

**Senate Standing Committee on Economics  
Inquiry into the Price of Petrol in Australia**

**Tabled Document**

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**OIL: Living with less**

## OIL: Living with Less

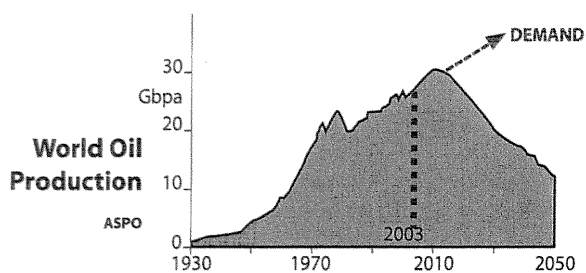
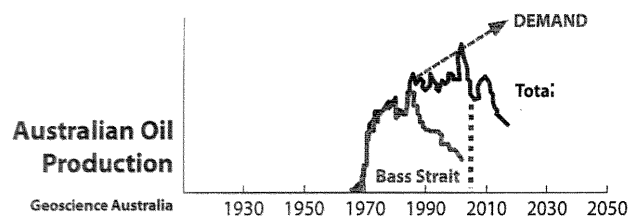
WA's transport system faces an oil-shortage crisis, probably within a decade or at most two. Oil is a non-renewable resource and is being depleted rapidly by Australia's and the world's profligate use of dwindling reserves.

Failure to take urgent substantial action to reduce our oil dependence will leave us exposed to very serious economic and social risks in the next few years. We owe it to future generations to heed the warning signs now showing clearly on the radar screens. A proactive, precautionary approach is critical.

Many of the policy options to reduce fuel usage will also lead to healthier, happier and more equitable communities and improve local and global pollution levels.

## BACKGROUND

Australian domestic oil production is already declining and global oil production is forecast to begin its terminal decline soon, probably within a decade.



Dubbed 'The Big Rollover', the forecast switch to an economy in which demand for oil outstrips supply is well documented and is becoming widely accepted, by oil companies, geologists and government advisors around the world. "At BP, our best estimate of when global oil shortages will begin to bite deeply is between 20 and 40 years", Greg Bourne, Regional President of BP Australasia, told the 5th Energy in WA conference in Perth in March 2003.

Other authoritative forecasts are much less optimistic than BP's, predicting that the final decline in world oil production rates may start within 5-10 years, or indeed that it may have already started.

Matthew Simmons, a prominent Houston-based energy-industry investment banker and advisor to President Bush, addressed the International Workshop on Oil Depletion at the French Institute of Petroleum near Paris in May 2003 ([www.PeakOil.net](http://www.PeakOil.net)):

*"Most serious scientists worry that the world oil supplies will peak [and then decline]. Peaking of oil can not be predicted accurately, but the event will occur. Peaking turns out to only be clear through a 'rear-view mirror'. By then, an alternative or solution is too late. My analysis leads me to worry that peaking is at hand, not years away. If I am right, the unforeseen consequences are devastating. The facts are too serious to ignore."*

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New Scientist ran a cover story (2nd August 2003)

"Crisis looms – When demand for oil outstrips supply"

*"... we could be in for a big shock: we are going to run out of cheap oil. That's not oil per se, but we're approaching the point when global demand for oil will outstrip supply. It is not clear when we will reach this tipping point. The economists say we have about 35 years before oil production peaks, while geologists think we have only a decade. At present the geologists' argument is in the ascendant, having won the backing of some investment banks and oil consultants."*

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Oil & Gas Journal editorial (18th August 2003)

*"...can a peak in production be anything other than imminent? That question breeds others. How rapidly will production decline after the peak?"*

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The Guardian (2nd December 2003)

"Bottom of the barrel – The world is running out of oil – so why do politicians refuse to talk about it?"

*"Every generation has its taboo, and ours is this: that the resource upon which our lives have been built is running out. We don't talk about it because we cannot imagine it. This is a civilisation in denial."*

.....

The terminal decline of Australia's oil production has been documented by Geoscience Australia, the Federal Government geological survey organisation, and the Australian Petroleum Production and Exploration Association. While Australia has been largely self-sufficient in net oil usage, current forecasts

suggest we may be forced to import 60% to 70% of our needs in ten years. This will be within a very competitive international market, with declining global production and rapidly increasing demand from China and India. Many nations that are currently oil exporters, like the UK and Indonesia, will be importing within the next few years as production from their domestic oil fields decline steadily.

Almost 80% of Australia's petroleum use is in transport (APPEA, 2002). 55% of road transport fuel is petrol, 39% diesel and 6% is LPG (www.AIP.com.au).



Substantial alternatives to our current cheap and abundant petrol and diesel transport fuels are unlikely. It is not possible for Australia to produce biofuels in sufficient quantity to replace petroleum as the prime transport fuel. If all of Australia's current wheat production were converted to ethanol, it would provide less than 10% of our fuel needs. Most biofuels still require a lot of petroleum for their production, refining and distribution as well as the diversion of land from food production. Hydrogen is an energy carrier, not an energy source. It requires large amounts of energy for its manufacture and distribution. For the foreseeable future, the vast bulk of the world's hydrogen will continue to be made from petroleum sources. The 'Hydrogen Economy' may well turn out to be just a pipe-dream like fusion power. Concentration on hydrogen diverts attention and resources from practical and immediate fuel conservation options.

The best way for us to survive is to change, now, our expectations, infrastructure and transport habits to encourage less oil-hungry modes.

## POLICY

Policies to tackle the problems of oil depletion should be based firstly on an open acknowledgement of the magnitude and urgency of the issue, and secondly on rapid implementation of existing proven strategies to reduce oil usage and the demand for automotive transport.

Government, business and the community should act now to reduce transport energy demand and shift to gas and renewable, less polluting energy sources.

The Sustainable Transport Coalition advocates these priorities for change:

- Charging the real costs of transport and oil, including the lost opportunity costs for future generations of our profligate use of short-lived resources.
- Reducing car use and freight transport, including allocating 20% of all urban road funding towards safe efficient transport facilities for cyclists and pedestrians.
- Making vehicles more efficient, especially greatly improving fuel efficiency for the passenger vehicle fleet.
- Developing and using alternative fuels that provide practical and sustainable energy for transport.
- Reforming transport and energy policy to provide a framework for the shift away from oil and car dependence.



## (1)

**CHARGE THE REAL COSTS OF TRANSPORT AND OIL**

Motorised transport users do not pay the real costs of travel; many costs are imposed on the community e.g. health effects and disruption of communities. Many transport costs are fixed (e.g. vehicle registration and insurance) or too low (e.g. fuel prices compared with many other nations) and so distort the market. This mismatch results in social and economic costs for the community and a strain on public funds. In addition there are many perverse subsidies that work against an equitable sustainable transport system, e.g. \$940 million pa subsidies to company cars<sup>1</sup>.



The costs of depriving future generations of vital petroleum are not included in current pricing or policies. We are stealing resources from our grandchildren with no assurance that there will ever be any replacement for the oil they will need for fertilisers, plastics and transport.

Incorporating costs more fully in what transport users pay, e.g. through fuel prices, road user charges or other means, would send a stronger signal to influence travel behaviour, better reflect the real costs, and provide funds for sustainable transport infrastructure and for demand management.

**Recommendations:**

- 1.1 Incrementally increase excise on petrol and diesel to European levels to reduce demand and to provide funds for health, environmental and sustainable transport programs. A significant share of revenue should be hypothecated to a sustainable transport fund for travel demand management and green mode infrastructure. The need for compensation for low-income earners should be addressed, but not in the form of fuel subsidies.

- 1.2 Abolish vehicle ownership charges and replace with a total pay-as-you-go vehicle use charge. Replacement of fixed charges was recommended by the RAC in 1979<sup>2</sup>. Motor vehicle registration funds and third party vehicle insurance costs should be recouped entirely from fuel taxes, as congestion, road damage and crash injuries all depend on the level of use of the vehicle. A car left at home by someone walking or riding to work should not be taxed while standing still. It is not using road space or fuel, or injuring anyone while in the garage. Mass and distance based charges should apply to commercial vehicles, especially long distance heavy haulage trucks.

A national no-fault road injury compensation scheme would be far more equitable and effective than the various separate state-based third party schemes. This could also be far more easily funded from an increase in Federal fuel excise duty

- 1.3 Remove taxation measures that encourage motor vehicle use and the purchase of four-wheel drives and other high fuel-consumption vehicles over more efficient vehicles. This should include fringe benefits tax reform to cease the serious subsidisation of private car use, end incentives for high mileages and to treat travel alternatives equitably. The 10% import duty concession on four-wheel drives should be abolished. Provide graded stamp-duty fees to encourage the purchase of highly efficient vehicles and discourage the purchase of inefficient models, both new and secondhand.
- 1.4 Introduce 'driver fault' legislation to make drivers prove no-fault when in collision with pedestrians and cyclists, as applies in some European countries

## (2)

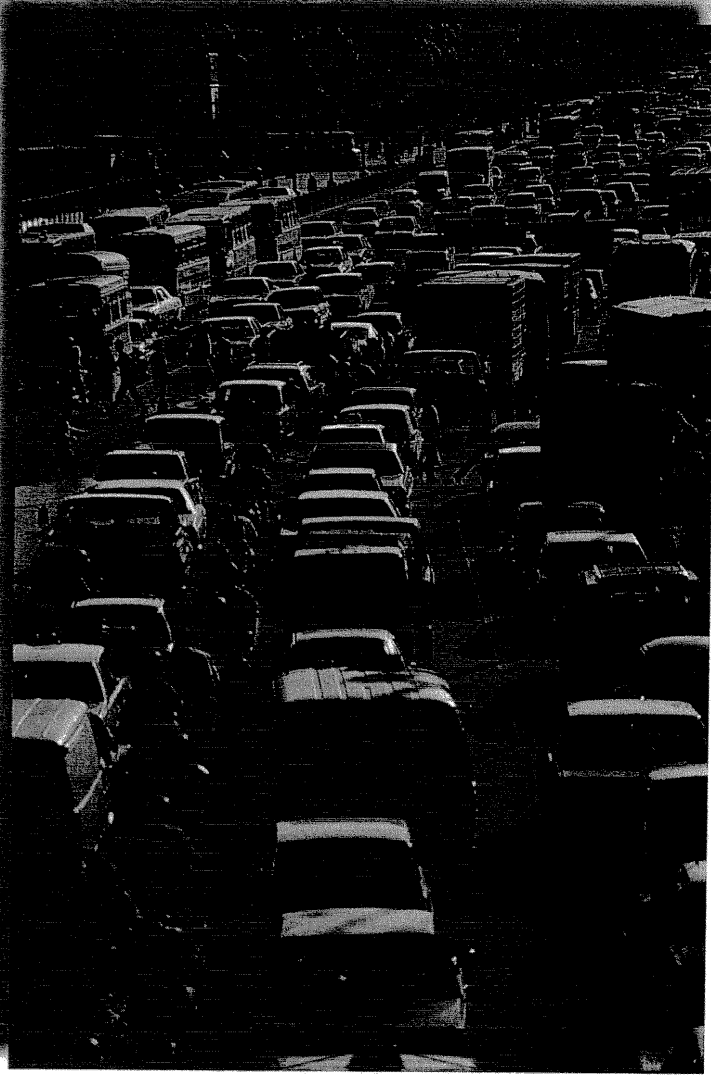
**REDUCE CAR USE AND FREIGHT TRANSPORT TO CONSERVE PETROLEUM**

Many urban passenger trips made by car could be transferred to modes that generate fewer impacts and more benefits i.e. walking, bicycles and public transport. This mode shift would mean more physical activity and therefore far better population health, lower energy use (even renewable, for walking and cycling) and fewer emissions.

Changes can be made in freight transport, by changing mode split (e.g. more freight on rail), logistics (e.g. using available container and truck capacity better and reducing fuel-inefficient "just-in-time" practices) and location (e.g. localising production and consumption and eliminating attenuated trips when alternatives are available).

<sup>1</sup> Dennis, R. 2003 "Implementing policies to increase the sustainability of transport in Australia" Paper to Western Australia Beyond Oil conference, 21 February 2003. see [www.STCwa.org.au](http://www.STCwa.org.au)

<sup>2</sup> RAC 1979 Submission to the Energy Advisory Council "Energy Use in Transport".



Integrating land use and transport will be an important strategy to reduce travel demand, including mixed use urban villages on public transport networks, enhancing pedestrian and cycle access within neighbourhoods and across cities and locating commercial and industrial activities according to accessibility requirements.

Speed limits should be reduced. Lower urban vehicle speeds improve urban amenity and quality of life and encourage walking and cycling. High vehicle speeds are alienating and disruptive, as well as being exceptionally dangerous.

**Recommendations:**

- 2.1 Broaden the scope of AusLink, the Federal Government's national land transport plan, to include urban passenger transport, walking and bicycle transport and to give high priority to transport energy efficiency, especially the implications of oil decline, in setting priorities and assessing funding bids.
- 2.2 Increase State and Federal government funding for the TravelSmart initiative to extend this effective household-based travel behaviour change program throughout Perth and to all regional centres.
- 2.3 Give greater priority to walking and cycling in transport

and land use planning and transport funding. Complete the Perth Bicycle Network and the rail-line cyclepaths from Perth to Armadale, Midland and Fremantle. Plan and construct bicycle networks for all regional centres and country towns. Auditing neighbourhood access to enhance travel by these modes and applying a Liveable Neighbourhood design code will be a good start. The STC policies "Walking" and "Bicycle Transport" provide more detailed recommendations. See [www.STCwa.org.au](http://www.STCwa.org.au).

- 2.4 Update the Metropolitan Transport Strategy to provide a framework for transport planning and investment. It should strongly support infrastructure, services and planning that favours public transport, cycling and walking for personal travel and rail for bulk freight transport. The mode share targets set in 1995 should be enhanced not watered down.
- 2.5 Include an urban growth boundary, development location policy and targets for residential density increases in the Greater Perth strategy to halt urban sprawl and better integrate land use and transport.
- 2.6 Establish an integrated transport funding process for WA. This should ensure transport funding advances strategic aims and is allocated on the basis of regional transport plans and inter-modal, triple bottom line project appraisal.
- 2.7 Review and act to address taxation measures that bias modal preferences towards car commuting. This should include reforms to fringe benefits tax (see 1.3) and encouragement of employer provision of public transport fares and bicycle transport expenses and cashing out of car and parking options.
- 2.8 Reduce urban and rural road speed limits. This will substantially improve road safety as well as reducing fuel consumption. WA's 110 kmh rural speed limit should be brought into line with the 100 kmh standard in most of Australia. Urban arterial speed limits should be reduced to 50 kmh and residential street limits to 40 kmh, to follow successful examples in Australia and overseas. Speed limits past schools should drop to 25 kmh as used in South Australia.

### (3)

#### MAKING VEHICLES MORE EFFICIENT

The net energy efficiency of the Australian car fleet has changed little over the last three decades<sup>3</sup>. The increase in four wheel drive vehicles in the passenger fleet (larger and less efficient) has countered the effect of improved fuel efficiency in smaller cars as has increased 'road load' due to auxiliary power requirements<sup>4</sup>. Vehicle design should enhance efficiency,

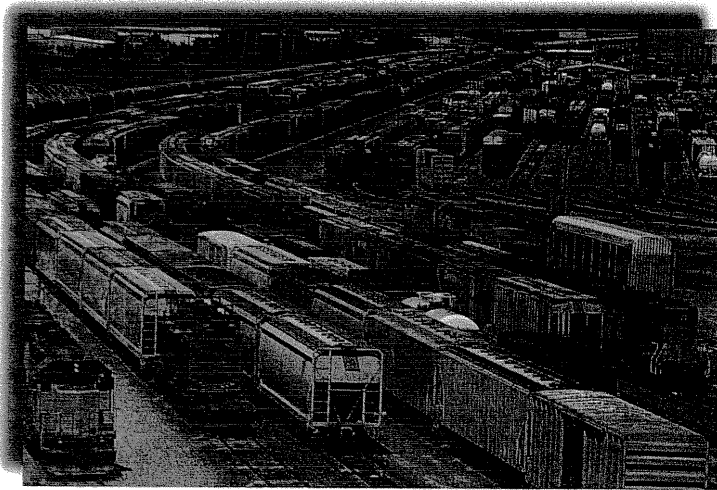
<sup>3</sup> Moriarty, P. 2000 Transport and the Environment Tela 6 Australian Conservation Foundation, Melbourne.

<sup>4</sup> Road load covers vehicle weight, rolling resistance of tyres and air resistance, which affect vehicle fuel economy (see Moriarty op cit).

including reduced weight, improved engine technology to enhance fuel economy and provide more appropriate, less ostentatious urban passenger vehicles.

**Recommendations:**

- 3.1 Make stringent energy efficiency requirements, including fuel economy and 'road load' measures, part of Australian Design Rules for all classes of motor vehicle.
- 3.2 Require all motor vehicle advertisements and road tests to include the Australian Standard fuel consumption figures, so consumers may make an informed choice.
- 3.3 Tie government assistance to the domestic automotive manufacturing industry to achieving greater energy efficiency and environmental performance in motor vehicles made in Australia.
- 3.4 Governments should lead by example by developing and implementing fleet purchasing and management policies that require use of energy efficient vehicles and alternative fuels as the first preference. Federal, State and local governments should reduce their passenger car fleets by 50% pa and provide staff with attractive alternatives to a salary packaged or home garaged corporate car. Staff in transport and urban planning authorities should be encouraged to avoid company car packages and to travel by other modes to reduce real and perceived bias towards automobile dependence.



**(4)**

**DEVELOP AND USE ALTERNATIVE FUELS**

Many alternative transport energy sources have been suggested. In the short term, LPG and CNG can be substituted for petrol and diesel, and Australia's natural gas reserves give the nation a competitive advantage in starting the transition away from oil.

Biofuels and hydrogen generated from renewable energy sources should be considered as potential transport fuels. However, hydrogen generated from fossil fuel or biofuels

that provide less energy than is needed to grow them are not sustainable options. Research and development for alternative transport fuels is important. A mixture of energy sources as well as demand reduction and increases in efficiency will be needed to fill the gap caused by dwindling oil availability.

**Recommendations:**

- 4.1 Encourage the use of LPG, CNG and LNG in the motor vehicle fleet. This should include preferencing gas for government fleets, providing financial incentives for vehicle conversions, or purchase of dedicated gas vehicles and financial support for provision or conversion of fuel storage and distribution infrastructure.
- 4.2 Ensure government-industry agreements for resource projects consider domestic supply (stationary and transport) requirements and support the development of downstream processing in environmentally appropriate locations. Pricing in long-term contracts and royalty agreements should fully include the probability of significant and sudden price rises for oil and gas.
- 4.3 Encourage research and development of alternative transport energy technologies, including hydrogen fuel cells, electricity and biofuels where these are based on renewable sources and deliver net energy output.
- 4.4 Develop a rigorous transport energy research framework that sets out an assessment process for allocation of funding support and accreditation of green transport energy sources. Whole-of-lifecycle analysis should be used to assess the energy balance and greenhouse gas emissions of transport energy alternatives.



**(5)**

**REFORM TRANSPORT AND ENERGY POLICY**

Oil vulnerability is a significant issue yet it attracts little discussion in policy circles or the media. Greater awareness of the issue is needed, informed by research into its implications for Australia and the consequences of continued inaction.

We urgently need a national energy policy that will make our transport system far more energy efficient and less oil dependent. The Federal Government has a significant influence on transport energy use through taxation, regulatory powers and funding. However leadership is needed from Governments at all levels. The State Government should follow through on its lead in transport energy by implementing an effective Transport Energy Strategy for WA<sup>5</sup>. Local Governments must also implement infrastructure policies that minimise automobile and oil dependence.

#### *Recommendations:*

- 5.1 Initiate a national inquiry into the implications of declining domestic oil production and peaking global oil production, and the priorities for reform that will promote sustainability in the transport sector. This should include scenario modelling to assess the consequences of oil shortages, higher oil prices and transport energy alternatives.
- 5.2 Review and publish oil supply and price scenarios to inform debate about the economic and social implications of inaction.
- 5.3 Develop a national transport energy policy to guide action including taxation and industry assistance reforms, vehicle design standards, vehicle purchasing (see 3.3) and transport planning.
- 5.4 Implement an effective Transport Energy Strategy for WA. Priorities for action should include the government fleet, community awareness and behavioural change, green transport investment and land use planning.
- 5.5 Encourage local government participation in the Cities for Climate Protection Program and support reforms in vehicle fleet management to favour demand management, alternative fuels and energy efficiency.

Adopted February 2004

#### OTHER PUBLICATIONS IN THE STC POLICY SERIES

- *Walking*
- *Bicycle*
- *Sustainability and Transport* (due out Winter 2004)
- For more information about oil, visit our web page: <http://www.stcwa.org.au/beyondoil>

The Sustainable Transport Coalition is a community-based coalition advocating sustainable transport in Western Australia. The Coalition seeks more sustainable and liveable communities where people are less dependent upon the car and have better access to travel alternatives. We seek a transport system and land use pattern that facilitates access, protects the environment and promotes community.

<sup>5</sup> The WA Minister for Planning and Infrastructure appointed a Transport Energy Strategy Committee in January 2003. It will report in early 2004 with recommendations for action.

<sup>6</sup> Further references to issues raised in this paper can be found at the Association for the Study of Peak Oil & Gas website at [www.PeakOil.net](http://www.PeakOil.net) and at our website at [www.STCwa.org.au](http://www.STCwa.org.au), especially in our "Walking" and "Bicycle Transport" policies, the proceedings of the WA Beyond Oil? conference of February 2003, and the supporting paper on Oil Depletion.



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