17

Andrew Beattie - Submission M2 Lane Cove road ramp Ref: MP09_0049 MOD 1

From: [redacted]
To: <plan_comment@planning.nsw.gov.au>
Date: 9/7/2012 8:31 AM
Subject: Submission M2 Lane Cove road ramp Ref: MP09_0049 MOD 1
Attachments: Lane_Cove_Ramp.pdf

To

Major Project Assessments
Department of Planning & Infrastructure
GPO Box 39
Sydney NSW 2001

Ref: Lane Cove Road ramp, MP09_0049 MOD 1

Please find attached my submission as PDF file.
Thanking you for the opportunity to participate in the public consultation process
While you can publish this PDF file with my name please do not publish my residential or email address which I have removed from the hard copy I sent yesterday.

Matt Mushalik

[redacted]

Redacted Confidential.

Matt Mushalik (MIEAust, CPEng)

7 Sep 2012

http://crudeoilpeak.info
Crude Oil Peak
#1 in Monitoring the Global Crude Oil Peak

Submission on Lane Cove Road ramp

Tollopoly on Sydney Orbital continues

Summary:

Congestion increases
Motorways do not achieve the very objective they are designed for, namely to reduce congestion in the road network. In an astonishingly revealing calculation of the much lauded traffic module TUSTM the time spent in cars on motorways increases twice as fast vehicle kms. This also demonstrates that Sydney has become too big to be economically viable.

Oil-vulnerability grows while alternative fuel is exported
Ironically, however, the assumed traffic growth will not happen as we are in year #8 of peak oil, which is a hitherto slow, but grinding process damaging the world economy at oil prices 5 times too high. The proposal continues on a path to increase Sydney's oil vulnerability and also its debt. In the oil endgame, not travelling times will increase but waiting times at filling stations in long petrol lines. Car-pooling will be the "solution" because this is the only way to neutralize a 4-5 fold increase in oil prices since the early 2000s. Our only viable alternative transport fuel is natural gas. All Australian petrol and diesel is the energy equivalent of 5 LNG trains which are now being built for export in long-term contracts. This will be bitterly regretted. Car-pooling will of course dramatically reduce toll-revenue unless tolls per passenger are introduced.

Sydney without refinery by 2014
As the Clyde refinery is closing this month and the Caltex refinery in 2014, in that year Sydney will have no refinery. This means that petrol and diesel will have to be imported from Asian refineries, the very refineries where there will be fierce competition with 14 million additional motorists in China EVERY YEAR. Most of the crude for these refineries comes from the Middle East, which appears to slowly disintegrate in civil wars as can be seen every day on TV. Happy motoring.

$180 oil in 10 years
The IMF has calculated in April 2012 – which should have been known to planners - that oil prices could go up to $180 a barrel in 2021 if oil demand continued to grow.

Transurban does not pay back debt
Such oil prices would bankrupt Transurban, which cannot pay back its existing debt even at much lower oil prices (tolls are too low). New debt incurred for the new ramp will add to a negative asset value at the end of the concession period. One RTA representative told me in a public consultation on the M2 widening that they would not be concerned with tollway

operators defaulting as then the government would get the tollway "for free". This of course is a very naïve way of looking at this problem (and reflective of the mindset in government departments) because the banks would seize the toll-way asset and try to recover their investment by increasing tolls, although this may not be possible, especially if oil prices go up. Moreover, shares would drop and a lot of money lost by investors. The complacency and simple-mindedness in the NSW government are hair-raising.

Toll-ways a Ponzi scheme too big to fail?
It seems that the Transurban strategy is to ultimately widen the Lane Cove Tunnel to 3 lanes in a piece-meal approach. It should be investigated by the NSW Audit Department whether Transurban is not a (partial) Ponzi scheme in which a constant stream of additional toll-way projects is designed to convince banks to finance these projects while this money (or part thereof) is actually used to roll over old debt or even to pay for distributions to shareholders. This means when no more projects are added, the scheme will come to an abrupt end. Peak oil is likely to accelerate this process. So who will bail out Transurban? Are they too big to fail?

Not even a modest 5% reduction in CO2 emissions
No detailed calculations on CO2 emissions during the operational phase have been done but it is (verbally) asserted that there will be no changes in emissions. This means that the Federal objective to reduce emissions by 5% by 2020 is not being met. No ex-post analysis of emissions on any of Sydney's tollways has ever been done.

No benefit cost analysis with sensitivity analysis
The EA documents do not contain any cost estimates. Therefore, no benefit cost analysis was done and no schedule how debt will be paid back. The proposal also lacks scenario planning and a sensitivity analysis.

Proposal inconsistent
In conclusion, the proposal is greatly deficient and should be rejected. It is clear the consultants have submitted embellishing reports in order to get their next job. By re-writing the documents the project will of course not become better. It is simply a wrong project, just like all other toll-ways projects.

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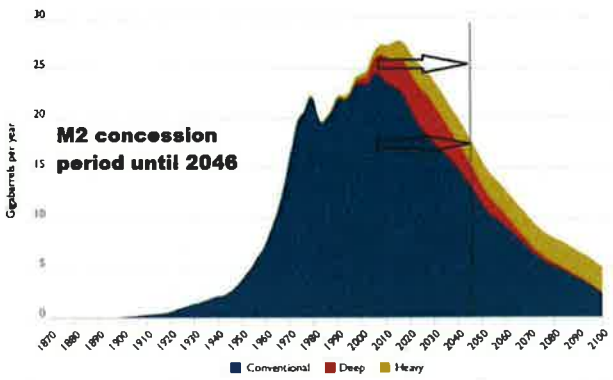
What the Feds calculated in March 2009 but failed to communicate to banks

Figure 13.12 Components of total world crude oil production



24/2/2012 Australian Government kicks own goals in Senate peak oil debate (peaky leaks part 3) http://crudeoilpeak.info/australian-government-kicks-own-goals-in-senate-peak-oil-debate-peaky-leaks-part-3

Detailed response

(1) Who paid for the EA consultants?

Quote: "Roads and Maritime Services as the project proponent, has submitted an Environmental Assessment to the Department of Planning and Infrastructure for a new on-ramp at Lane Cove Road, Macquarie Park."

Comment: Why has Hills M2 Motorway not prepared the EA documents? Who has paid the consultants for this work? If this was the RMS then **why is tax payer's money** spent on helping private companies (and their directors) to make profits? The NSW government is just spending $50 million on the M5. How long will this cosy tete-a-tete called PPP still continue?

(2) More toll-ways = more debt

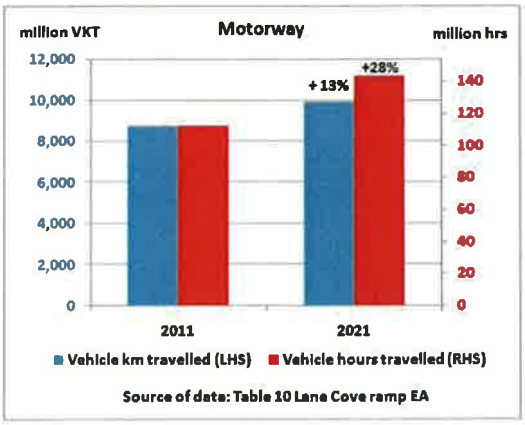
Quote: "The proposed new on-ramp and associated third lane to Delhi Road will be funded as a new toll point on the on-ramp. The toll price on opening will be approximately $1.80 for cars and motorcycles and $5.40 for trucks and heavy vehicles."

Comment: Where is the cost estimate? Where is the benefit-cost analysis? Which bank will finance this in a period where the global debt crisis gets worse and worse by the month? Is the toll sufficient to pay back debt? Where is the debt repayment schedule until debt is paid back 100%. In which year will that be? If it is at the end of the concession period (inflation financing) there will be no serious intention to pay back debt and the economy is actually damaged because of this delayed repayment.

(3) Travel times not reduced

Quote: "NSW 2021: A Plan to Make NSW Number One. The proposal would contribute to the following goals identified in NSW 2021: A Plan to Make NSW Number One (Department of Premier and Cabinet, 2011): **Goal 7 Reduce travel times**"

Comment: Table 10-2 shows that total vehicle hours travelled are reduced only marginally as a result of the proposal. However, what is more important in tables 10-1 and 10-2 is that while traffic on motorways (VKT) is assumed to increase by 13.4% in 10 years, the traffic model then calculates that vehicle hours travelled go up by 27.8 %. Total vehicle hrs travelled are a good indicator for network congestion.



This is the proof for the total failure of motorways to reduce congestion.

Feature: Transurban does not pay back its debt

transurban

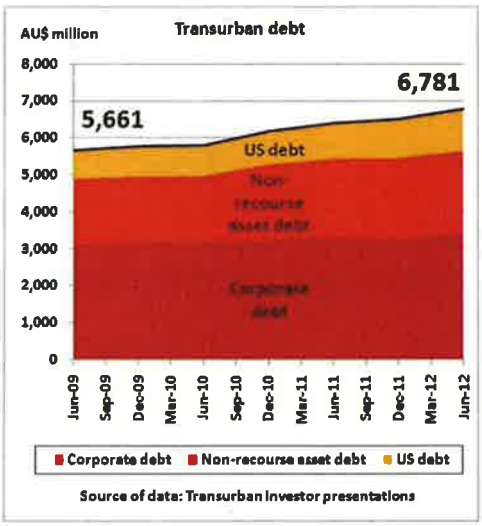
GROUP DRAWN DEBT AT 31 DECEMBER 2011

TRANSURBAN CORPORATE DEBT	AUD ($M)	USD ($M)
Working capital lines[1]	117	53
Term bank debt	600	-
US Private Placements	1,336	162
Domestic unwrapped bonds	450	-
Domestic wrapped bonds	600	-
Total	**3,103**	**215**

TRANSURBAN NON RECOURSE DEBT (AUD $ million)	Asset Debt	Ownership	Proportional
Lane Cove Tunnel	260	100.0%	260
M1 – Eastern Distributor	520	75.1%	391
M2 – Hills Motorway[2]	563	100.0%	563
M5 Interlinks Roads[3]	510	50.0%	255
M7 Westlink	1,255	50.0%	628
Total	**3,128**		**2,117**

TRANSURBAN NON RECOURSE DEBT (USD $ million)	Asset Debt	Ownership	Proportional
Pocahontas – Senior	306	75.0%	230
Pocahontas – TIFIA[4]	173	75.0%	130
Bethway – Senior	569	67.5%	398
Bethway TIFIA[5]	450	67.5%	304
Total	**1,618**		**1,062**

1 AUD $550m facilities, $381m available undrawn assuming drawn USD is converted at the spot exchange rate (31.0156 at 31 December 2011). Separate Letters of Credit are issued to the value of AUD $43m in relation to Capital Beltway and CityLink.
2 AUD $157m available in undrawn capex facility.
3 AUD $13m available in undrawn working capital facility.
4 Undrawn TIFIA facility of USD $6m. Debt balance includes USD $23m of accreted interest.
5 Undrawn TIFIA facility of USD $167m. Debt balance includes USD $29m accreted interest.



14/8/2012
Transurban does not pay back its debt
http://crudeoilpeak.info/transurban-does-not-pay-back-its-debt

In order to survive the next credit crunch, Transurban needs more luck than the peak oil ignorant directors deserve

4/6/2012
Global debt and oil prices
http://crudeoilpeak.info/global-debt-and-oil-prices

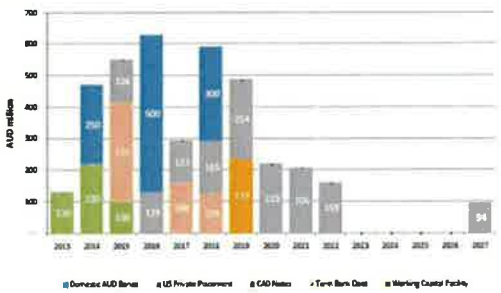
Peak oil and the debt crisis are linked!

transurban.com/1134554.pdf

transurban

CORPORATE DEBT MATURITIES
BY FINANCIAL YEAR

AS AT 30 JUNE 2012



1 Debt is shown in financial year it matures
2 Debt values are as at 30 June 2012. CAD and USD debt converted at the hedged rate where cross currency swaps are in place. Unhedged USD debt converted to AUD at spot exchange rate (31.0101 at 30 June 2012)

(4) Inconsistent changes in level of service

Table 7-6 Changes to M2 Motorway PM LoS

Eastbound direction		2011	2011	2021	2021
From	To	base	proposal	base	proposal
Christie Road	Lane Cove Road	B	B	C	C
Lane Cove Road	Delhi Road	C	B	D	C
Delhi Road	Epping Road merge	B	B	C	D

Comment: Except for the Lane Cove Rd, this is contradictory to earlier statements that traffic flows will be improved.

(5) Motorways destroy vegetation
Quote: "Vegetation within the M2 Motorway corridor is a mixture of remnant stands of vegetation…has been identified as being highly degraded, consisting of exotic and noxious species and non-local native plants that have grown from dumped fill that occurs throughout much of the area."

Comment: The M2 destroyed most of the vegetation along its route. Extensive road infrastructure tends to result in urban decay. The root cause for this is a failed town planning approach, in which jobs are not created near to residential areas, thereby necessitating long-distance commuting.

(6) Climate change underestimated

8.4 Climate change and greenhouse gases

Quote: "Australia and NSW have already experienced a range of observable changes to climate and these changes are projected to continue."

Comment: No, this is incorrect. The changes will worsen, not just continue. Global warming is non-linear (like the melting of the Arctic summer sea ice)

Quote: "Greenhouse gases, such as carbon dioxide, are emitted into the Earth's atmosphere as a result of natural processes (e.g. forest fires) and human activities (e.g. burning of fossil fuels to generate electricity)."

Comment: The "natural process" of forest fires is exacerbated by global warming

(7) CO2 reduction target missed

Quote: "The Commonwealth Government has committed to reducing greenhouse gas emissions and ….. includes the
following targets:

- 5% emission reduction from 2000 levels by 2020, irrespective of commitments made by other countries."

Comment: The project proposal does not achieve even the most modest reduction of 5%

Quote: "In the context of this proposal, the 'existing environment' for greenhouse gas emissions is the same as the 'do nothing' option where the project does not go ahead."

Comment: So we have increasing debt and no reduction in GHG emissions. What then is the purpose of this proposal?

Quote: "The estimated total (Scope 1 and 3) greenhouse gas emissions associated with the proposal's construction stage are approximately equivalent to 0.001% of the national annual greenhouse gas emissions and 0.003% of NSW's annual greenhouse gas emissions (in 2010)."

Comment: Many proposals will add fractions of a percent. What is important is the cumulative impact. Moreover, NSW emissions are high i.a. because Sydney is very energy inefficient and the proposed ramp will just contribute to perpetuate this inefficiency.

Quote: "Greenhouse gases would also be emitted during the operation of the proposal from road users and maintenance activities. However, whilst the proposal is forecast to result in increased vehicle kilometres travelled on the motorway network it is also forecast to reduce vehicle kilometres travelled on the arterial and local road network. Overall it is considered that the proposal would not result in a significant change to operational greenhouse gas emissions.

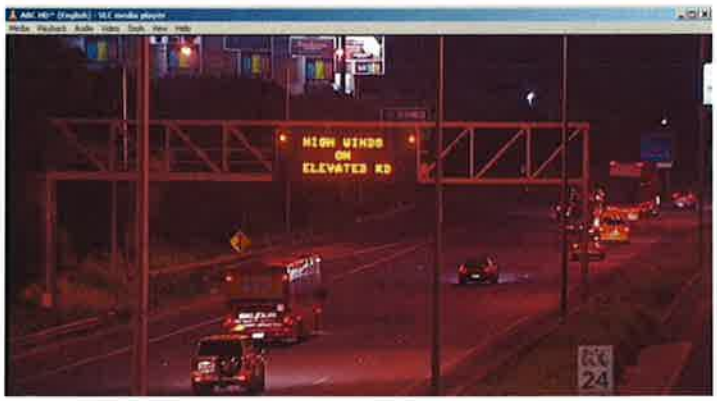
Comment: So where are the calculations for this assertion? What it really means is that CO2 from construction activities cannot be offset by non-existing CO2 savings during operation.

(8) Global warming to impact on profitability of tollway

8.4.3 Potential impacts

Quote: "Climate change. In general, impacts to road infrastructure from climate change are related to accelerated degradation of materials or one-off damages"

Comment: How about drainage from heavier rainfalls as we have experienced in this typhoon season? More traffic delays and accidents in storms. As toll-ways are fossil fuel driven and contribute to global warming this exercise is self-destructive.



<< Warning sign on Melbourne motorway during storms on 5th Sep 2012

Global warming will disrupt economic activities and therefore traffic.

And what is completely forgotten is that global warming will physically force us to abandon coal which means there will be power shortages. **This in turn will severely limit the number of electric cars to use toll-ways** (just in case that anyone believes we are going to have any government-controlled transition away from petrol/diesel fuelled vehicles). When advising the Brisbane City Council NOT to build the Clem7 tunnel I received a letter saying "there will be a 70 year long transport revolution". Well, the revolution lasted only 2 years. I had to move this item to my "I told you so" menu.

Federal Resource Minister Ferguson has just terminated negotiations to buy coal fired power plants with the intention to have them replaced by renewable energy. This failure will guarantee that we have to wait for decisive action until nature throws such nasty climate change events at us that the coal fired power plants are destroyed or rendered useless (flood or water shortages). We already had one example:

Revenge of Gaia
Flooded Yallourn brown coal mine in Victoria. The laws of nature will prevail.

With toll-ways we are going to see a similar future: business as usual until peak oil turns physical at a filling station near you.

(9) Inconsistencies with Strategy

10.1 Strategic justification

Quote: "As detailed in Section 2.1 the M2 Motorway is an essential element of the Sydney Orbital road network. The proposal to construct and operate a new eastbound on-ramp from Lane Cove Road is generally consistent with the NSW Government planning and transport policies by reducing travel times, improving road safety, relieving traffic congestion, and improving accessibility to the Sydney Orbital road network."

Comment: It is in direct conflict with the NSW plan to increase use of public transport and the NWRL in particular

10.2 Project justification

Table 10-1 Forecast annual road network vehicle kilometres travelled (million kilometres)

Facility	2011 base	2011 proposal	Change	2021 base	2021 proposal	Change
Motorway	8,749	8,760	0.13%	9,924	9,937	0.13%
Arterial	14,347	14,338	-0.07%	16,368	16,357	-0.07%
Local / Sub Arterial	7,280	7,279	-0.02%	8,628	8,626	-0.02%
Sydney Network	30,376	30,376	0.00%	34,920	34,921	0.00%

Table 10-2 Future annual road network vehicle hours travelled (million hours)

Facility	2011 base	2011 proposal	Change	2021 base	2021 proposal	Change
Motorway	112.51	112.67	0.14%	143.82	144.00	0.13%
Arterial	348.55	348.20	-0.10%	427.95	427.55	-0.09%
Local / Sub Arterial	209.05	209.00	-0.02%	274.30	274.25	-0.02%
Sydney Network	670.10	669.87	-0.04%	846.07	845.80	-0.03%

Comment: The travel-time table shows that more time will be wasted in traffic as a result of the inefficient city structure. Population would not grow by a factor of 144/112=1.29 or 845/670=1.26 in just 10 years. As for the increase in vehicle hrs travelled see graph in item (3) above

The table also makes no distinction between commercial and non-commercial traffic. This would be necessary for a proper benefit cost analysis. Travel time savings of private motorists do not translate into cash savings in the economy (a basic design flaw in CBAs)

(10) Tollway debt can kicked into goal of generation Y and Z

10.3 Ecologically sustainable development

10.3.2 Intergenerational equity

Quote: "Social equity is concerned with the distribution of economic, social and environmental costs and benefits. Inter-generational equity introduces a temporal element with a focus on minimising the distribution of costs to future generations."

Comments: Future generations will be burdened with the debt incurred by the proposal, both in terms of CO2 and $$$

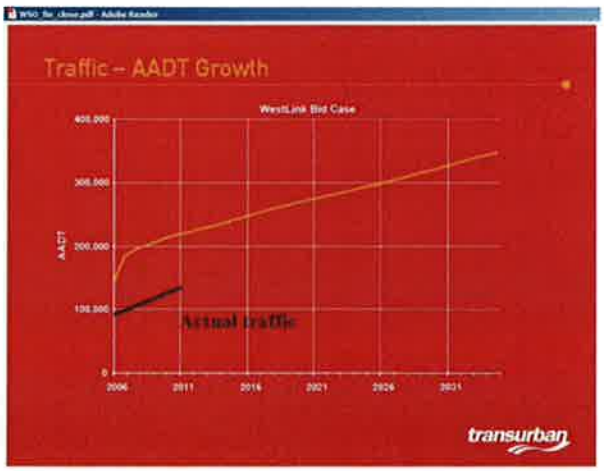
(11) Feeder bus to Macquarie Park Station not considered as option

5.10 Public Transport

Comment: The M2 is in competition to the NWRL. No analysis was done how yet more investment in the M2 will impact on rail development and bus transport in future, in particular an alternative option to the ramp, feeder buses from Lane Cove Rd to the Macquarie Park Station.

(12) Outdated traffic forecasting module

Quote: "TUSTM was originally developed in early 2005 by Transurban's Traffic Forecasting Group (TFG) building from research, models and data files created by consultants commissioned by Transurban prior to this time. Since then, progressive updates and enhancements by TSG have ensured its currency and accuracy for the purposes of annual reporting, prospective bids, and network changes."

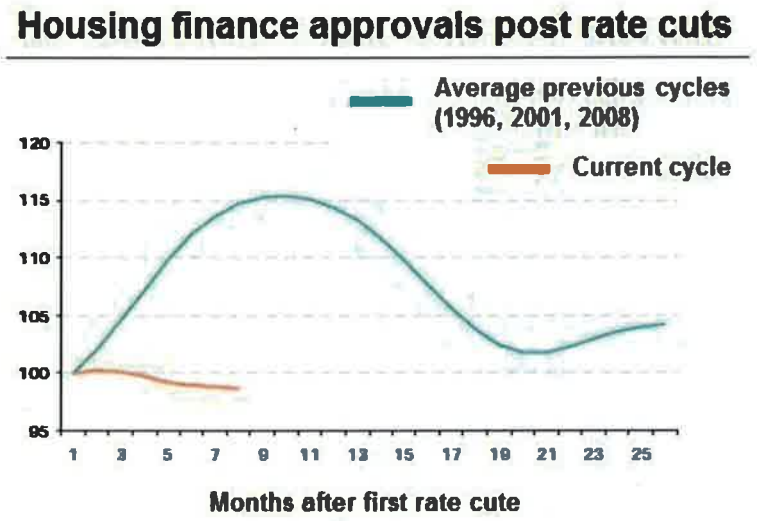


Comment: Any traffic modelling module developed before 2005 is peak oil and climate change ignorant. Updates and enhancements cannot correct this basic flaw. In any case, the model will have been calibrated with past traffic data which is not a good predictive tool to project traffic under conditions of permanent oil decline.
<<< For example, the traffic projections for the M7 were completely wrong (Fig. 14, p 46)

Quote: "Future year trip tables apply growth factors derived from future year land use projections."

Comment: Here lies the crux of the matter: "land use projections" means more residential developments and perpetual economic growth. This is exactly what will not happen. Peak oil means the end of growth of what is basically an oil dependent economy.

The signs are there:



http://www.alankohler.com.au/

Quote: "This pattern will lead to differential values of times across the region and explains the presence of cashback7 on the M4 and M5 motorways"

Comment: The cashback for the M5 (=subsidy) shows that the M5 is actually not financially viable. It is generally accepted by economists that subsidies result in a sub-optimal allocation of resources. That is why the M5 widening will ultimately fail.

Appendix 1

Still no RTA/RMS calculations on oil, alternative fuels and energy

On 3/9/2012 I received following email from RMS

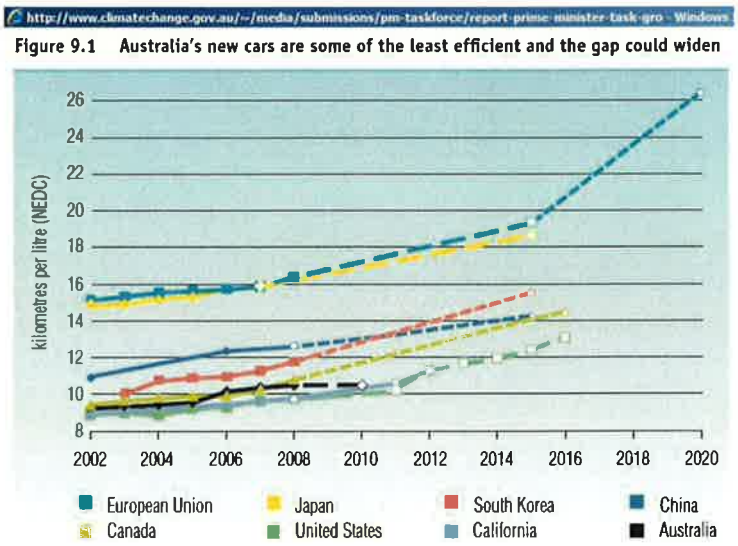
> Dear Mr Mushalik
>
> Thank you for your email to Roads and Maritime Services (RMS).
> .....
> I understand the issue of potential future fuel shortages and the need to reduce oil consumption and dependency was previously raised in your submission to the environmental assessment for the M2 Upgrade project. This issue was responded to in Section 3.3.20 of the Submissions and Preferred Project Report, which is available on the project website www.hillsm2upgrade.com.au.
>
> Regards, Correspondence Team, Customer Service

So what does chapter 3.3.20 say:
https://majorprojects.affinitylive.com/public/9eeab2fed6dc6635a2accd0dbac061f7/M2%20Upgrade%20Submissions%20Report%20and%20Preferred%20Project%20Report.pdf

(A) Fuel efficiency and CO2 reduction

Quote:
"Actions to deal with climate change are being addressed at a national level. With reference to transport, the NSW Government is working collaboratively with the Commonwealth Government to:
• Introduce fuel efficiency standards for cars and assist the car industry to produce more fuel efficient vehicles.
• Address distortions that create incentives for greater private vehicle use."

Comment:
A climate change report from the PM taskforce came up with following graph showing km/litres practically level for Australia:



And on electric cars: "However, because of Australia's carbon-intensive electricity, an electric vehicle driven in Australia would be associated, on average, with about 30 per cent more emissions per kilometre than a similarly sized petrol car" (p 132)

http://www.climatechange.gov.au/~/media/submissions/pm-taskforce/report-prime-minister-task-group-energy-efficiency.pdf

Given the slow transition to more fuel efficient cars, will this be sufficient to offset oil decline? Where are the calculations? Results from BITRE research for Victoria show that no progress is made:

VKT_BITRE_Report_124a.PDF - Adobe Reader

T6.8 Final fuel intensity (l/litres km) forecasts by vehicle type and by type,Victoria

Vehicle type	Fuel type	2006	2007	2008	2009	2010
Cars	Petrol	11.1	11.1	11.1	11.1	11.0
	Diesel	13.2	13.2	13.2	13.3	13.3
	LPG	17.6	17.7	17.8	17.9	18.0
MCs	Petrol	6.0	6.0	6.0	6.0	6.0
	Diesel	0.0	0.0	0.0	0.0	0.0
	LPG	0.0	0.0	0.0	0.0	0.0
LCVs	Petrol	13.6	13.7	13.8	13.8	13.9
	Diesel	12.2	12.4	12.6	12.8	13.0
	LPG	14.9	14.7	14.5	14.2	14.0
Rigids	Petrol	21.2	20.9	20.9	20.9	20.9
	Diesel	28.8	28.8	28.8	28.8	28.7
	LPG	30.1	29.9	29.7	29.4	29.2
Artics	Petrol	51.9	51.9	51.9	51.9	51.9
	Diesel	51.2	51.3	51.4	51.5	51.6
	LPG	61.9	61.9	61.9	61.9	61.9
Buses	Petrol	15.1	15.1	15.1	15.1	15.1
	Diesel	29.9	30.0	30.1	30.3	30.4
	LPG	16.8	16.4	16.4	16.4	16.4

Note: MC—motorcycle, LCV—light commercial vehicle, Rigid—rigid truck, Artic—articulated truck and LPG—liquefied petroleum gas

Source: BITRE estimates.

http://www.bitre.gov.au/publications/2011/files/report_124.pdf

This table shows that all that talk about fuel efficiency increases and reduction of CO2 is just an illusion. I had included this table in my article:

31/8/2011 1 billion vehicles in year #7 of peak oil
http://crudeoilpeak.info/1-billion-vehicles-in-year-7-of-peak-oil

I sent emails with the above article link

On 9/9/2011 to information@planning.nsw.gov.au, rta@rta.nsw.gov.au, office@gay.minister.nsw.gov.au

On 16/11/2011 to corporate@transurban.com.au and John_Brewer@rta.nsw.gov.au

Obviously, the government is not taking all this research seriously, although departments have sufficient staff to explore the links provided and come to the same logical conclusions as presented in these articles.

In relation to the 2nd point in the above quote, the continuing cash back scheme for the M5 is in fact a continuing distortion which creates incentives for **greater vehicle use**, so this objective is not being followed up.

(B) Alternative fuels

Quote: "Governments and industry are taking the view that it is prudent to consider that oil production may peak and then decline. This could increase the cost and reduce the availability of transport fuels and construction materials derived from oil.

For transport, the solutions to the problem of "peak oil" are similar to those for climate change. **Alternatives to fossil fuels need to be found** and transport must become more energy efficient. **There are moves to establish alternatives to oil** as a fuel for transport and to improve energy efficiency. **This would enable the economic benefits** provided by road transport to continue to be delivered with a reduced need for fossil fuels. Similar action is being taken, through recycling and investigation of alternative materials, to reduce the need for construction products derived from fossil fuels."

Comment: "Alternatives to fossil fuels need to be found" is not sufficient to justify investments of billions of dollars. "There are moves to establish alternatives to oil". Again, no details and no numbers on quantities and timelines are given to offset oil decline. The above graphs show it is actually NOT happening.

Quote: "With reference to the M2 Upgrade project, traffic modelling across the Sydney network indicated that the proposed Upgrade would result in a slight net decrease in annual VKT across the Sydney network. This decrease occurs due to the reduced distances travelled on arterial and local roads as driving patterns shift to take advantage of reduced congestion and travel times on the M2 Motorway and other freeways."

Comment: Traffic modelling done for the Lane Cove Road ramp shows that traffic on motorways is increasing

Quote: "This net decrease in annual VKT leads to an associated decrease in the quantity of fuel consumed by private vehicles and a subsequent reduction in the quantity of emissions produced. As noted in Section 10.10.3 ..... it is estimated that total operational emission savings of around 1.75 Mt CO2-e would be achieved over a thirty year period when compared against the 'do nothing' scenario."

Comment: The calculated savings would be quickly cancelled out by the traffic growth shown in table 10-1. The real reduction in CO2 emissions will come with oil decline.

Conclusion:

The contents of the above email will not hold in court as these statements are not supported by numerical evidence and are even factually incorrect, according to research of various government departments which the NSW government is apparently unable or unwilling to compile. It shows that no progress is being made to analyse the impact of peak oil.

Appendix 2

Oil prices and the economy

Causes and Consequences of the Oil Shock of 2007–08, by James D Hamilton

"Whereas historical oil price shocks were primarily caused by physical disruptions of supply, the price run-up of 2007-08 was caused by strong demand confronting stagnating world production. Although the causes were different, the consequences for the economy appear to have been very similar to those observed in earlier episodes, with significant effects on overall consumption spending and purchases of domestic automobiles in particular. In the absence of those declines, it is unlikely that we would have characterized the period 2007:Q4 to 2008:Q3 as one of economic recession for the U.S. The experience of 2007-08 should thus be added to the list of recessions to which oil prices appear to have made a material contribution."
http://www.brookings.edu/~/media/Files/Programs/ES/BPEA/2009_spring_bpea_papers/2009_spring_bpea_hamilton.pdf

Here are some excerpts from an interview with James, dated 31/8/2012

Q: What range do you see oil prices trading in over the next 12 months?

A: *"The price of oil would surely collapse if we saw a significant economic downturn in China (something nobody can rule out) or if Iraq succeeds in producing even half of its ambitious production targets (though I personally consider the latter unlikely). On the other hand, a military confrontation with Iran could produce a pretty spectacular price spike.* ***If the Strait of Hormuz were to close, for example, it would represent a shock to world production that in percentage terms would be 3 times as big as the 1973-74 OPEC embargo."***

(My comment: if prices collapsed, Canadian syncrude production and other high cost oil would become uneconomic, resulting in a production drop. Moreover, many ME countries have fiscal neutral oil prices in the $80 range which will force these countries to reduce production, underpinning an oil floor price)

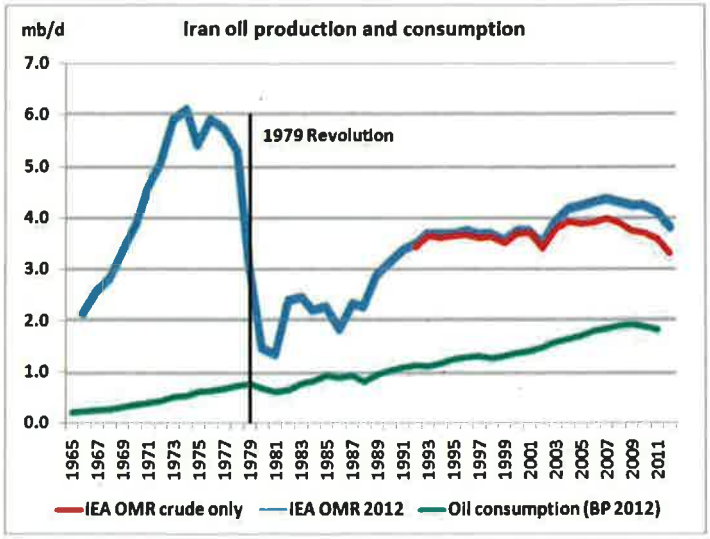
"Because the demand for oil is so insensitive to the price over the short run, and because there is little excess capacity in the world at the moment, even small disruptions or additions could produce big price changes. For this reason, I do not have a lot of confidence in anybody's near-term oil-price forecasts.

On the other hand, I think we understand pretty clearly the main factors behind the overall increase in oil prices since 2005. Demand for oil, particularly from the emerging economies, has grown significantly, and we have had a hard time increasing global production. The single most likely outcome is that both conditions will continue to be with us. The most likely scenario is that the next decade will look something like the last, with oil prices volatile but exhibiting an upward trend."

Q: Apart from the Iran and Syria situations – are there any other geopolitical risks that could lead to increased volatility in the energy markets?

A: **"***The list of oil-producing countries is almost a Who's Who of world trouble spots. There is ongoing unrest in Sudan and Nigeria, and it wouldn't take much to see a major turn of events in Venezuela and Kazakhstan. Iraq, a key hope for future increases in production, has been a place of conflict for most of the last three decades. The same forces that disrupted production in Egypt and Libya last year could easily return. And the key worry about Syria and Iran is the possibility that instability there could spill over into other nations of the region"*
http://www.economonitor.com

Appendix 3 Iran and Egypt



To illustrate what was said in the Hamilton interview:

<< The Shah overproduced oil in the 70s in competition to Saudi Arabia. He allowed the stacking of several giant oil fields but production could not be maintained at 6 mb/d, resulting in a peak in the mid 70s, before the revolution. When dictators are faced with stagnating oil revenue they can't keep their population happy and social unrest follows. Iran is now at its 2nd and last oil peak, with yet unpredictable events ahead of us. Details are here:

7/8/2012 Iran's 2nd and last oil peak
http://crudeoilpeak.info/irans-2nd-and-last-oil-peak

As is always the case, peaking of oil production is happening in the context of other factors:

To Calm Israel, U.S. Offers Ways to Restrain Iran

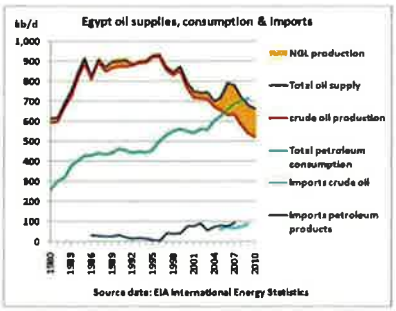
Already planned are naval exercises and new antimissile systems in the Persian Gulf, and a more forceful clamping down on Iranian oil revenue

http://www.nytimes.com/2012/09/03/world/middleeast/us-is-weighing-new-curbs-on-iran-in-nod-to-israel.html?pagewanted=all

Sanctions are a quasi-declaration of war and we might remember how WW2 started in the Pacific.

The invasion of Iraq, a neighbouring country, was of course an oil war and this will certainly have motivated Iran to go nuclear or give the impression they are doing so.

Irrespective of the continuing debating club competition about the global oil peak, this Iranian peak alone is changing and will change the whole geostrategic situation in the Middle East and its oil supplies.



Another populous MENA country in which oil production has peaked is Egypt.

31/1/2011
Egypt - the convergence of oil decline, political and socio-economic crisis
http://crudeoilpeak.info/egypt-the-convergence-of-oil-decline-political-and-socio-economic-crisis

Appendix 4

Impact of peak oil in Australia (selected examples)

(a) Qantas, Emirates seal 'extensive' alliance

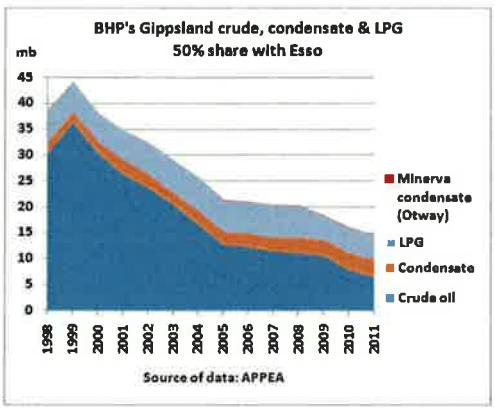
Qantas will replace Singapore with Dubai as its hub for European flights. It will co-ordinate pricing and sales with Emirates. Qantas will end its existing relationship with British Airways in March 2013. The alliance is deeper than a straightforward code-share arrangement. But it stops short of a global revenue-sharing deal or equity injection.
http://www.brisbanetimes.com.au/business/qantas-emirates-seal-extensive-alliance-20120906-25fhm.html

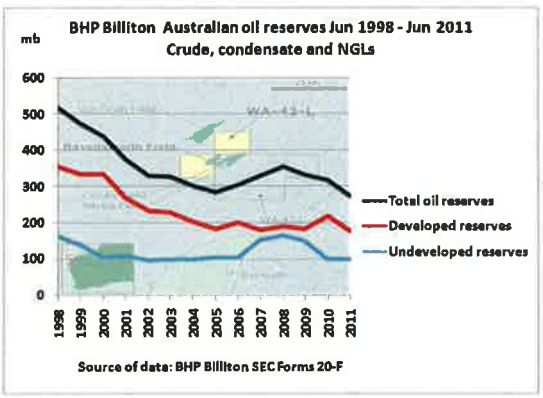
No surprises here. In Singapore, Frankfurt and London aviation fuel is expensive. Refuelling in the Middle East would be cheaper. Martin Ferguson's publicity stunt was in vain:

16/4/2012 Fry and Fly - the new era of sustainable aviation
http://crudeoilpeak.info/fry-and-fly-the-new-era-of-sustainable-aviation

30/10/2011
Qantas hit by invisible hand of peak oil
http://crudeoilpeak.info/qantas-hit-by-invisible-hand-of-peak-oil

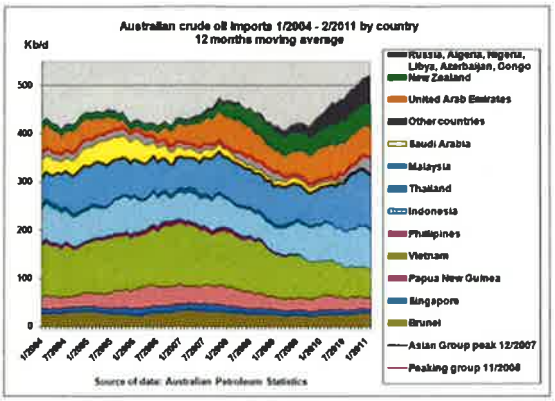
(b) High diesel prices are one of the factors mentioned by BHP CEO Marius Kloppers for the shelving of the Olympic Dam mine expansion.

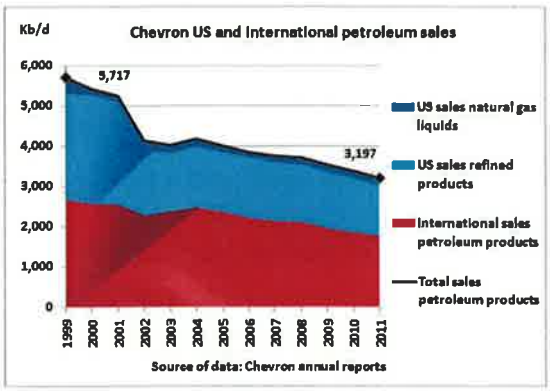




24/8/2012 BHP Billiton's Australian oil reserves in long term decline
http://crudeoilpeak.info/bhp-billitons-australian-oil-reserves-in-decline

(c.) Caltex refinery closure

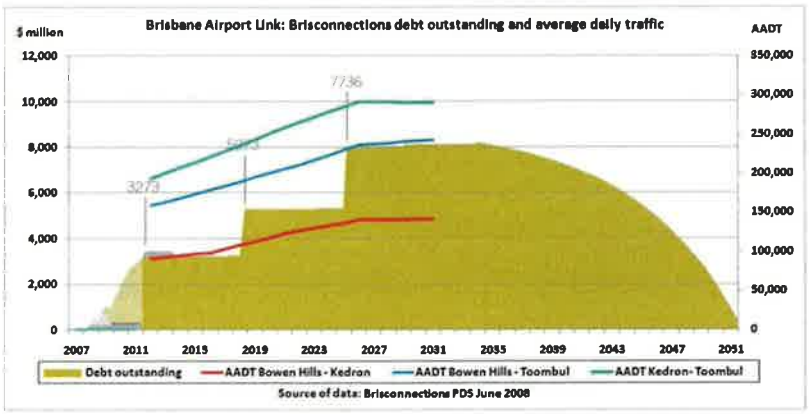




Left graph: Australian crude oil imports (increasing, where are the fuel efficiency increases?) After the peaking of South East Asian suppliers it was getting harder and harder to get crude oil from far-away countries like Russia, Nigeria, Congo, Libya, Algeria and Azerbaijan, for example.

Right graph: The Caltex CEO told journalists in a press conference that Sydney's growing demand for fuels will come from Chevron. But looking at their annual reports, Chevron's petroleum sales are in long term decline. This is how the public is misinformed about the oil supply situation. More details and links:
27/7/2012
After Sydney's refinery closure: Caltex to import fuel from Chevron's shrinking sales
http://crudeoilpeak.info/after-sydney-refinery-closure-caltex-to-import-fuel-from-chevrons-shrinking-sales

(d) Brisbane's road tunnels



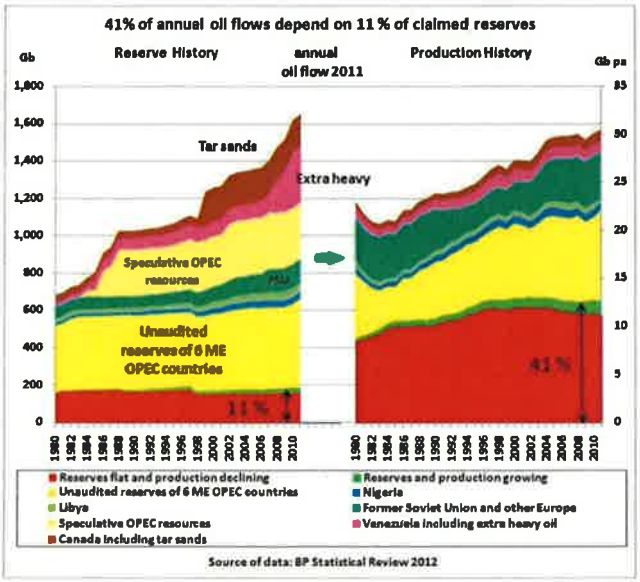
6/7/2012 Brisbane Airport Link: another tollway miracle of growing debt and assumed traffic growth (part 1)

http://crudeoilpeak.info/brisbane-airport-link-another-tollway-miracle-of-growing-debt-and-assumed-traffic-growth-part-1

Clem7's traffic projections now before the courts.
http://crudeoilpeak.info/i-told-you-so/north-south-bypass-tunnel-clem7-brisbane

Appendix 5 Half truths and misinformation in the media

(a) **Hurricane Isaac wrecks havoc on oil price**
Presenter: ".....and last year, world oil reserves actually increased by 19%"
http://www.abc.net.au/news/2012-08-29/oil-pressure/4231598



But what kind of oil? Tar and extra heavy oil! That will not drive our gas-guzzling car society.

Comandante Chavez demonstrates what oil is ahead of us:

More details are here: 12/8/2012 BP Statistical Review 2012 (part 3): the incredible growth of oil(y) resources
http://crudeoilpeak.info/bp-statistical-review-2012-the-incredible-growth-of-oily-resources

And why is OPEC not producing all their oil? If Saudi Arabia really had 265 Gb of **remaining** "reserves" then production at a reasonable rate of 2% pa (=50 years supply) should be 14.6 mb/d. They hardly make a sustainable10 mb/d

2/3/2011 WikiLeaks cable from Riyadh implied Saudis could pump only 9.8 mb/d in 2011
http://crudeoilpeak.info/wikileaks-cable-from-riyadh-implied-saudis-could-pump-only-9-8-mbd-in-2011

(b) Alan Kohler mixing up shale oil and oil shale

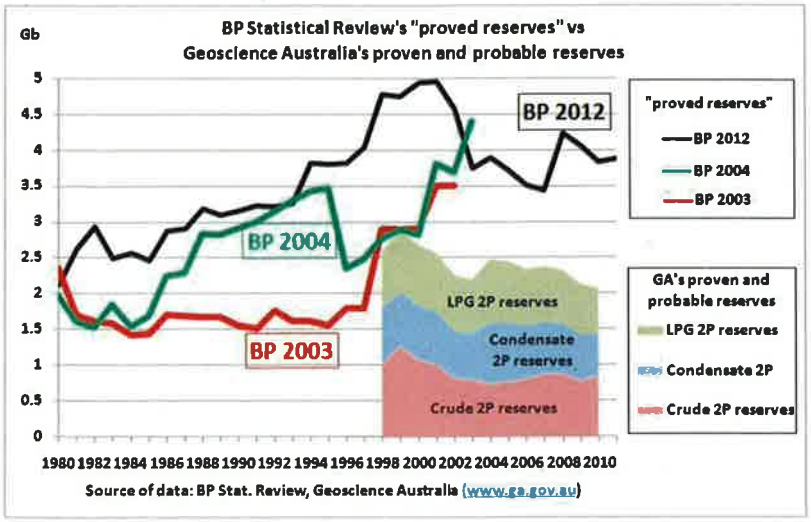
7/4/2012 Australian ABC TV falls into oil and climate trap of unconventional oil
http://crudeoilpeak.info/australian-abc-tv-falls-into-oil-and-climate-trap-of-unconventional-oil

5/4/2012 Proudly powered by oil shale
http://crudeoilpeak.info/proudly-powered-by-oil-shale

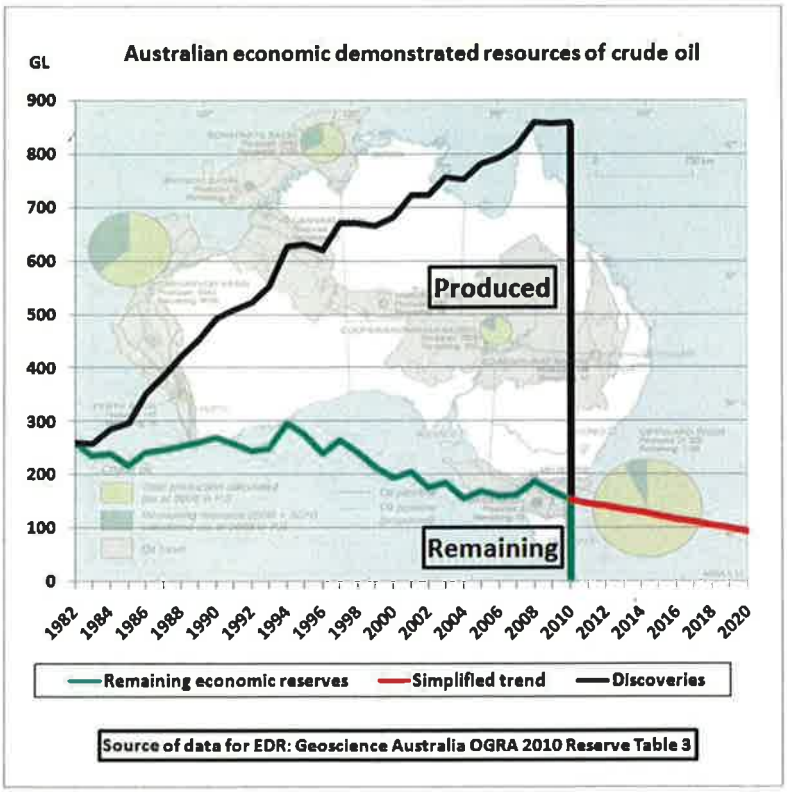
7/3/2012 No number crunching in Alan Kohler's opinion piece on a premature peak oil death
http://crudeoilpeak.info/no-number-crunching-in-alan-kohler-opinion-piece-on-premature-peak-oil-death

27/3/2012 Desperate Times: Trucking shale oil in North Dakota
http://crudeoilpeak.info/desperate-times-trucking-shale-oil-in-north-dakota

Appendix 6 Australian oil reserves

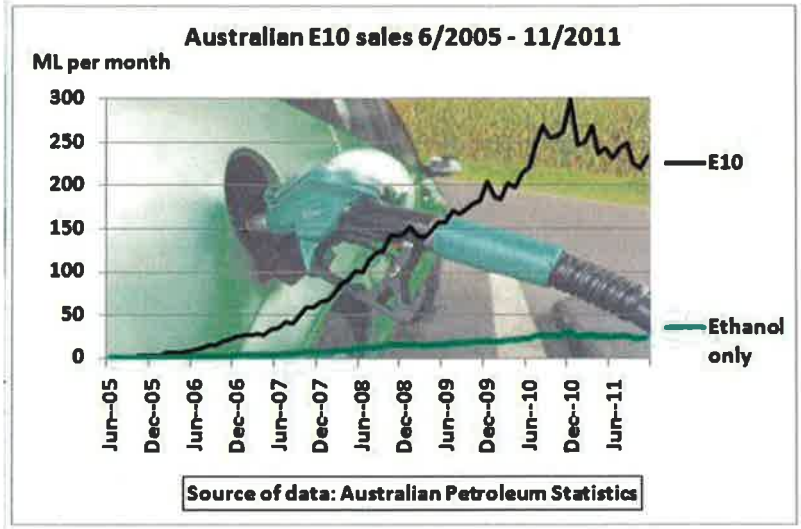


25/7/2012 BP Statistical Review 2012: Australia's proved oil reserves overreported by a factor of 2
http://crudeoilpeak.info/bp-statistical-review-2012-part-2-australia-proved-oil-reserves-overreported-by-a-factor-of-2



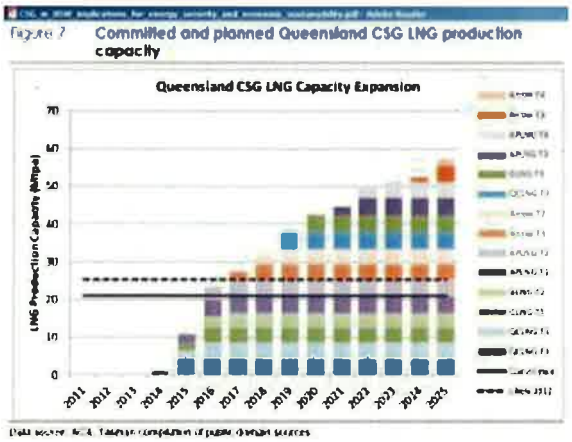
25/6/2012 10 Mouse clicks to calculate Australian crude oil depletion of 83 %
http://crudeoilpeak.info/10-mouse-clicks-to-calculate-australian-crude-oil-depletion-of-83-per-cent

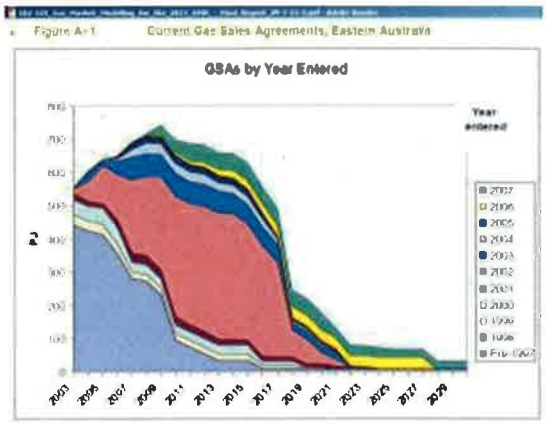
Appendix 7 Ethanol



30/1/2012 Ethanol blended E10 would take 14 years to replace ULP in Australia
http://crudeoilpeak.info/ethanol-blended-e10-would-take-14-years-to-replace-ulp-in-australia

Appendix 8 Gas squandered in exports





9/5/2012 Queensland plans to export more than 10 times the gas NSW needs (part 3)
http://crudeoilpeak.info/queensland-plans-to-export-more-than-10-times-the-gas-nsw-needs-part-3

6/5/2012 Howard's wrong decisions on offshore gas exports start to hit transport sector now
http://crudeoilpeak.info/howards-wrong-decisions-on-offshore-gas-exports-start-to-hit-transport-sector-now

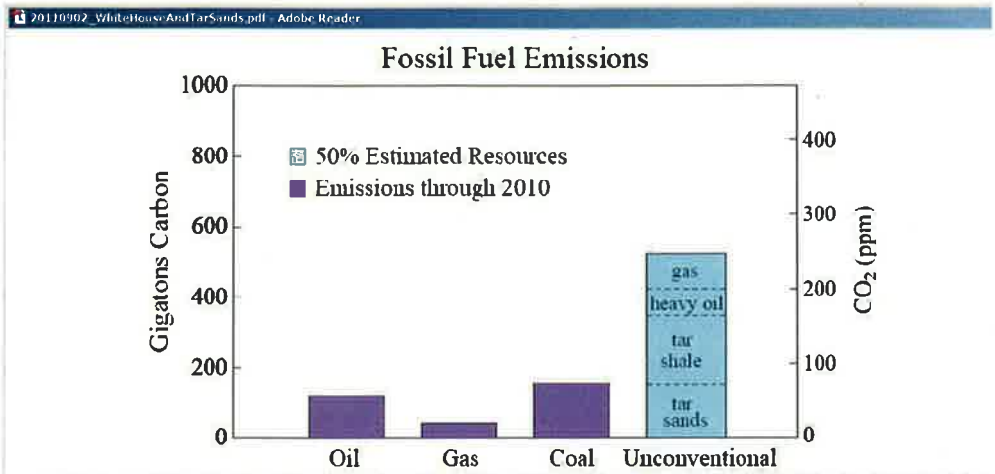


Figure 1. Total conventional fossil fuel emissions (purple) and 50% of unconventional resources (blue)

50% of unconventional oil and gas burnt will cook the planet

7/11/2011 Why coal seam gas will not reduce CO2 emissions
http://crudeoilpeak.info/why-coal-seam-gas-will-not-reduce-co2-emissions

Big Sydney – Big problem

13/10/2011 NSW gas as transport fuel. Where are the plans?
http://crudeoilpeak.info/nsw-gas-as-transport-fuel-where-are-the-plans

11/10/2011 Australia's natural gas squandered in LNG exports
http://crudeoilpeak.info/australias-natural-gas-squandered-in-lng-exports

Appendix 9 Global warming is worse than peak oil

8/3/2010 NASA climatologist James Hansen at Sydney Uni: "Australia doesn't agree now that they got to stop their coal, but they are going to agree. **I can guarantee you that within a decade or so because the climate change will become so strongly apparent that's going to become imperative"** 20 seconds clip: http://www.youtube.com/watch?v=qMD2sd0lPeg
http://www.usyd.edu.au/sydney_ideas/lectures/2010/professor_james_hansen.shtml

http://www.stormsofmygrandchildren.com/

10/8/2012 Increasing Climate Extremes and the New Climate Dice

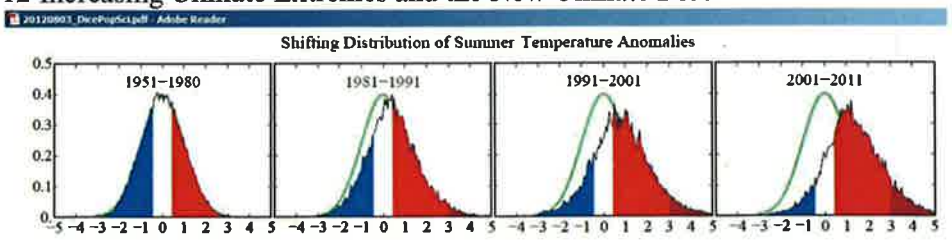
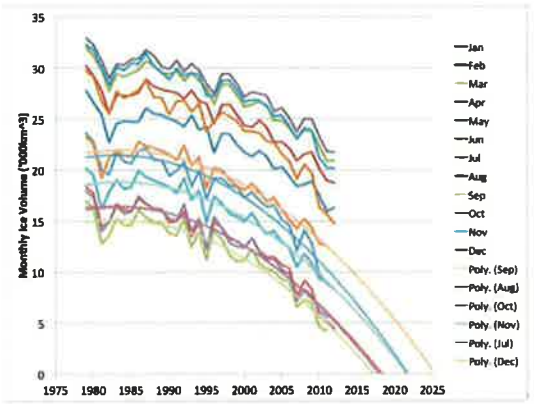
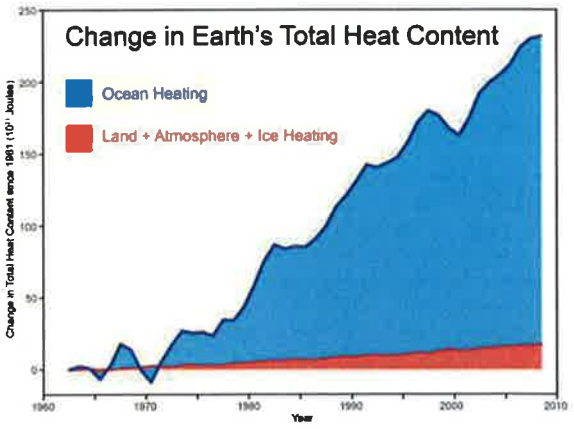


Figure 3. Frequency of occurrence (vertical axis) of local June-July-August temperature anomalies (relative to 1951-1980 mean) for Northern Hemisphere land in units of local standard deviation (horizontal axis). Temperature anomalies in the period 1951-1980 match closely the

We show that the 2012 summer heat wave in the United States (June-July data) exceeds any that occurred in the 1930s. We reconfirm our conclusion that the increasing extremity of heat waves and the area covered by extreme events is caused by global warming
http://www.columbia.edu/~jeh1/mailings/2012/20120811_DiceDataDiscussion.pdf

The heat is already in the ocean. Who will get it out?





Left: Parabolic trend of Aug/Sep Arctic sea ice volume towards zero in this decade.
http://earlywarn.blogspot.com.au/2012/08/more-on-arctic-sea-ice-volume.html
Right: http://www.skepticalscience.com/The-Earth-continues-to-build-up-heat.html

Every coal ship accumulates future compensation claims on a pro rata basis of emissions and benefits gained. Climate change refugees from Asian river deltas will come to Australia in the 10s of millions. Right: Bangladeshi Minister for Water Resources: "**It is our national argument that the responsible parties must compensate for it**". http://www.youtube.com/watch?v=UisJSsPw-U0

Courts will decide.