Submission to the Australian Federal Parliament inquiry into the development of cities

Organisation: Association for the Study of Peak Oil (Australia); submission by Gold Coast chapter.

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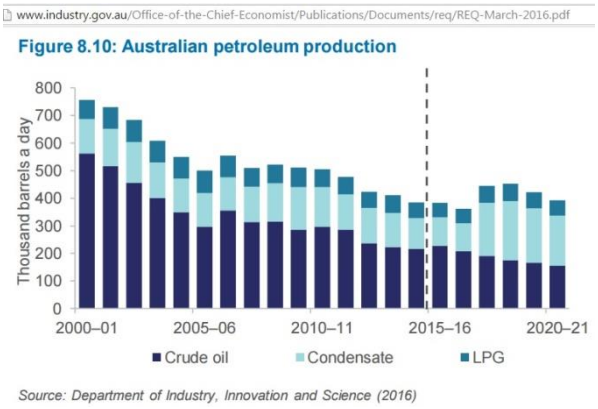
Executive summary

Australia is one of the most urban societies in the world. This situation goes hand in hand with its oil dependency: both a blessing and a curse. Our oil use creates wealth, but makes us increasingly vulnerable to future oil shocks, either acute or long-term. Continued assumptions that future oil supply will be reliable, and social models built on that assumption, put the nation at great risk. Previous government inquiries at the state and federal level have recognised the risk[1], but nothing significant has been done to address the issue. We desperately need a "plan B" in case oil supply is disrupted.

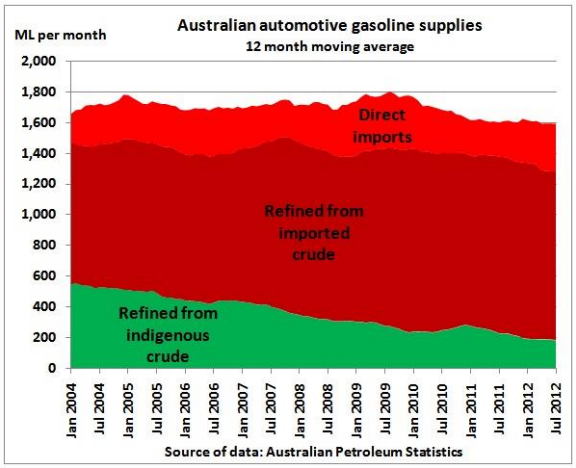
Background

Australia's wealth over the last century has been increasingly dependent on an industrialised and urban social model. Fossil fuels, oil most importantly, have been the corner-stone of this transition. In addition to electricity generation and industrial and domestic gas use, transport has been critical. Transport is required for overseas and domestic trade, industry, mining, agricultural production, and to get both industrial production and food to markets which are primarily in cities. Transport is almost entirely dependent on oil products and will remain so.



Source: Department of Industry, Innovation and Science (2016)

As a society, we take for granted the enormous energy inputs obtained from the use of oil resources that make modern life possible. Australian cities are particularly vulnerable to acute and long-term oil shocks in the following areas:



1. Heavy dependence on oil-based transport for food, medicines, basic services (emergency services etc.), mining and industry.
2. Low reliance on electrified public transport systems.
3. We have not met our IEA reserve requirements for years (see below), making us particularly vulnerable to any acute shock.
4. The food production and distribution systems which supply our cities are entirely dependent on massive fossil fuel inputs.

Oil is a finite resource; this is an unavoidable reality. At some point, global production will go into decline. Despite claims to the contrary, this threat remains the same as ever. To see an example of the declining contribution to global production, one need go no further than Australia which has approximately halved its oil production since 2000 (see Figure). We are not unique in this regard.

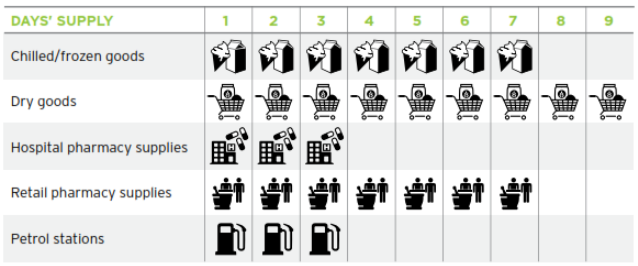


Figure 3: Australia's estimated stockholdings at point of sale

The issue is complex, and predictions based on a single model have inherent errors. Analyses should be based on a range of scenarios. For example, 53 of 64 production curves (83%) reached peak production before 2031[2]. Hence, we can be conservatively confident of declining global oil production before then. However, it is likely that peak production will occur prior to this date.

In addition, the issue is not one simply of declining production, but the increasing vulnerability of Australia to oil shocks as a result of import dependence. Australia now imports a significant proportion of its oil indirectly from regions of high geopolitical risk such as the Middle East, via refining in SE Asia. Particularly concerning, a significant proportion is refined in South Korea. All of these examples highlight our short-term and long-term vulnerabilities. A report for the NRMA[3] by Air Vice-Marshall Blackburn AO highlighted these vulnerabilities. For example, limited retail stockholdings would be severely affected should a disruption to petroleum supplies occur (see Figure). In particular, concern was raised about Australia not meeting its IEA strategic oil reserve obligations. This is something we have not done for years (see Figure) and places us amongst the lowest in the OECD. Please note, the figure shown was from 2012, and our holdings have dropped since that time.

The current lack of awareness is supported by a complacent media which promotes tales of "an era of abundance" based on American shale oil production, which is irrelevant to Australia's energy needs. This complacency is at odds with stagnant global oil reserve growth and warnings by academics publishing in peer-reviewed journals. The solution is not simply the replacement of petrol cars with electric ones, as many believe, because many of the wealth-generating functions of oil-based transport such as mining, industry, agriculture and freight can't be easily substituted.

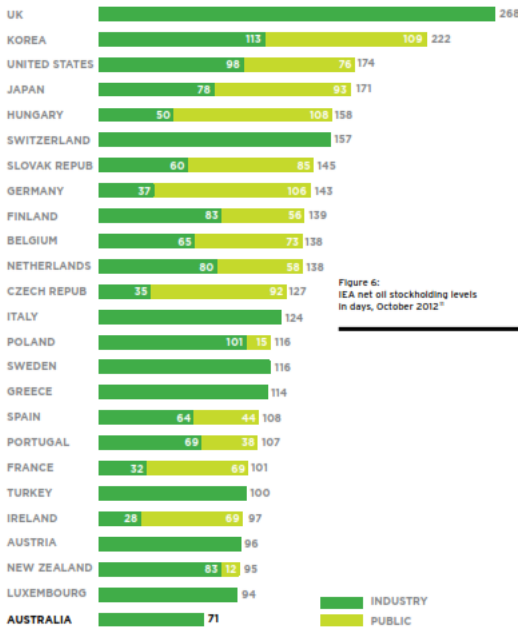


Figure 6:
IEA net oil stockholding levels in days, October 2012[4]

Australia does not currently have a nation-wide plan to deal with a serious oil shock. These plans are mostly at the discussion stage between state and federal governments, and have been for years. Australian authorities have been advised to rely on market-based solutions to these vulnerabilities. The Australian Government needs to make its own independent inquiries on peak oil. So far, Australia has been the "lucky country," but one day our luck may run out. That time will be sooner than many Australian city dwellers have been led to believe.

Recommendations

In the current global environment which is concerned about multiple complex problems, there is minimal incentive for politicians to act on yet another issue. It involves taking a political risk about a crisis about a crisis that might not happen during their tenure. So why act? *Because there is only a net long-term benefit to cities and Australian society in general, by de-carbonising our economies*. The benefits include better urban communities, greater equity, smaller carbon footprints, sustainability and environmental consequences, and creating more-sustainable long-term economic development.

ASPO makes the following 10 recommendations:

1. ***The Federal Government should seek its own independent, not market driven, advice***.
   The current advice sought by government is from leaders in the petroleum industry. Such advisors present embellished future production and reserves because they have to keep their shareholders happy. Also, they are ideologically committed to market-based solutions. If this approach worked in every situation, we wouldn't have a public service, defence force, or social welfare. It must be recognised that market-based solutions do not work for important strategic decisions. Hence, in future, sources of information on this matter must be sought from wider independent sources that include academics, think tanks and community interest groups.
2. ***Have a long-term action plan***.
   Unfortunately, in Australia, any decisions on this matter vacillate with the short-term nature of the domestic political cycle. The result is that in the longer term, little to no progress is made. Steps must be taken to ensure that any actions taken must transfer between administrations by enshrining steps in legislation and regulation.
3. ***Urban planners must consider oil dependency. This must be enshrined in planning regulations***. Relevant to Recommendation 2, planners must be forced to consider oil vulnerability (i.e. oil and energy demand and supply) as part of their urban planning requirements.
4. ***There must be emergency response plans for acute and long-term shocks, co-ordinated by the federal government, which includes all levels of government***.
   Emergency response plans at all levels of government have languished. Plans for both acute and long-term crises must be enacted; relevant, properly resourced action must be taken.
5. ***Forced de-carbonisation***. Adjusting to the reality of long-term oil decline is consistent with many of the policies to address climate change. Oil usage is one of the biggest components of the societal carbon footprint.
6. ***Less emphasis on roads, air transport and related infra-structure, and more emphasis on efficient transport such as rail***. Infrastructure spending on facilitating oil-based transport must be minimised.
7. ***More public transport and electrification***. Resources for oil based land transport must be replaced by electric rail, and in urban areas electric trolley buses.
8. ***Consideration of gas as a transition fuel in any trade policy***. Australia has relatively large reserves of natural gas which are currently being exported with little value to the public. This resource would be better strategically managed as a "transition fuel" when oil production

decline occurs. This would be assisted by the construction of an east-west gas pipeline as east coast gas production declines.

9. ***Greater education of the Australian public. Need for greater energy literacy***. The lack of interest of Australian politicians on this issue reflects the ignorance of the Australian public at large. Better education will re-enforce and invigorate debate.
10. ***We must take steps to immediately meet our IEA strategic reserve commitments***. We must meet our IEA commitments as a first step in having an adequate strategic reserve.

Figure info:

Figure 1. Australia's domestic oil production. Department of Industry, Innovation and Science (2016).

Figure 2. Australia's petrol import dependency. Graph by Matt Mushalik (crudeoilpeak.info) from data by Department of Industry, Innovation and Science (http://www.industry.gov.au/Office-of-the-Chief-Economist/Publications/Pages/Australian-petroleum-statistics.aspx).

Figure 3. Retails stockhldings. Australia's Liquid Fuel Security: A Report for NRMA Motoring and Services. Prepared by John Blackburn AO, 28 February 2013.

Figure 4. IEA strategic reserves. Australia's Liquid Fuel Security: A Report for NRMA Motoring and Services. Prepared by John Blackburn AO, 28 February 2013.

About ASPO-Australia

The Association for the Study of Peak Oil (ASPO) is an international interest group consisting of individuals concerned about oil depletion. It was founded Swedish physicist by Professor Kjell Aleklett. In Australia, the organisation is headed by Bruce Robinson.

References

1. Australia's future oil supply and alternative transport fuels, Final report. Senate Standing Committee on Rural and Regional Affairs and Transport (2007). Canberra.
2. Kaufmann R.K. and Shiers L.D. Alternatives to conventional crude oil: When, how quickly, and market driven? Ecological Economics 67: 405 – 411.
3. Australia's Liquid Fuel Security: A Report for NRMA Motoring and Services. Prepared by John Blackburn AO, 28 February 2013.