

Briefing Sydney 3 cities 12/4/2018

Comments by Dipl. Ing. Matt Mushalik, Epping

Population

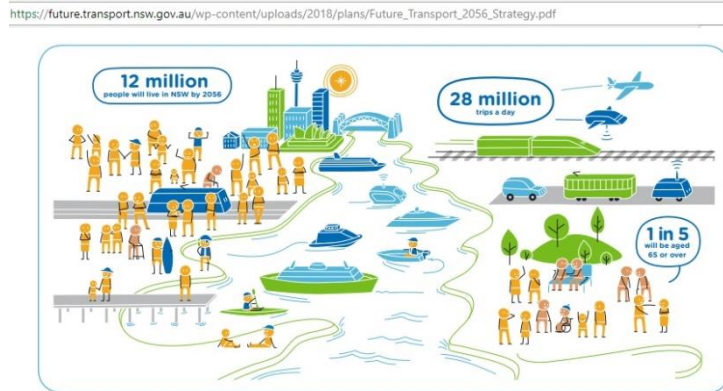


Figure 2: NSW's growing population

[https://future.transport.nsw.gov.au/wp-content/uploads/2018/plans/Future Transport 2056 Strategy.pdf](https://future.transport.nsw.gov.au/wp-content/uploads/2018/plans/Future_Transport_2056_Strategy.pdf)

“12 million people will live in NSW by 2056” on this cute illustration is not a proper population projection. This would consist of

- (a) a cohort survival analysis for natural population growth (which is 210 K for Sydney to 2036)
- (b) alternative immigration scenarios (targets) which are calculated on the basis of resource availability, pollution & emission levels and temperatures under global warming conditions (e.g. in Sydney’s hot West)

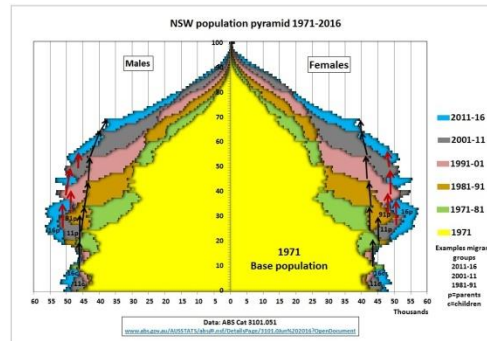
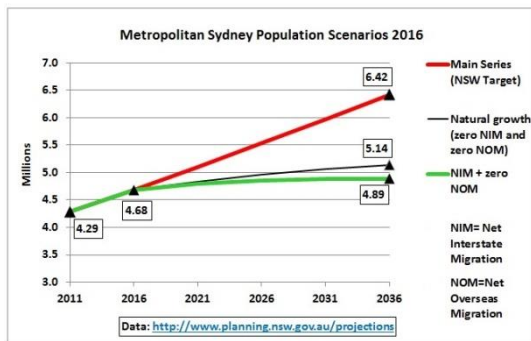


Fig 1 & 2: Population growth is driven by high immigration which is fed sideways into the population pyramid, leading to premature aging. Right picture shows impact of previous immigration waves.

27 Feb 2017 Sydney would peak at 4.9 million with zero net overseas migration

<http://crudeoilpeak.info/sydney-would-peak-at-4-9-million-with-zero-net-overseas-migration>

All these calculations on alternative immigration scenarios would have to be done for a period of 40 years.

Energy

Coal Has to be phased out by 2040. An increasing number of extreme weather events will force governments to take action. Which impact will this have on NSW?

Gas Estimate future gas supplies on the east coast. Conventional gas production has peaked and CSG is wasted in LNG exports >>

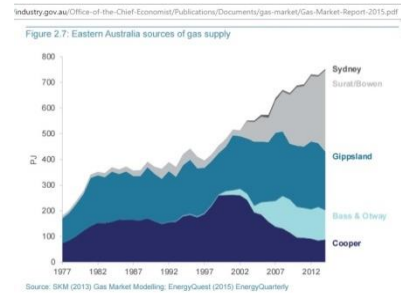
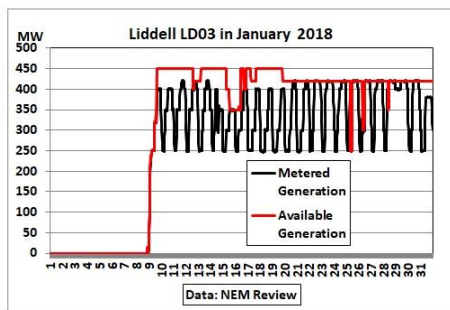


Fig 3

Oil When is the next oil crisis? The crude oil peak in 2005 caused the US recession in 2007. This and high oil demand from China for the Olympic Games caused the oil price shock in 2008 which in turn brought about the financial crisis in 2009. The response was money printing and unconventional US shale oil. What will happen when US shale oil peaks? China's oil production peaked in 2015. In fact all of Asia's oil production has peaked. Given ever increasing oil demand from Asia, where will the additional oil supplies come from (see Fig 14, p6)?

Renewables Snowy2 hydro is only a peaking plant. Where are the plans for wind and solar to drive the storage pumps? To replace baseload coal?



<< Fig 4. Unreliable Liddell unit 3 off line for 9 days in January 2018. In yesterday's Press Club Energy Minister Frydenberg repeated the government wants to go back to coal, a sign that Turnbull gets nervous and that we can expect power shortages which will be made worse with every residential tower approved by energy illiterate planning panels. My research: NSW coal power maxed out in hot summer

<http://crudeoilpeak.info/nsw-coal-power-maxed-out-in-hot-summer-part-2> and <http://crudeoilpeak.info/nsw-coal-power-maxed-out-in-hot-summer-part-1>

Debt

The money printing in response to the conventional oil peak has resulted in a huge mountain of debt, especially in China, creating a huge asset bubble. The current apartment boom is not normal. It must end in tears. When the crash happens it will be worse than in 2009. There will not be enough money in the budget to finance the CBD metro, WestConnex and other White Elephant projects like the Badgerys Creek airport.

Transurban with \$ 16 bn debt (Fig 5) will be too big to fail in a credit crunch when debt matures and has to be rolled over.

When the next financial crisis hits, there will be little the RBA can do about it

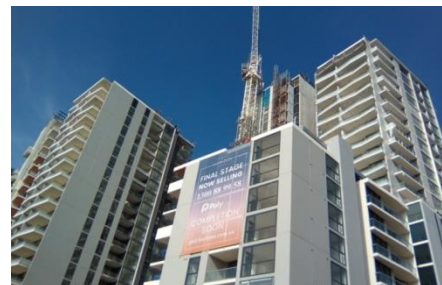
<https://www.smh.com.au/business/the-economy/when-the-next-financial-crisis-hits-there-will-be-little-the-rba-can-do-about-it-20180215-p4z0f1.html>

	FINANCIAL YEAR	2017	2016	2015	2014	2013	2012	2011	2010
GROUP DEBT									
Long-term debt		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Short-term debt		5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Other debt		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
TOTAL DEBT		7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000
Debt to equity ratio		1.5x	1.5x	1.5x	1.5x	1.5x	1.5x	1.5x	1.5x

Economy

Many industrial areas are being destroyed (e.g. Meadowbank, East Rhodes proposed) and replaced by (unproductive) residential towers with short term job creation. One wonders how the government sees the future industry sector structure. It seems the government has run out of ideas to develop the economy and covers it up by high immigration. Given that intercity trains have been ordered in South Korea, metro trains in India and light rail vehicles in France, the government has no interest in industrial development.

In Epping, a business park with 100s of jobs was demolished and replaced by residential towers owned by the Chinese government. (Fig 6 & 7) Epping will become a sleep city.



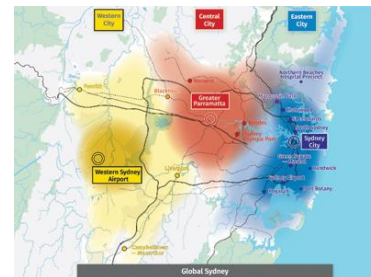
Destroying jobs in the suburbs creates unnecessary commuting requirements. It is exactly the opposite of what is needed.

Geopolitics

For several years now, the world is accumulating unsolvable problems in the Middle East, Korea and the South China Sea. When a war starts in any of these theatres this will immediately mean fuel shortages in Australia (half of fuel imports are from South Korea, Japan etc), making all future growth plans academic. In particular, petrol shortages will make it crystal clear to motorists that every newcomer increases competition at the bowser. They will demand a reduction in immigration.

Aerotropolis

A dirty, noisy airport in the centre of Sydney's 3rd city? Who had this brilliant idea? It's located in one of the hottest areas in the Sydney basin. (Fig 8) CSIRO's MacArthur air quality report showed that westerly winds from the Blue Mountains push pollution towards the

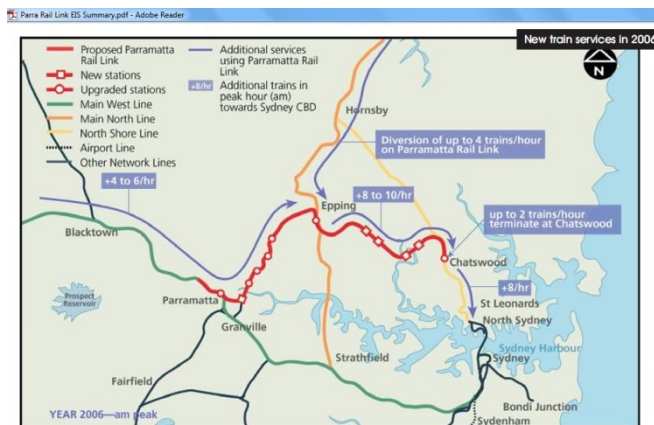


east from where it is promptly blown back by easterly sea breezes in the afternoon, thereby accumulating in Sydney's West. Temperatures will be so high in summer, that planes can take off only at night, resulting in many sleepless nights for the residents.

The North West Metro is not a metro

The original plan was to build a Chatswood – Epping – Parramatta link with the objective to divert Western trains away from the Strathfield – CBD sector which at the time of the EIS in 2000 was expected to reach capacity by 2016. It was designed as a long distance commuting line with large distances between stations.

Fig 9>>



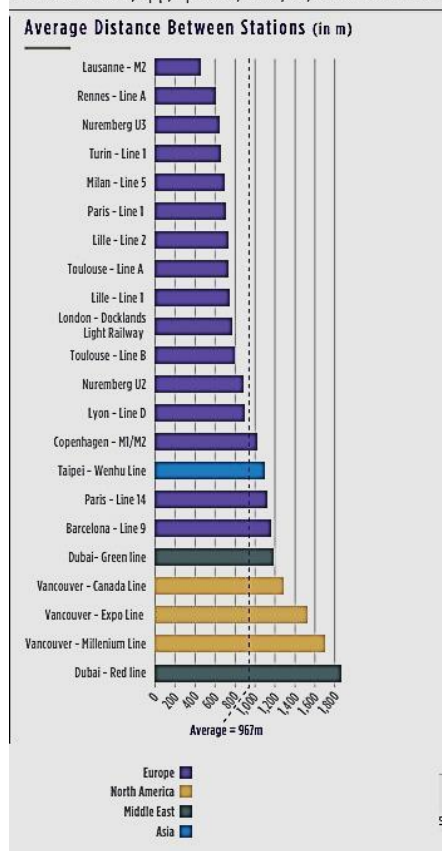
Costa cancelled the Epping – Parramatta leg, thereby dropping the original objectives. Instead, the destination was changed to Rouse Hill, also for long distance commuting but as a branch line, not connecting to the Richmond line. Gladys decided to introduce narrow body single deck automatic trains, calling this a metro. But a classical metro has usually following functions:

- (a) connecting destinations in high density areas with frequent stops (every km or so) requiring different rolling stock from heavy rail
- (b) serving as a feeder to heavy rail lines
- (c) making cross connections between radial heavy rail lines

Fig 10>>

There are only 4,000 park and ride spaces between Epping and Rouse Hill, so this will not fill many trains. How many passengers will take a bus to the few stations is a big uncertainty. Obviously the operator has discovered this problem. The deficiency of low density is now being “addressed” by building many residential towers around stations, albeit with deep basement car parks. Apartments are, however, unpopular with Australians and it is mainly immigrants who buy or rent these flats. It's an “immigration metro”. In the coming oil crisis, if only 10% of motorists are forced to take a train, they will find trains full with recent arrivals and the system will collapse. The original objective of the project should have been to REPLACE EXISTING car traffic, not to provide transport for immigrants yet to arrive.

wavestone.com/app/uploads/2017/04/driverless-metro



What's worse, the conversion of the Clyde – Carlingford heavy rail line to light rail is the last nail in the coffin of the Epping – Parramatta rail link.

20/7/2017 Sydney planning chaos: New Planning Review makes no provision for light rail at Epping station <http://crudeoilpeak.info/sydney-planning-chaos-epr-part1> and part 2

Do not close & modify the Epping – Chatswood tunnel

This is another snag in this ill-designed “metro” which has been deliberately made as incompatible (2.9 m) to double deckers (3.04 m) as possible, apparently with the objective to fight rail unions. Such an ideological, non-technical approach is unprofessional. It creates many, many unnecessary problems down the track.



<< Fig 11. The solution is to attach retractable treads to fill the platform gap and to use drivers between Epping and Chatswood. This would allow passengers to change to double deckers (which would continue to run every 15 min) at 3 stations instead of only at Chatswood where platforms were not designed for a big interchange. Given that military action in the Middle East is increasing by the week (not only in Syria but Houthis start launching missiles at Saudi oil tankers and Aramco oil facilities) it is strategically unwise to close a vital rail link for 7 months.

4/1/2015 Sydney mismanages transition to driver-less single deck trains (part 2) <http://crudeoilpeak.info/sydney-mismanages-transition-to-driver-less-single-deck-trains-part-2>

30/12/2014 Sydney plans to dismantle rail infrastructure built just 6 years ago (part 1) <http://crudeoilpeak.info/sydney-plans-to-dismantle-rail-infrastructure-built-just-6-years-ago-part-1>

Town Planning

All rules are being violated



Fig 12 & 13: Oxford St in Epping. Zero set back with a windowless podium on a tiny block of land (left). Planning panel approved neighbouring tower exceeding height limit by 30% (right)

Light Rail

The Eastern suburbs light rail is so expensive that Frankfurt could build a metro tunnel for the same price. The reason for this goes back to 1961 when Sydney closed its last tram line. It lost all experience how to operate, plan and build tram lines. In contrast the City Council of Frankfurt decided in the same year to convert trams to light rail in outer suburbs and move them underground in the CBD. The first 3 km tunnel section was opened in 1968 and this can be considered as the start of a metro which took 2 decades to build.

Sydney would need to build 100s of kms of light rail, in order to replace car traffic on arterial roads and to make low density suburbs less dependent on oil. The government would need to establish a department with suitably qualified engineers to employ local subcontractors (possibly to be trained) to do work which is technologically not very demanding.

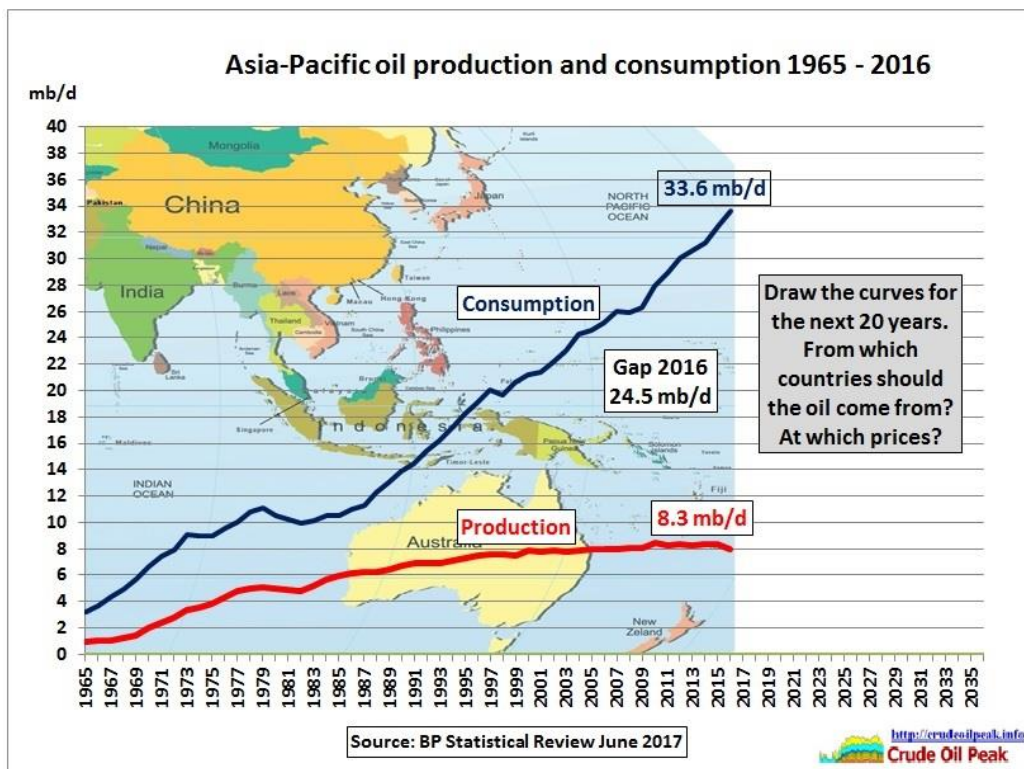


Fig 14: My favorite graph for all those who think there will be eternal growth

Conclusion: Current planners are living in a geopolitical vacuum and a shocking energy ignorance. The government needs to go into emergency mode and prepare for oil and power shortages. It is not a good idea to grow Sydney. The societal task is to reduce emissions and later to extract CO2 from the atmosphere. Immigration has to be reduced. The more people there are in an unsustainable Sydney, the longer the petrol lines and the more power shortages we are going to have.

Prepared by Matt Mushalik 12/4/2018 mushalik@tpg.com.au <http://crudeoilpeak.info/> @crudeoilpeak