necessary to encourage desired outcomes. Market responses are too slow and in some cases subsidies distort those responses.

Governments at state and federal level are able to encourage reduced transport demand using a number of measures. These include:

Public Transport

An expanded network of public transportation would help reduce the number of passenger vehicle journeys.

In some areas a light rail network could result in a major reduction in road traffic, for instance, along the Eastern and South Eastern freeways in Melbourne.

‘Park and Ride’ facilities providing vehicle parking near public transport hubs would allow many more people to use public transport. These are widely used in the U.K. to good effect.

Home-Based Work

For many occupations there is little real need for daily travel to a workplace. Employers could be encouraged to implement work from home arrangements.

The availability of home phones and the internet make most forms of office based employment feasible to perform at home.

Work from home would not only reduce fuel transport usage, but also improve the general quality of life for such employees through reduced travel times and lesser transport expenses. Employers would also benefit from a reduced demand for office space and other resources such as water, electricity, furniture and telephones. A discussion can be found at reference [10].

Town Planning

Encourage medium to high density living for people living in cities. Regions of higher density living could be much better served by both public transport and other forms of infrastructure such as electricity, gas, water, sewerage, roads and telephone.

I suggest that the urban sprawl at city fringes needs to be contained. People living in such areas are usually poorly served by public transport thus being committed to motor vehicle usage at any price.

Bicycles

The use of bicycles should be encouraged. The introduction of concessional tax arrangements for businesses which provide employees with bike facilities, including change rooms would be helpful.

Bicycles are one of the most efficient means of transport and are usually healthy for those who participate.

Excise

The Excise on petroleum products should be raised sufficiently to discourage motor vehicle usage. The UK governments’ fuel price escalator (now discontinued) raised UK prices to the highest in the world. It is rare to see a four wheel drive vehicles on UK roads as only wealthy people can afford to run them.

Rail Freight

Fuel consumption for freight moved by rail is nearly four times less than that of a truck [5]. The costs of road transport should properly reflect both the fuel inefficiency and the destruction that large vehicles inflict on the national road network.

Vehicle Charges

The special treatment afforded the importation of four wheel drive vehicles should be removed.

Significantly increased registration fees for inefficient vehicles, such as four wheel drives, would help discourage their use in metropolitan areas. These vehicles are much less fuel efficient than normal passenger vehicles.

Concessional treatment of energy efficient motor vehicles should be considered.

Congestion Charges

A congestion charge similar to that implemented by the City of London would help reduce motor vehicle usage in our major cities.

Since it was introduced in 2003 fuel consumption in London has dropped 20% and CO2 emissions by 19% [1].

Energy Tax

An energy tax could be applied at a fixed rate per kilojoule of energy consumed.

Such a tax should be applied to all users of energy, not just transport. An energy tax could be tax neutral replacing some form of undesirable tax such as Payroll tax. The Commonwealth could use the proceeds to fund research into alternate fuel sources, I suggest through the Australian Greenhouse Office.

An aggressive energy tax could be used to replace all forms of direct taxation.

Comment

Matthew Simmons is a Texas based investment banker specialising in the energy industry. He advised U.S. President Bush on energy issues in 2000. I recommend that all interested persons read his presentations available on the Simmons & Co. website [5] and his book "Twilight in the Desert" <http://www.amazon.com/gp/product/047173876X/103-1284689-5644651?v=glance&n=283155>.

There is reason to be alarmed about future oil production, particularly given the lack of data available from national oil companies with regards to reported reserves and field-by-field production.

Signed : David A. Green

References

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