Comments on Metropolitan Strategy
Sydney over the next 20 years
(Discussion paper, May 2012 version)

Big Sydney – Big problem

Every economic activity is a transformation of primary energy into usable energy with the end product of CO2 in the atmosphere

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

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Contents

Quote: *These plans …. must ensure the way we provide quality services….in an integrated and collaborative way across Government, supported by close engagement of the community and stakeholders. p*age 30, "Sydney over the next 20 years"

There is a big question mark over the usefulness of this public consultation:

Residents to lose objection rights in new planning laws
26/6/2012
http://www.smh.com.au/business/property/residents-to-lose-objection-rights-in-new-planning-laws-20120626-210mx.html

Councils to lose approval rights over developments
28/6/2012
http://www.smh.com.au/nsw/councils-to-lose-approval-rights-over-developments-20120627-212w8.html

Summary recommendations

The discussion paper must be re-written from scratch using following report structure

Introductory exercise: prepare an oil vulnerability report for Sydney

(a) Calculate – for the projection period - future energy requirements (oil, gas, coal) for existing Sydney and for an additional model population of, say, 100,000

(b) Analyse whether the energy calculated under (a) is available and at which prices

(c) Calculate the CO2 absorption capacity of the atmosphere for the fossil fuels burnt

(d) Steps (a) to (c) will determine the maximum population P_{maxe} for Sydney

(e) If this P_{maxe} is lower than the existing population, Sydney is not sustainable in its present form

(f) Calculate current private and public debt in Sydney and annual debt servicing costs. Analyse which debt is affected by the global financial crisis and which debt can actually be paid back. In particular, such calculations have to be done for all infrastructure and housing. Activities and projects which cannot pay back debt are economically not viable and will come to an end anyway. They will limit the population in Sydney to P_{maxd}

(g) Calculate food supply requirements for Sydney and associated energy and infrastructure requirements to underpin this supply chain. That will determine P_{maxf}

(h) Use sea level rise estimates from PIK and Prof. Tad Pfeffer to calculate which areas in Sydney have to be written off. Under no circumstances should any development take place for levels under these estimates.

(i) Calculate how much of private car traffic must be replaced by public transport within the projection period, resulting from declining oil production (both locally and globally). Estimate the cost of infrastructure needed for this transition and determine the source of funding. Such funds will limit the population to P_{maxt} depending on which percentage of car-pooling is assumed

(j) Calculate the fuel requirements for road and rail freight and compare with available supplies. Calculate how much road freight must be transferred to rail to sustain current and future levels of freight volumes. Estimate the funds required for these rail projects

(k) Energy, CO2 and debt calculations above will help to determine P_{max} for Sydney. In all likelihood the current population will already have exceeded this limit

(l) Therefore, the main question is how to reduce current population growth in Sydney. This can be achieved by reducing immigration and by a pro-active decentralization strategy for natural population growth into regional centres. The cost of such decentralisation for a model population of 100,000 should be calculated and compared with the marginal cost of accommodating this additional population in the Sydney basin.

(1) The role of spatial planning

The department which drafted the discussion paper is a State planning department, not a town planning department. Yet, most of the questions asked are related to town planning which under HM system of government should be dealt with by town councils.

The discussion paper follows the logic: "we assume population growth in Sydney (half of which is driven by immigration), therefore we must grow Sydney and please give us some brilliant ideas how to do it".

This is a rather limited, Sydney centric view in a State which has a coastal region of 1,000 kms length and table lands of similar length. State planning means economic and spatial planning for the whole state. This includes determining a hierarchy of centres which would **minimize the total infrastructure cost for the State**.

Therefore, the questions which must be asked (and answered) would be quite different from the more detailed questions in the discussion paper.

(a) What are the capital cost and operational cost of accommodating an additional population of, say, 100,000 in the Sydney basin, including the pro rata cost of infrastructure which would be necessary if Sydney exceeded a certain threshold size.
(b) What would be the cost for accommodating the same population in centres xyz
(c.) What is the annual resource consumption (energy, water etc.) for (a) and (b)?
(d) What are the CO2 emissions for (a) and (b)?

Results from the research above will help to answer these very critical questions:

(i) whether current immigration rates should be maintained
(ii) who should pay for the infrastructure cost of immigrants (Federal government?)
(iii) should visa conditions be imposed which require immigrants to settle in regional centres

(2) Energy consumption

The discussion paper did not calculate an updated (i.e.2011) annual consumption in Sydney of

(a) petroleum based fuels, especially for urban traffic, in GL pa

(b) natural gas for domestic consumption and energy generation, in MM3 pa

(c.) coal for power generation and other industrial use (e.g cement production), in Mtpa

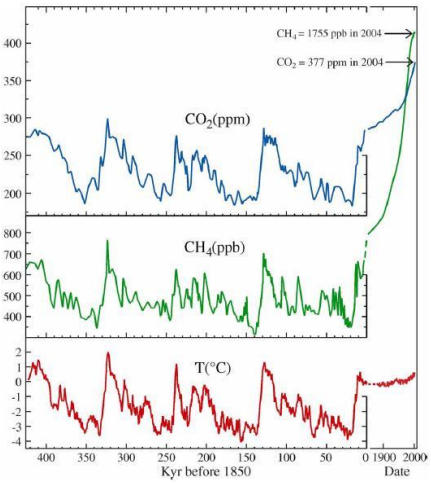
and what the additional requirements would be over the projection period of 20 years.

(3) Green house gas emissions

The discussion paper quotes the Arup 2010 report with 54 Mtpa CO2 emissions in 2008.

Greenhouse Gas Emissions Snapshot, Sep 2010
http://www.metroplansydney.nsw.gov.au/Portals/0/pdf/GreenhouseGasSnapshop.pdf

As this report does not attempt to calculate future energy requirements the discussion paper should have done this research. As CO2 cannot be blown into the atmosphere in unlimited and unspecified quantities, it must be investigated how this carbon can be sequestered. If this is economically and geologically not possible, then all growth plans should be abandoned.



<<< CO2 concentration in the last warm periods under natural climate change was never higher than 300 ppm. We are now at 390 ppm. Therefore, the CO2 absorption capacity of the atmosphere is already exhausted if the climate of the last century is to be preserved.

It is to be noted here that nature responds to CO2 in the atmosphere and that the laws of nature - which govern this process - will prevail and not glossy government and corporate brochures.

It is self deceipt just to calculate emissions, hope for the best and then claim sustainability as an objective elsewhere in the report.

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

(4) Peak oil

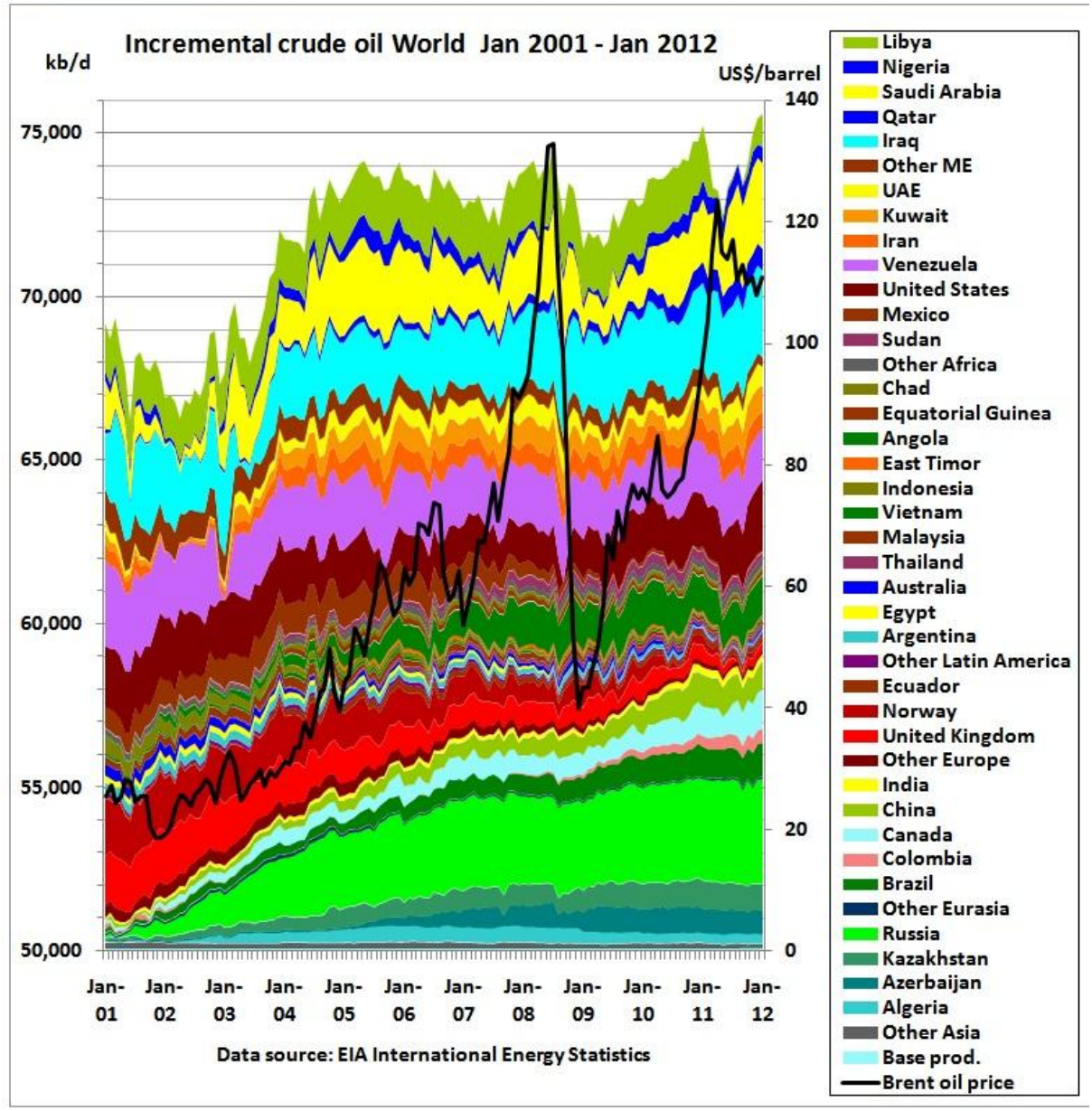
The NSW government thinks it can still debate peak oil:

30/4/2012
NSW Transport Master Plan debates conventional peak oil 2006, assumes continuing oil age
http://crudeoilpeak.info/nsw-transport-master-plan-debates-conventional-oil-peak-2006-assumes-continuing-oil-age

So it does not come as a surprise that the discussion paper does not (want to) know what peak oil is, which started in 2005 and triggered the financial crisis. This ignorance (or denial) alone makes the discussion paper invalid because peak oil impacts on the economy, on finance, debt, disposable income, transport, housing, tourism and many other sectors.

Causes and Consequences of the Oil Shock of 2007–08

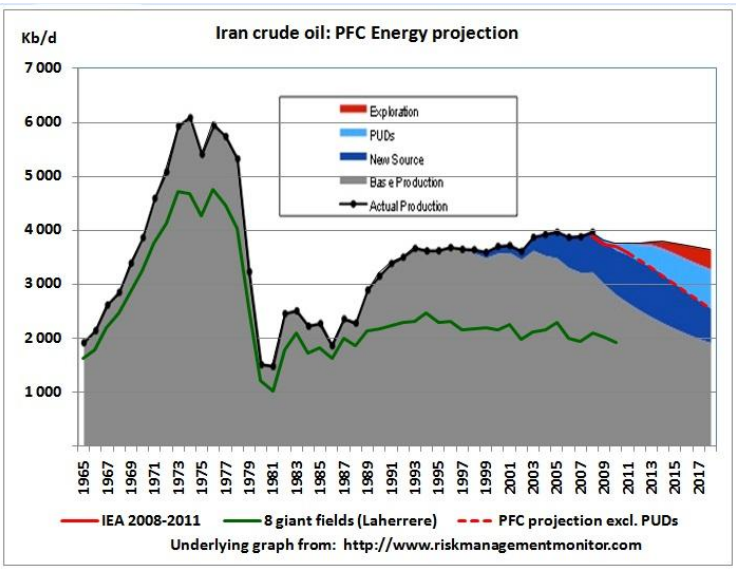
Whereas historical oil price shocks were primarily caused by physical disruptions of supply, the price run-up of 2007-08 was caused by strong demand confronting stagnating world production. Although the causes were different, the consequences for the economy appear to have been very similar to those 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



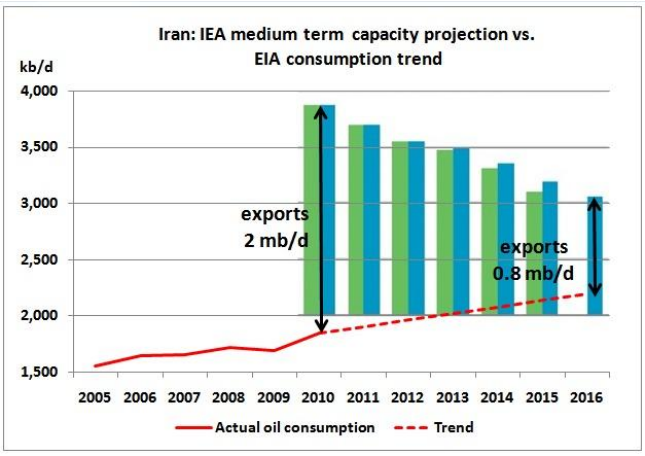
This is my latest graph showing incremental crude oil production (=changes compared to January 2001). In 2002/2003 we see the impact of the strike in Venezuela and the Iraq war, the 1st peak oil war. The objective of this war was to get at Iraq's pre-peak oil (Iraq had under produced oil for 20 years) and push the global peak a couple of years into the future. But this backfired and the peak started in 2005 anyway.

In 2006-2007 Saudi oil production declined, resulting in skyrocketing oil prices. This was predicted by the late Matthew Simmons in his 2005 book "Twilight in the desert the coming Saudi oil shock and the world economy". Well, former NSW Nick Greiner recently described it as a "cactus" economy. In 2008, Saudi Arabia was able to bring back previous capacities but that was not enough to supply all the extra oil demand from China for the Olympic games. That is why I call this the oilympic peak.

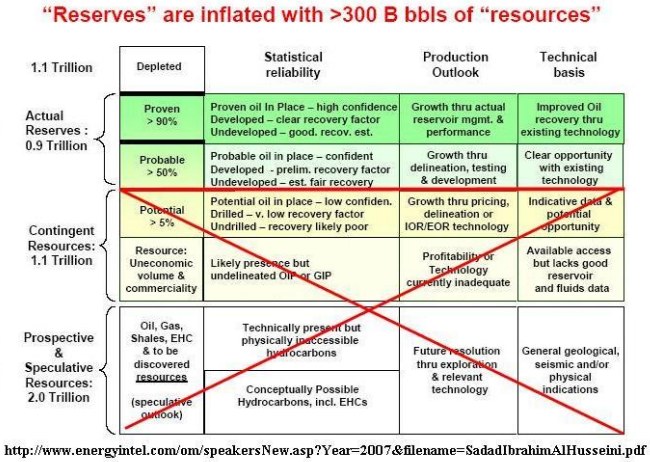
These high oil prices pricked the debt bubble which developed over several decades. The GFC resulted in a recession with falling demand for oil. 2 rounds of quantitative easing in the US and oil production is up to what I call the money printing peak, interrupted by the 2nd peak oil war in Libya, where Nato defended its oil supplies. The story now continues with the European oil embargo on Iran which is currently at its second and last production peak.



No amount of shale oil or syncrude from Canada will stop peak oil in Iran



Oil production decline in Iran will guarantee permanent geo-strategic problems. And that is the root cause: OPEC's paper barrels



http://crudeoilpeak.info/opec-paper-barrels

Slide from the Energy Intelligence Oil & Money conference October 2007 in London: Ex Saudi Aramco chief re-classifies 30 years of OPEC oil supplies.

Algeria, Egypt, Yemen and Syria have also peaked. In many countries, including Nigeria, Pakistan and India there are budget problems to finance subsidies for expensive fuel imports at world market prices. Neighbouring Indonesia also saw street protests due to increasing petrol prices.

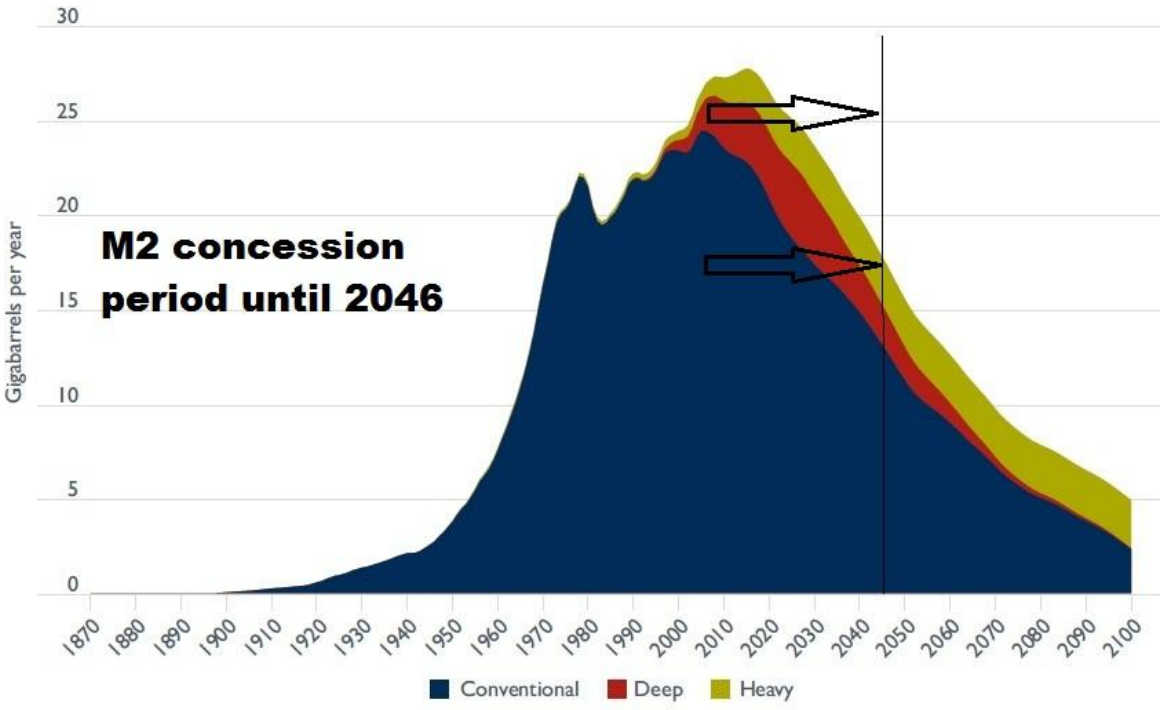
The civil war in Syria has oil strategic importance due to the links with Iran. It obliges Nato and Russia to position itself in this new twist of the oil endgame. It may suck in the last standing soldiers of oil supplies in the Middle East.

On a more peaceful note we see the closing of refineries, declining profits of airlines, problems in the car industry.

In short, what you see is what you get: peak oil is now.

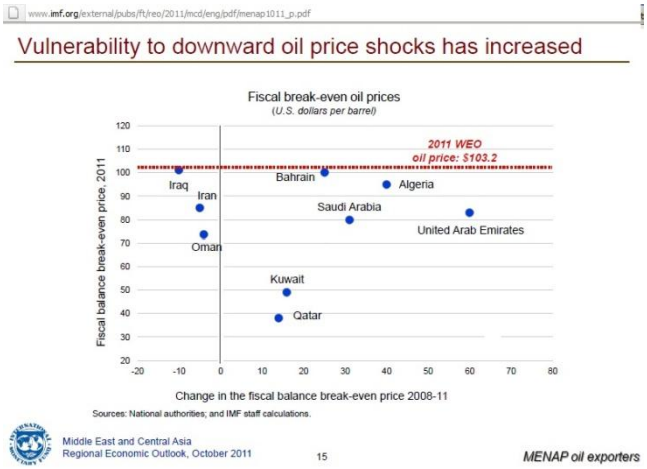
That cannot hinder governments to deny even a comfortably calculated peak in 2016/17

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

And if anyone thinks that lower oil prices as experienced in June 2012 were good news, ME countries have a problem with that. They need a minimum oil price to sustain their budgets which – in the context of turmoil in neighbouring countries – have to keep their respective populations happy.



Fiscal break-even oil prices October 2011

Iraq: $ 100, Iran $85, Saudi Arabia $ 80

Vulnerability to downward oil price shocks has increased
http://www.imf.org/external/pubs/ft/reo/2011/mcd/eng/pdf/menap1011_p.pdf

This is the IMF's latest report on oil prices, assuming a global GDP growth of 4%:

20/5/2012 IMF team warns of global economy entering uncharted territory with US$ 180 a barrel in 2021
http://crudeoilpeak.info/imf-team-warns-of-global-economy-entering-uncharted-territory-with-usd-180-a-barrel-in-2021

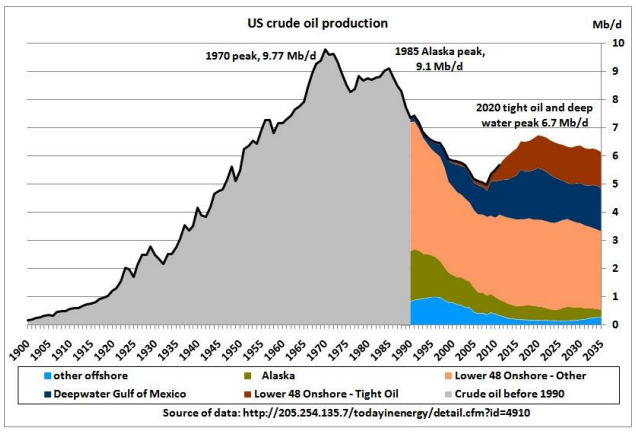
So which impact would that oil price have on car-dependent Sydney?

And the media got it completely wrong:

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

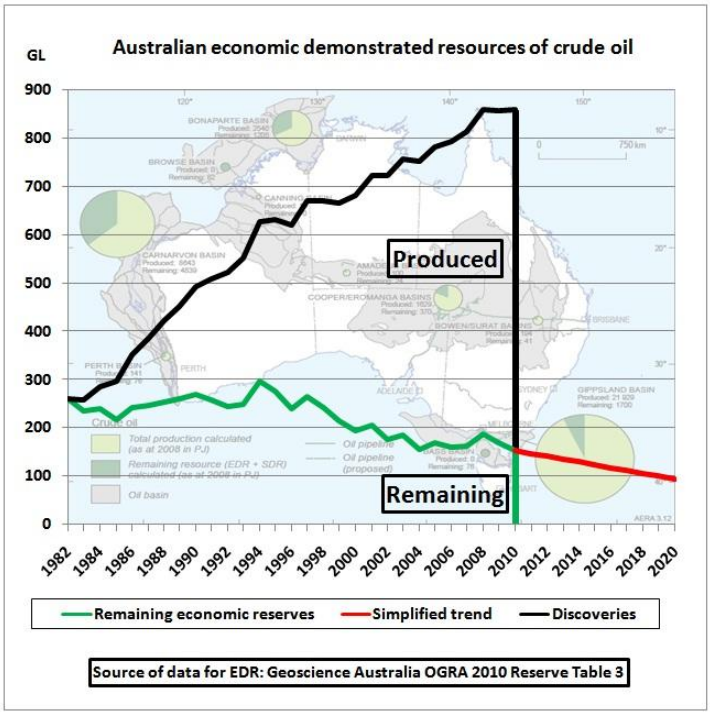
5/4/2012 Proudly powered by oil shale
http://crudeoilpeak.info/proudly-powered-by-oil-shale

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



<< shale oil is a short lived uptick for US oil production, not an energy revolution

Australian crude oil:

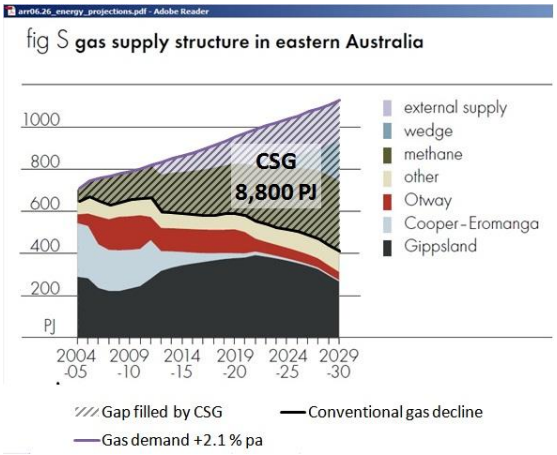


25/6/2012 10 Mouse clicks to calculate Australian crude oil depletion of 83 %
http://crudeoilpeak.info/10-mouse-clicks-to-calculate-australian-crude-oil-depletion-of-83-per-cent

(5) Gas supplies

The image on the cover is from my article:

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



<< Conventional gas production will decline
It is an untested assumption that farmers will accept CSG production to increase as planned in this graph

http://lockthegate.org.au/

Moreover:

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

(6) Future of coal: 10 years

http://www.usyd.edu.au/sydney_ideas/lectures/2010/professor_james_hansen.shtml

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
Full lecture:
http://www.youtube.com/watch?v=5E5EdbiB4HU

Hansen's book: http://www.stormsofmygrandchildren.com/

That cannot stop the NSW government and the Federal government to dramatically boost coal production and exports:

Hunter coal 3rd track: The NSW government is working very hard to contribute to higher sea levels and other nasty global warming events

TONY JONES: …. why worry about carbon dioxide when water vapour is a stronger greenhouse gas and actually occurs naturally?

JAMES HANSEN: Yeah, that's the screwiest argument which keeps being made again and again and again. The amount of water vapour in the atmosphere is determined by the atmosphere's temperature….. As you go to a warmer climate the atmosphere holds more water vapour because at the places where the humidity reaches 100 per cent the water vapour falls out as water or snow. And therefore, as the planet becomes warmer, the atmosphere holds more water vapour.

That's why we get heavier rain falls as the planet gets warmer.
http://www.abc.net.au/lateline/content/2008/s2764523.htm

Quod erat demonstrandum:

Yallourn brown coal mine flooded in June 2012

The Australian Financial review published my letter:

So the Yallourn brown coal mine has flooded ("Power station partially shut by floods", AFR, June 7).

This is exactly what NASA climatologist Dr James Hansen explained in an interview with ABC TV's Tony Jones on Lateline in July 2009: that in a warmer climate, the atmosphere holds more water vapour, and when humidity reaches 100 per cent, we get heavier rainfalls.

How many more science lessons do politicians have to learn before they go for renewable energies and close down those brown coal power plants?

If they don't do it, nature will do it for them, as we have just seen

http://afr.com/p/opinion/power_blackout_over_brown_coal_uJp7XJjcclSTLiHHG7nJBI

Compensation claims

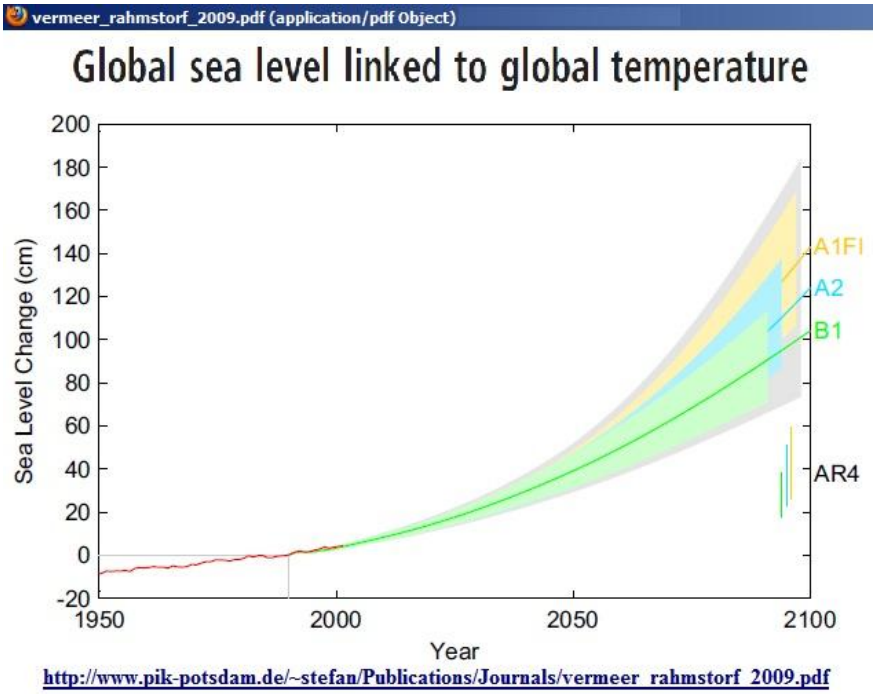
It would be naïve to assume that the current fossil fuel addiction of governments can continue without legal, financial and historical consequences:

http://www.youtube.com/watch?v=UisJSsPw-U0

That will not come cheap, even on a pro rata basis of emissions

(7) Sea level rises

The principles of prudent governance demand that the worst case scenarios be taken into account:



Sea level estimates from PIK http://www.pik-potsdam.de/sealevel/

For the impact of sea level rises in Asia read the IPCC report:
http://www.ipcc.ch/publications_and_data/ar4/wg2/en/ch10s10-4-3.html

Science
AAAS

Kinematic Constraints on Glacier Contributions to 21st-Century Sea-Level Rise

W. T. Pfeffer, *et al.*

Science **321**, 1340 (2008);
DOI: 10.1126/science.1159099

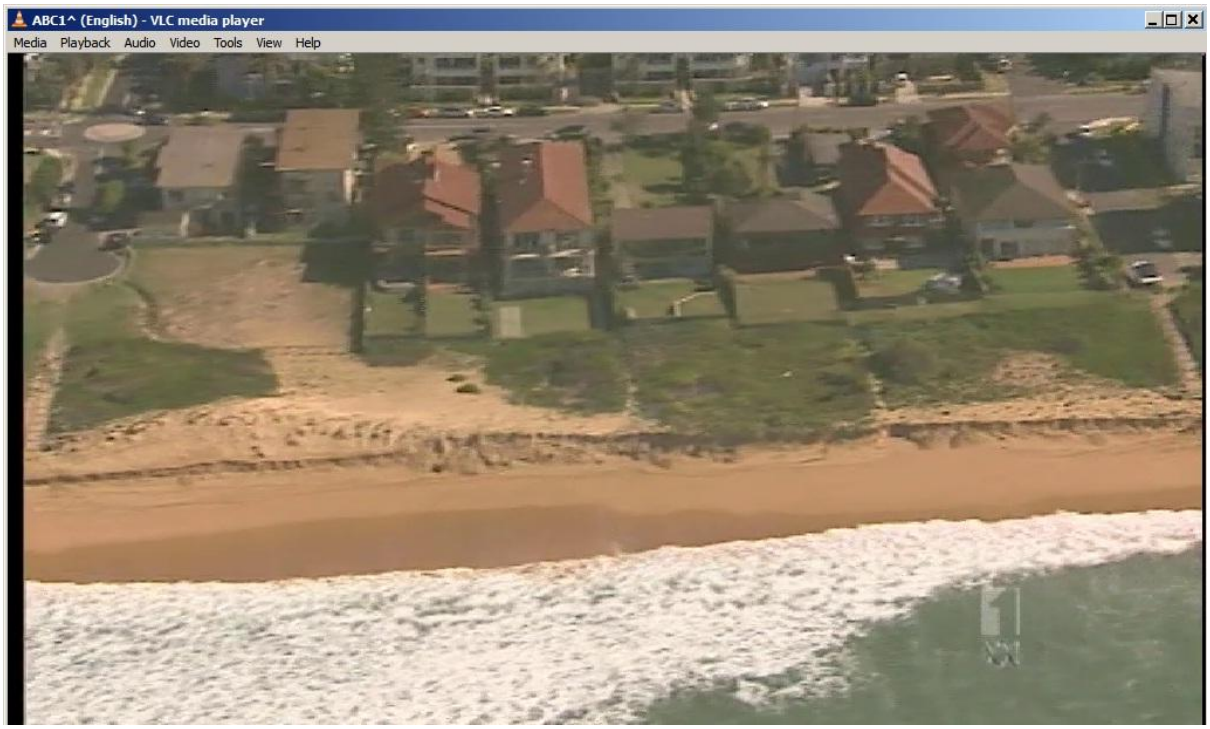
Table 3. SLR projections based on kinematic scenarios. Thermal expansion numbers are from (*22*).

	SLR equivalent (mm)		
	Low 1	Low 2	High 1
Greenland			
Dynamics	93	93	467
SMB	71	71	71
Greenland total	165	165	538
Antarctica			
PIG/Thwaites dynamics	108		394
Lambert/Amery dynamics	16		158
Antarctic Peninsula dynamics	12		59
SMB	10		10
Antarctica total	146	128	619
Glaciers/ice caps			
Dynamics	94		471
SMB	80		80
GIC total	174	240	551
Thermal expansion	300	300	300
Total SLR to 2100	785	833	2008

On the basis of calculations presented here, we suggest that an improved estimate of the range of SLR to 2100 including increased ice dynamics lies between 0.8 and 2.0 m. We emphasize that assumptions made to arrive here contain substantial uncertainties, and many other scenarios and combinations of contributions could be considered. However, the net eustatic SLR from other combinations explored fell within the range given in Table 3. Hence, these values give a context and starting point for refinements in SLR forecasts on the basis of clearly defined assumptions and offer a more plausible range of estimates than those neglecting the dominant ice dynamics term. Certain potentially significant sinks and sources of SLR, such as terrestrial water storage, are still absent altogether. Among the uncertainties explored, the potential for dynamic response from GIC is comparable in magnitude to dynamic response from Greenland or Antarctica but is exceptionally poorly constrained by basic observations. Without better knowledge of the number, size, and catchment areas of marine-based outlet glaciers in the GIC category, improvements on the estimates made here will be very difficult.

Sea level rise calculations from Prof. Tad Pfeffer, INSTAAR
http://instaar.colorado.edu/people/bios/pfeffer.html

Coastal erosion in Sydney



Beach erosion in Narrabeen, Ocean St/Wellington St

A Sisyphus task: rebuilding along transient coast lines (Hansen)

One doomed project is Barangaroo

Construction worked has started on a huge basement car park for Barangaroo, an incredible waste of construction capacity.

18/11/2010 Sydney builds huge "sustainable" basement car park in Darling Harbour prone to flooding by sea level rise
http://crudeoilpeak.info/sydney-builds-huge-sustainable-basement-car-park-in-darling-harbour-prone-to-flooding-by-sea-level-rise

13/9/2010 Barangaroo will not make existing Sydney sustainable
http://www.crudeoilpeak.com/?p=1859

Decision makers who allowed this development to happen will be entered on the wrong side of the ledger in history books.

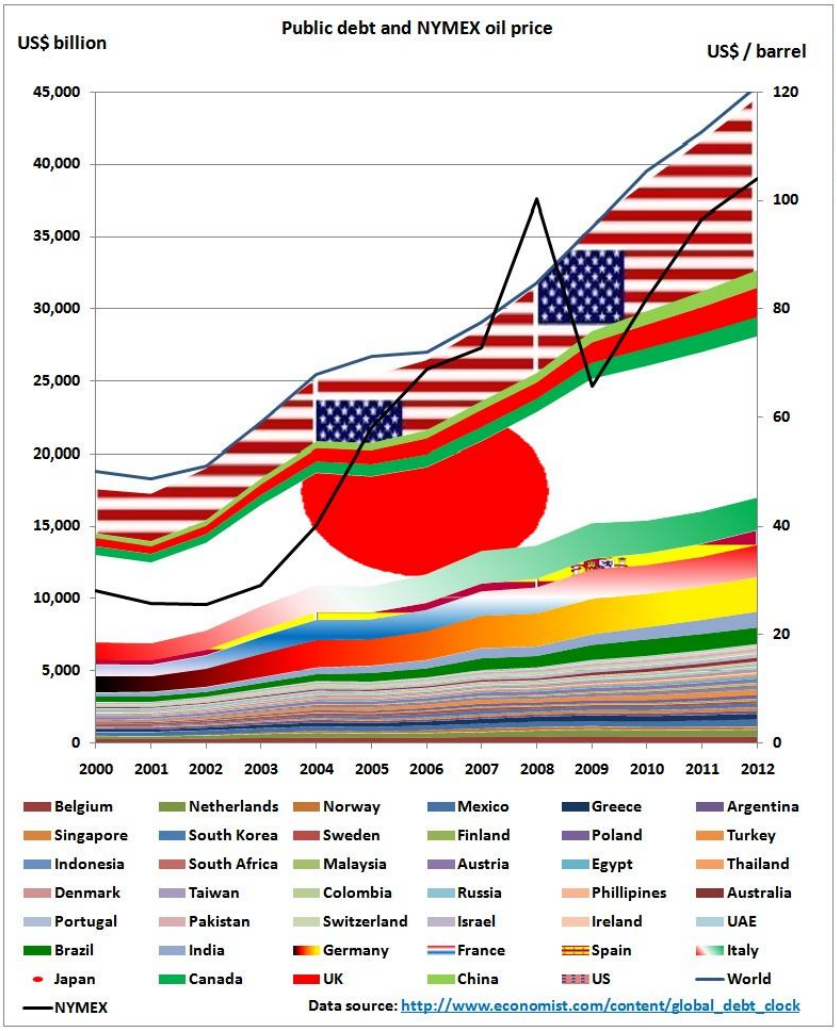
(8) Concrete Boom – another climate burden

Cement is very CO2 intensive. Boral's Berrima Cement Works

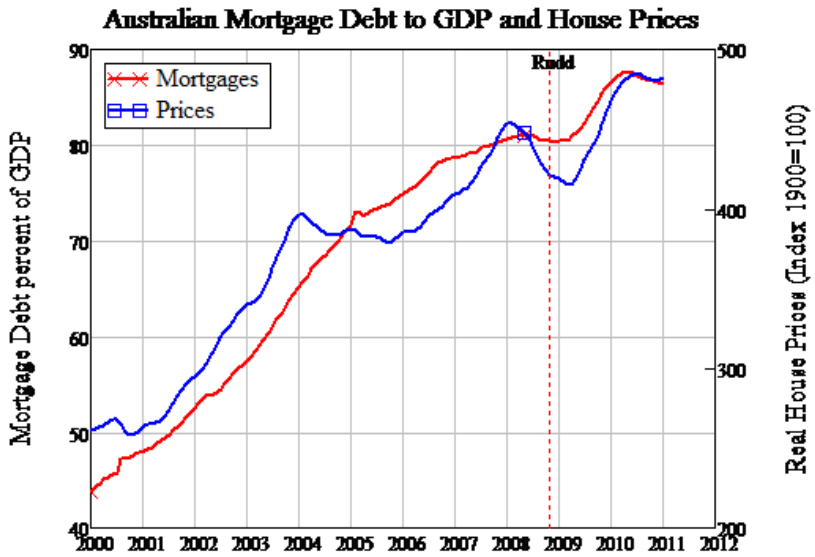
Coal war rages in NSW
http://www.abc.net.au/news/2012-06-22/coal-war-rages-in-nsw/4087540

If CO2 emissions are to be reduced, consumption of concrete must be reduced. This means to scrap unnecessary projects like Barangaroo and the convention centre in Darling Harbour

(9) Debt



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



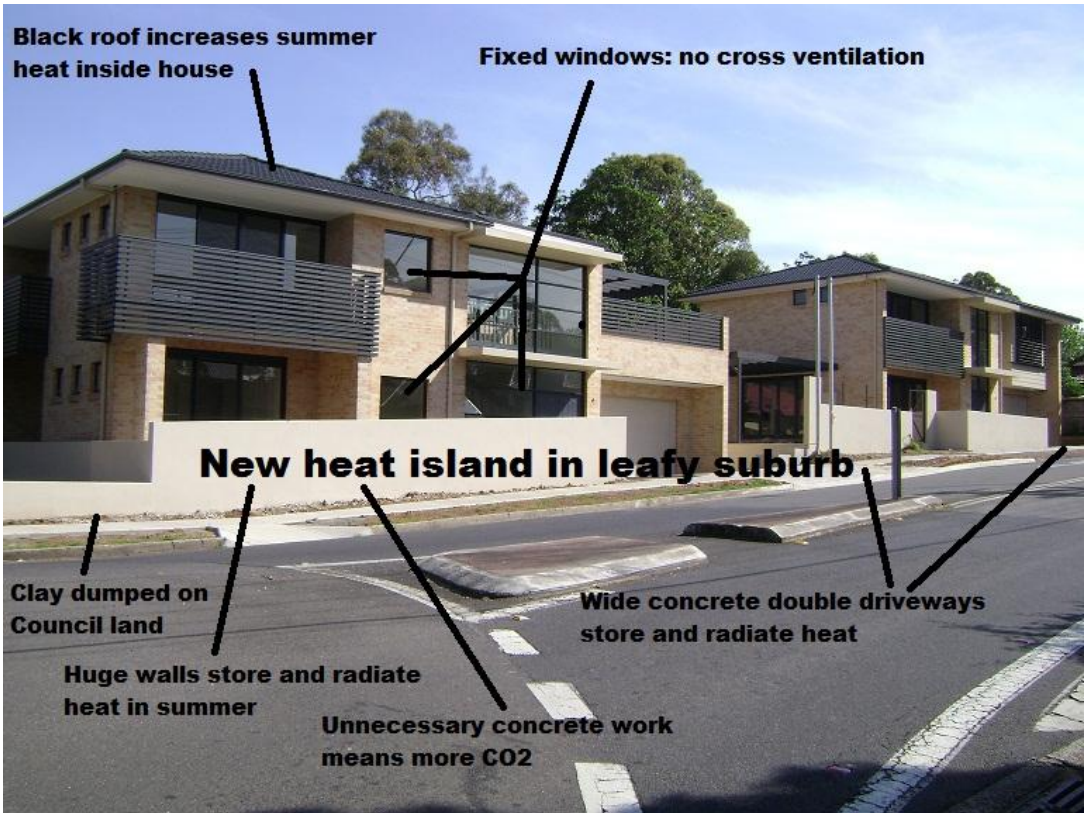
Public debt in Australia is low (that is why the infrastructure is under-developed, the health system is poor etc…..)

<< but mortgage debt as percentage of GDP is very high. Graph from Prof. Steve Keen, UWS

http://www.debtdeflation.com/blogs/

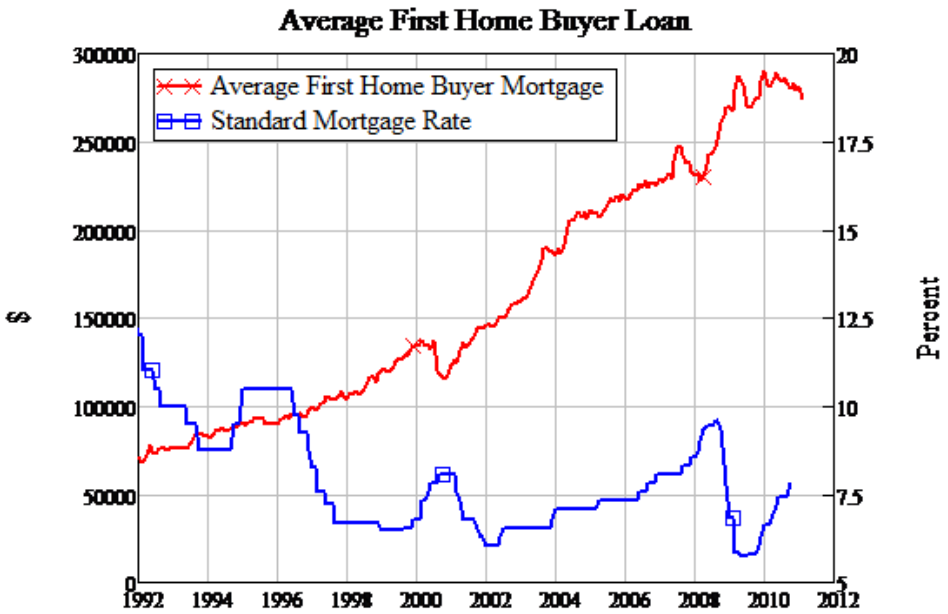
(10) Unsustainable Housing

Current BASIX rules allow this to happen (Epping, Parramatta Council)



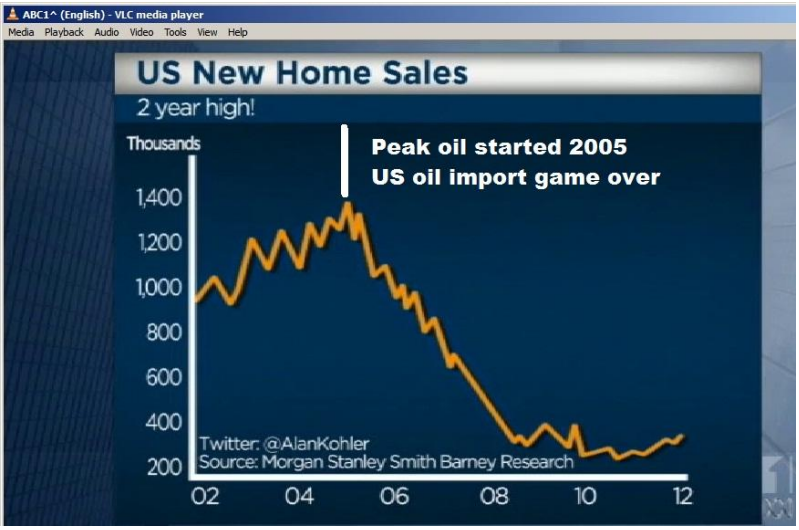
Question to the Minister responsible: would he like to live in such a house?

Sydney's housing bubble will burst. The limiting factor in housing is not land supply or planning strategies but money supply and debt levels.



Source: ABS 560909a, Column D; RBA Table F05 Column K

http://www.debtdeflation.com/blogs/



This is what happened in the US. The same problem will come to car and oil dependent Sydney, too. A bear market has already started:

Yet, the government plans this:

What is the additional debt for these housing projects? Where will the money come from?

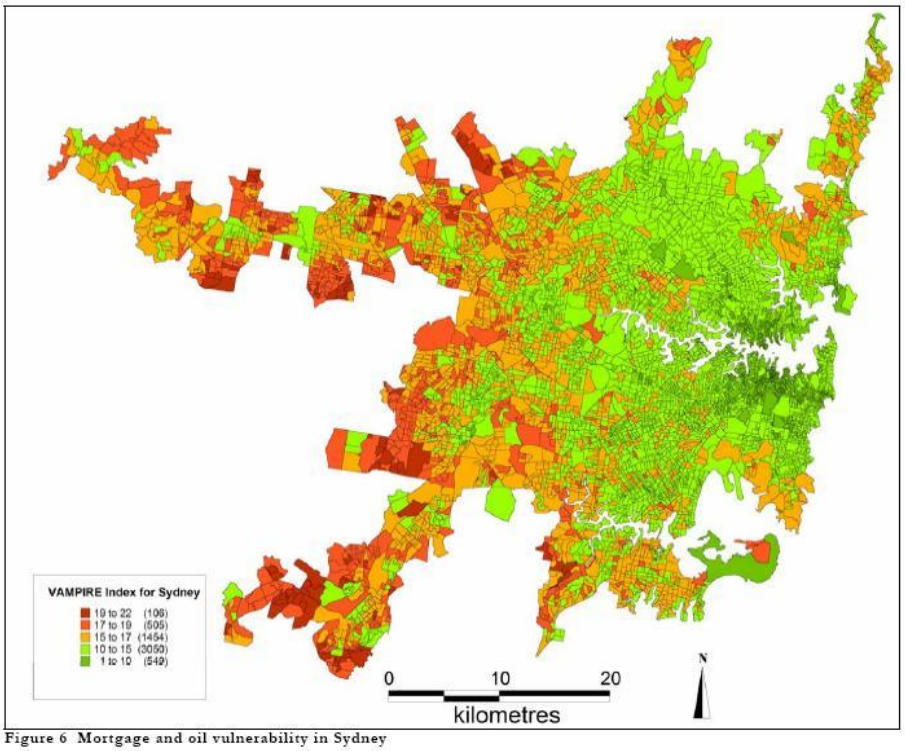


Figure 6 Mortgage and oil vulnerability in Sydney

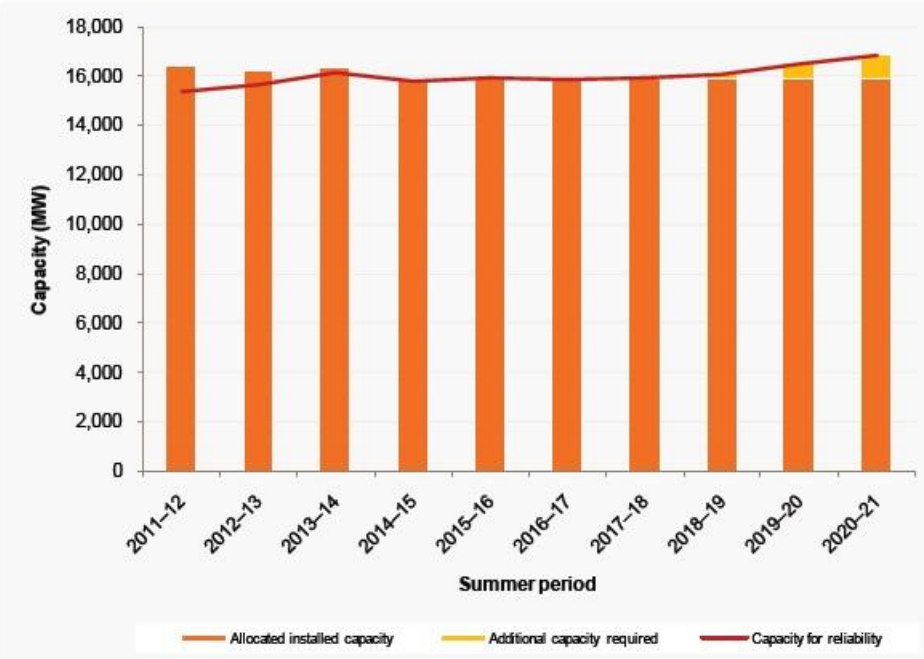
Map of mortgage and oil price vulnerability
http://www3.griffith.edu.au/03/ertiki/tiki-read_article.php?articleId=17601

9/4/2010 Australian Population Scenarios in the context of oil decline and global warming
http://crudeoilpeak.info/australian-population-scenarios-in-the-context-of-oil-decline-and-global-warming

(11) Power shortages

www.aemo.com.au/planning/ESOO2011_CD/documents/ESOO2011.pdf

Figure 7-3 — New South Wales summer supply-demand outlook



www.ergo.ee.unsw.edu.au/value of PV in summer peaks.pdf

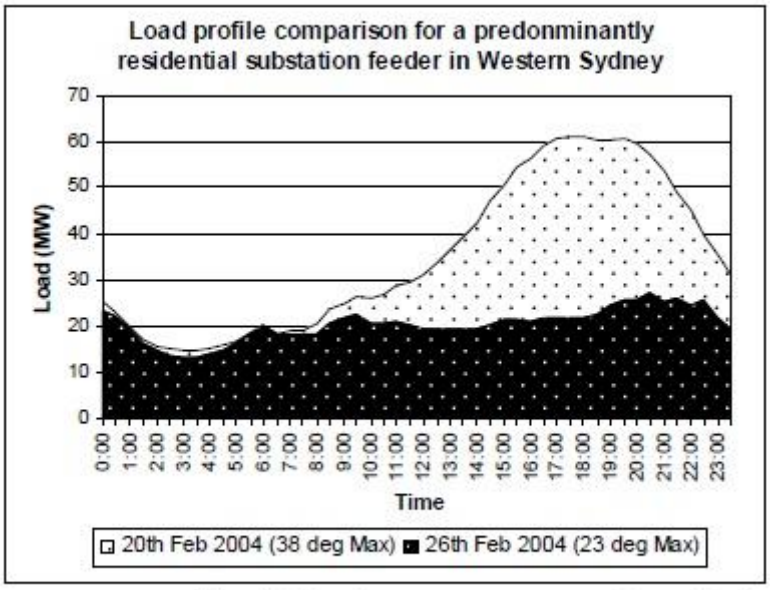


Figure 1: Residential load on a Western Sydney feeder on a typical and a high temperature summer day.

More development in Sydney's West will increase the likelihood of power shortages during peak periods due to higher air conditioning requirements.

(12) Tollways

Transurban cannot pay back its debt

1075018.pdf - Adobe Reader

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]	583	100.0%	583
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
Beltway – Senior	589	67.5%	398
Beltway TIFIA[5]	450	67.5%	304
Total	**1,518**		**1,062**

1. AUD $550m facilities, $381m available undrawn assuming drawn USD is converted at the spot exchange rate ($1.0156 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 $29m of accreted interest.
5. Undrawn TIFIA facility of USD $167m. Debt balance includes USD $29m accreted interest.

53

The combination of high oil prices (peak oil) and the debt crisis (in which it will become increasingly difficult to roll over debt) means that this business is no longer viable. Moreover, tolls are too low to pay back debt within a given period.

A year ago I had written this article:

11/2/2011 Money in Transurban's cash box not enough to complete M2 widening
http://crudeoilpeak.info/money-in-transurban%e2%80%99s-cashbox-not-enough-to-complete-m2-widening

In February 2012 they got $CAN 250 m
http://www.transurban.com/1083481.pdf

Why in Canada? Because Transurban has an exemption from the Ontario Securities Commission to publish a product disclosure statement

http://www.oscbulletin.carswell.com/bb/osc/bb/3013/on3013.htm#2_1_10
http://www.osc.gov.on.ca/en/SecuritiesLaw_ord_20070330_2110_transurban.htm

$CAN 250 m without oil supply risk analysis!

In order to rescue Transurban (and your super – check it out) this tollway operator must develop a new business model: electric rail on toll-ways (Transperth)

Perth motorists are blissfully unaware that in the not too distant future they will lick their fingers for having this rail service.

(13) Public transport

I wrote following recent submissions:

30/4/2012
NSW Transport Master Plan debates conventional peak oil 2006, assumes continuing oil age
http://crudeoilpeak.info/nsw-transport-master-plan-debates-conventional-oil-peak-2006-assumes-continuing-oil-age

On the North West Rail link
http://crudeoilpeak.info/wp-content/uploads/2011/02/Submission-on-NWRL.pdf

in which I warned that for the NWRL funds of $8 bn one could build 400 kms of light rail on arterial roads. Add cost for rolling stock, depots and maintenance facilities.

Photomontage: light rail on Windsor Rd, the RTA will have to learn and do it

While precious time and money is lost, just like with the North West Metro and the Mini metro to Rozelle:

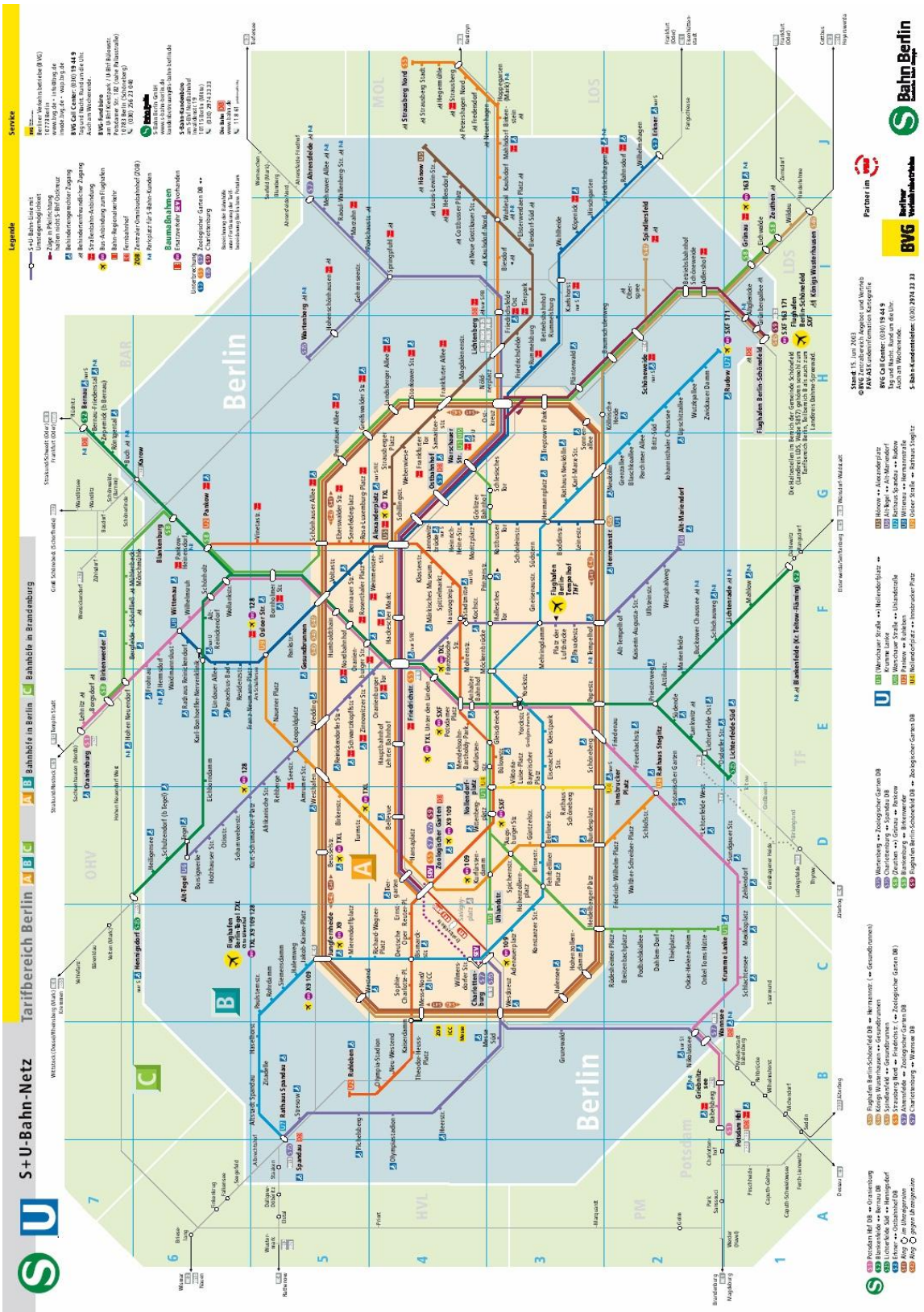
7/10/2009 Too late for Sydney Metro Tunnels
http://crudeoilpeak.info/too-late-for-metro-tunnels

400 kms would be appropriate when looking at European cities which built up their rail network before the arrival of the car as means of mass transport. As an example, the following rail map shows the system in Berlin, a 3.5 million city, even smaller in population than Sydney. Time is now very short for Sydney to build such a system before:

(a) severe budget problems hit, both on Federal and State level, when the mining boom comes to an end

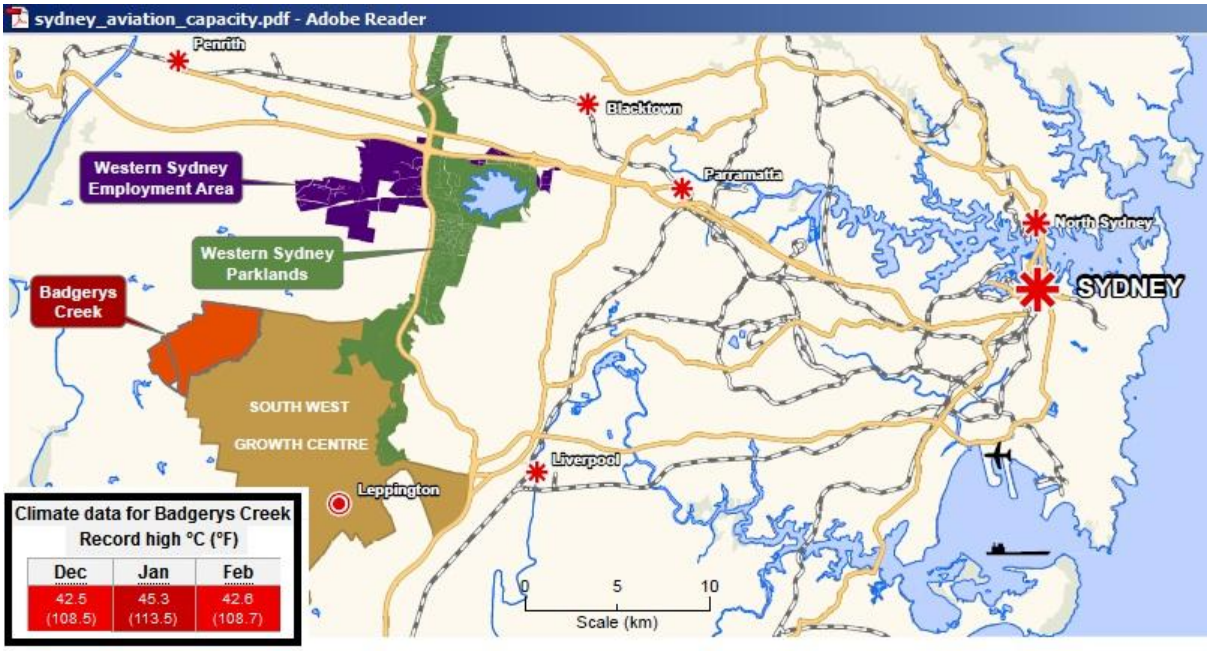
(b) peak oil becomes a physical problem (fuel shortages)

(c) the next oil war in the Middle East reduces oil flows similar to what happened during the 1st oil crisis in 1973, basically beyond the experience of the majority of motorists and truck drivers



Rail network in Berlin. That gives an idea what task lies ahead for Sydney if it were to oil proof its Metropolitan area.

(14) 2nd Sydney airport



Source: Australian Department of Infrastructure and Transport.

A 2nd Sydney airport is not needed. The maximum temperatures of 45° in the West also show that this is not an energy minimising location for new housing. Yet, the South West Rail Link is under construction

25/11/2009 Sydney doesn't need a 2nd airport
http://www.crudeoilpeak.com/?p=670

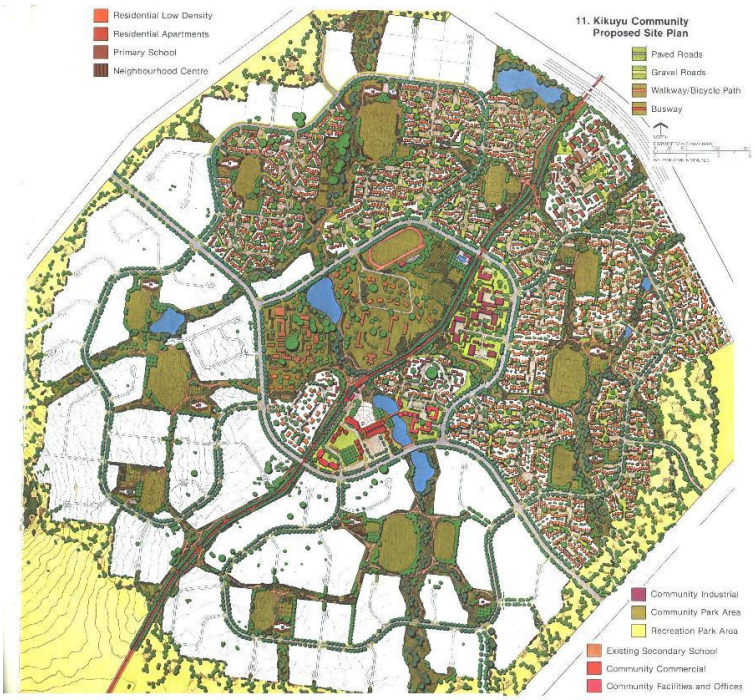
16/4/2012 Fry and Fly - the new era of sustainable aviation
http://crudeoilpeak.info/fry-and-fly-the-new-era-of-sustainable-aviation

Some number crunching on oil supplies for aviation fuels:

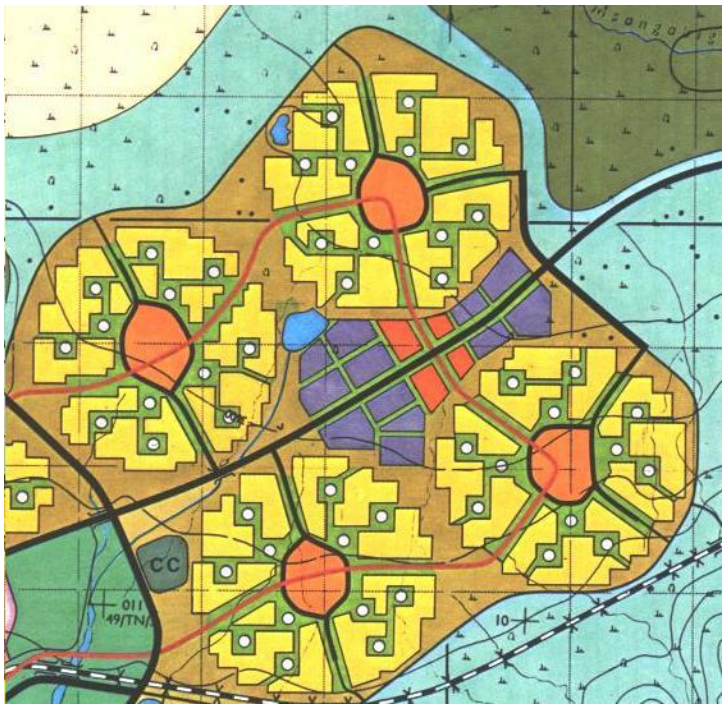
2/12/2010 Fly, but leave your car at home
http://crudeoilpeak.info/fly-but-leave-your-car-at-home

(15) Decentralization to sustainable cities

It is very doubtful whether Sydney can ever be made a genuinely sustainable (energy frugal) city. The size, topography, historical settlement patterns, limited infrastructure, the continuing love affair with the car and the prevailing harbour view mind set make this task very difficult. If a sustained attempt were made to decentralize, new **cities** (not subdivisions) could be planned from scratch.



<<< Not your average subdivision but a community of 30-40 K population with its own commercial centre and light industrial park where 50% of the population can find work, within walking or cycling distance



<<< 4 communities are grouped around a city centre with higher level facilities. 1 circular and 2 radial bus or tram lines would be sufficient as public transport. No building higher than 3 floors. Surrounding land used as community gardens to supplement food supply.

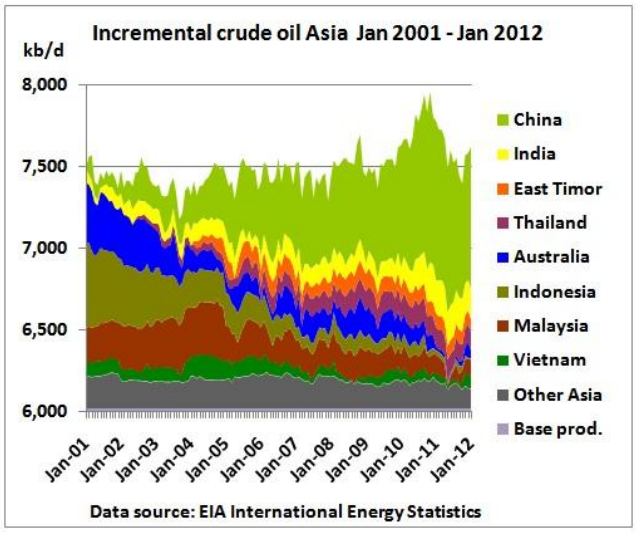
The plans are from Dodoma, Tanzania, where I worked as a town planner in the 1970s

The housing debt problem remains the same, but per capita infrastructure cost could be much lower, also because of lower land prices.

(14) Economic function of Sydney

What actually is the future function of Sydney for the outside world as globalisation will go backwards? On the world map, Sydney's location is not in the centre of things.

There is a lot of talk about the Asian Century and how that will benefit Australia. But let's have a look at Asian oil supplies: they have peaked as Chinese oil production peaked:



Commodity prices have become soft.

Quote: *We must also make the most of green economy opportunities as we adapt to using less carbon. Sectors such as emissions trading, sustainable building and infrastructure, renewable energy sectors, research and development clusters and specialised manufacturing could, by 2020, achieve a market value between $6.8-10.9 billion annually. These opportunities* ***could*** *also generate a need to expand business park capacity*. Page 15 "Sydney over the next 20 years"

Yes, **could**. But in the meantime the money is spent elsewhere, business as usual.

Conclusion:

A multitude of energy and global warming ignorant decisions will have consequences. On current trends of development Sydney will face multiple systems failure.