

Sydney Metro West Submission

By Matt Mushalik (MEng) 25/6/2020

Re: <https://www.planningportal.nsw.gov.au/major-projects/project/25631>

Introduction

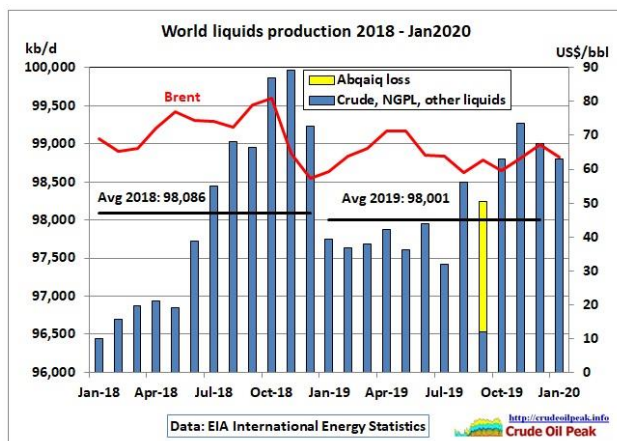
I am author of the above website which monitors the peaking of oil production.

I have written many articles on how oil production impacts on transport infrastructure. In 2006, I advised against Clem 7 and the Airport Link in Brisbane because of peak oil. Campbell Newman ignored it and the tunnels went broke. In 2010 I explained how peak oil (=peak credit) bankrupted the Lane Cove tunnel. Now Transurban has these liabilities around their neck. They sit on \$29bn debt. They asked for it. In the next credit crunch governments will have to take over this debt. In 2010, during the M2 widening consultation I recommended to Peter Colacino to develop a new business model and build rail lines on toll-ways. He ignored it. Now we have:

10 Mar 2020 Impact of Corona Virus similar to some earlier peak oil scenarios

<http://crudeoilpeak.info/impact-of-corona-virus-similar-to-some-earlier-peak-oil-scenarios>

That was in March. In the meantime, it got worse. There was no peak oil scenario in which airlines would stop flying. Decline in conventional oil fields is 5% pa so that was expected.



Latest data show that oil production peaked even before the Corona Virus hit.

Rystad: Covid-19 Brings Peak Oil Date Closer

18/6/2020

<https://www.oedigital.com/news/479451-rystad-covid-19-brings-peak-oil-date-closer>

“We see global CAPEX down to \$240bn in 2020 compared to a total spend of \$322bn in 2019, and we do not expect much of a recovery in 2021,” Bank of America said.

22/6/2020

<https://oilprice.com/Energy/Energy-General/Whats-Next-For-Oil-Prices23906.html>

Comments

Chapter 2 Justification

Perpetual growth assumption

Quote: “Greater Sydney’s population is forecast to increase from 4.7 million to 6.4 million by 2036 and to eight million by 2056”

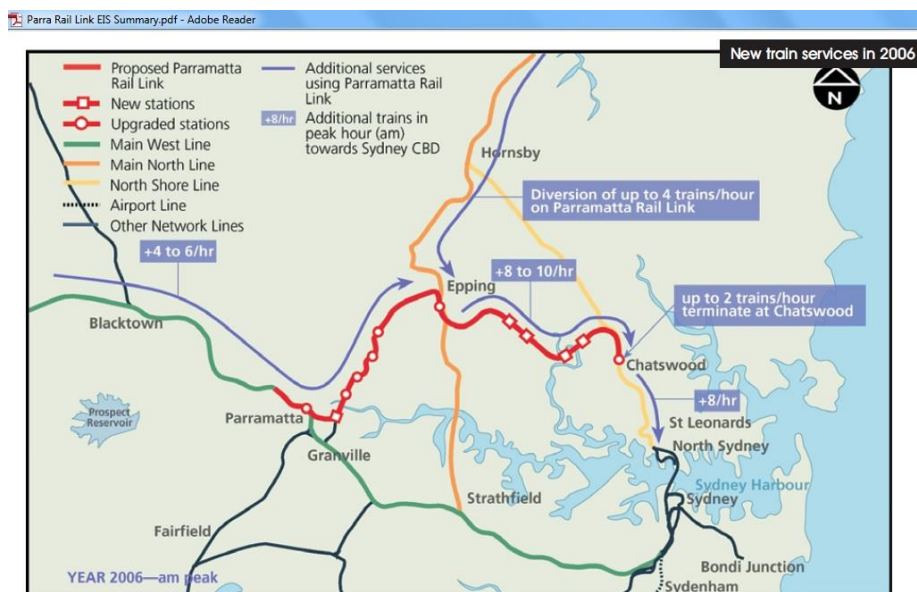


Comment: The Greater Sydney Commission (incl. former CEO Lucy Turnbull) is oil and energy illiterate. I asked the GSC Environment Commissioner Roderick Simpson in a Parramatta seminar where the power will come from for all the skyscrapers planned in Sydney. No satisfactory answer was given. I attended 2 GSC panel meetings and brought up this issue. No interest. When I showed the burnt out cables of a Hornsby substation to the Chair, she looked away. I also asked the NSW treasurer Dominic Perrottet in Sep 2019 at a forum in Epping. His response was that he is talking to Matt Canavan (more coal) and pushes for more CSG at Narrabri. I was labelled “alarmist”. Details about our highly vulnerable power supply situation can be found in the Annex.

Twisted rail history

Quote: *The large number of lines which converge in the western rail corridor between Greater Parramatta and the Sydney CBD, including the T1 Western Line, T9 Northern Line and T2 Inner West and Leppington Line. This limits the capacity to increase rail services between Parramatta and the Sydney CBD*

Comment: This capacity limit was one of the reasons for the Chatswood – Epping – Parramatta Rail link



“The rail link will relieve congestion on the Main Western Line between Strathfield and the Sydney CBD, providing capacity for more trains on the existing Main Western and Main Northern Lines. This will improve reliability for all services that run between Strathfield and Central.

The new line will allow for up to 16 extra trains and 13,000

seats from Western Sydney to Sydney CBD during the two hour peak period.” PRL EIS 1999/2000, ERM – Kinhill, page 6, <https://trove.nla.gov.au/work/6472490>

In 2003, treasurer Costa arbitrarily cancelled the Epping – Parramatta leg of this link arguing that only 16.5K passengers would use it. The unnecessary conversion of the Chatswood – Epping tunnel to incompatible narrow body metro trains by transport Minister Berejiklian was the death knell for this solution.

Quote: “Train timetables that require trains with different service patterns to share the same track, which can result in slower trains delaying all services (including fast and express trains) and requires customer journey trade-offs or further investment in the track network”

Comment: I already advised oil illiterate John Howard, then Member for Bennelong covering a long section of the Northern line, to fully quadruplicate Strathfield – Hornsby. Since then, only a couple of kms 3rd freight track have been completed between Epping and Pennant Hills and a freight track underpass at North Strathfield. In the meantime, oil depletion has progressed without governments realizing their time is running out.

Quote: “Crowded trains with two doors, double decks and 3 + 2 seating arrangements, which are slow to load and unload, resulting in long ‘dwell times’ (the time a train needs to stop in a station for customers to board and alight). Longer dwell times challenges on-time running of services, and leads to fewer services operating in a given time period”

Comment: When Gladys started as Transport Minister, she posed in a brochure with double deckers



What changed her mind is unknown. But most importantly, the debate about “double decker trains” against “single deck metro” is artificial. You can also have (compatible) single deck trains with the width of double deckers. The difference is functional. Long distance services would preferably use double deck rolling stock.

Quote: “Crowded CBD stations that rely on stairs instead of escalators as the principal means of accessing platforms and concourse levels”

Comment: Platforms in Town Hall and Wynyard stations are indeed very narrow. And so are pedestrian footpaths outside the stations, especially at Wynyard. The underlying root cause for crowded infrastructure is the State government’s continuing CBD centric planning. A metro will not change this. Maybe the Corona virus will. There will be more working from home.

Quote: “Sharing of rail infrastructure with freight services, which impacts suburban rail services.”

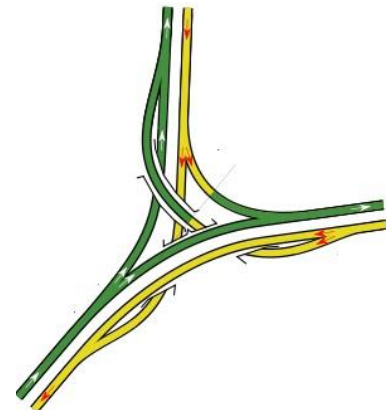
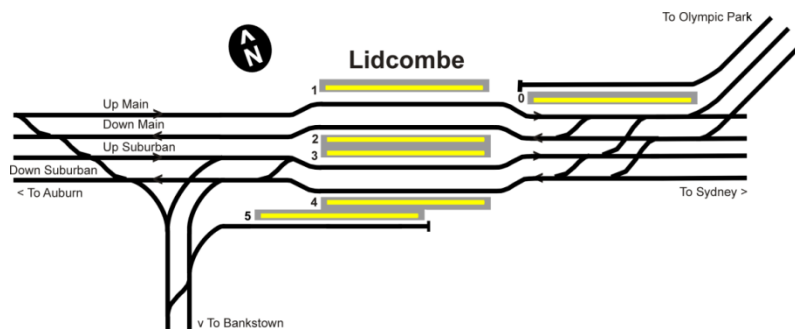
Comment: The solution is to build dedicated freight tracks. Very small steps are taken e.g. the underpass at North Strathfield <https://www.bouygues-construction.com.au/project/north-strathfield-rail-underpass/>

Quote: “Sydney Olympic Park which is currently serviced by the T7 Olympic Park Line. Customers on the T7 Olympic Park Line are required to transfer at Lidcombe to travel to or from the Parramatta or Sydney CBDs”



Comment: That loop was a 1995 quick fix design on the former abattoir branch line after Sydney won the Olympic Games in 1993.

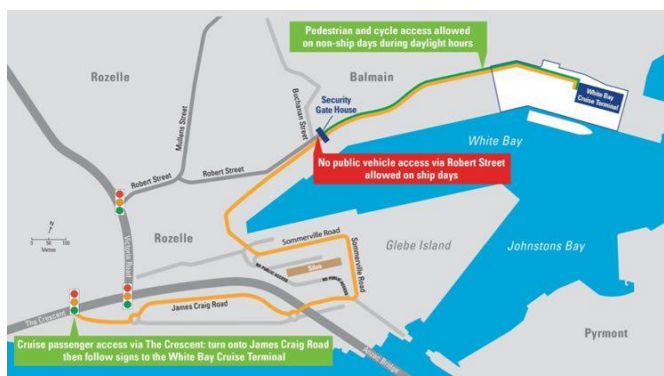
While south of Pippita there is a grade separation with freight trains, no flyovers have been built to/from the main western line, neither at Flemington, nor at Lidcombe with a dead end platform zero.



West bound trains from Olympic Park have to cross platform 1 tracks

The proper grade separation

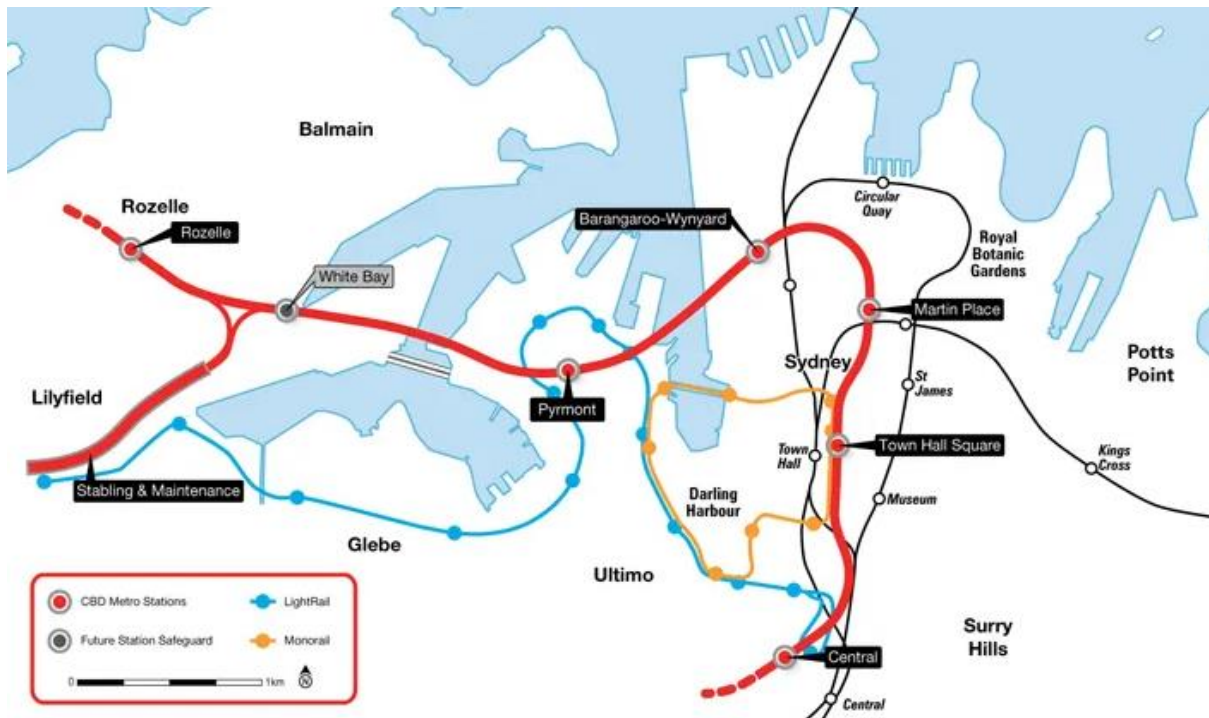
Quote: "The Bays, which is set to undergo urban transformation and become a major employment hub and destination. There is no rail connection to White Bay, and capacity constraints on Victoria Road and the Anzac Bridge limit the opportunity to increase bus services. A mass transit solution is required to accommodate growth at The Bays"



Comment: The first transformation needed is the removal of the cruise terminal as cruises are in terminal corona virus decline. The proper solution to bring public transport to Rozelle is a metro line CBD – Drummoyne – West Ryde – Parramatta, on and under Victoria Rd.



Stairways to heaven >>>



We already had 1 failed attempt: remember the so-called CBD metro going to Rozelle? As a minimum, Metro West should have a station at Rozelle proper with a stud to continue along Victoria Rd. But the Rozelle interchange for WestConnex and the Western Harbour tunnel is already creating a spaghetti of tunnels. Sydney's addition to road tunnels is mindboggling and will create a financial nightmare in the next oil & financial crisis.



Quote: "Connecting Western Sydney.

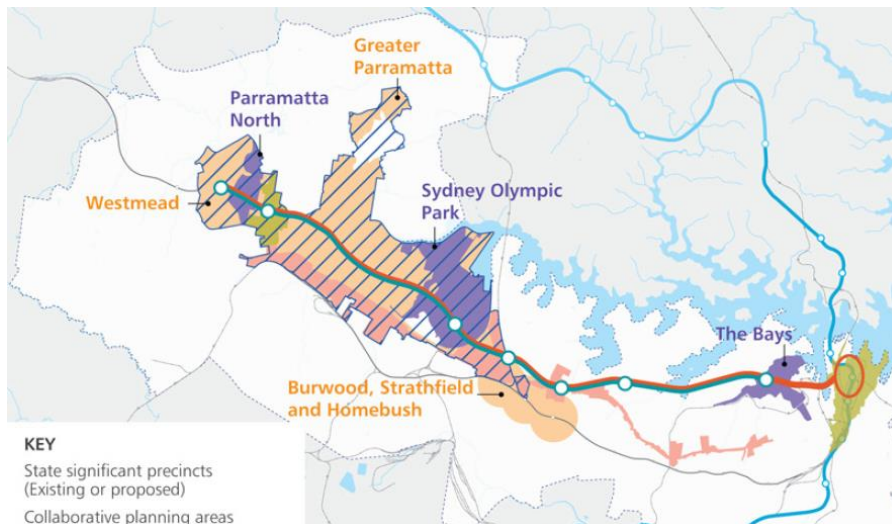
Parramatta to Epping Without project 30 minutes With project 21 minutes Saving 9 minutes

Parramatta to Macquarie Park Without project 49 minutes With project 10 minutes Saving 39 minutes"

Comment: These connections are supposed to be delivered by light rail Parramatta – Epping, but the project stops at Carlingford. From my website:

20/7/2017 Sydney planning chaos: New Planning Review makes no provision for light rail at Epping station (part 2) <http://crudeoilpeak.info/sydney-planning-chaos-epr-part2>

20/7/2017 Sydney planning chaos: New Planning Review makes no provision for light rail at Epping station (part 1) <http://crudeoilpeak.info/sydney-planning-chaos-epr-part1>



There are not enough stations. A genuine metro stops every km or so. That's why its fast acceleration is needed.

Parramatta protruding into Epping is an artificial construct. The population there is oriented towards the East, not the West. And Parramatta's last northern rail outpost, Carlingford, has now been closed for 3 years because light rail stage 1 work has not been properly prioritized and phased



Last T6 train in Carlingford in January 2020.

The residents in the new apartment towers are now being left high and dry for 3 years. No real estate agent would have known how the State government would treat customers in its ever changing monopoly games.

The proper solution would have been to leave the Carlingford line intact and in operation, built the tracks from Camellia to the Parramatta station and then introduce dual voltage tram trains requiring only a very short interruption of services.

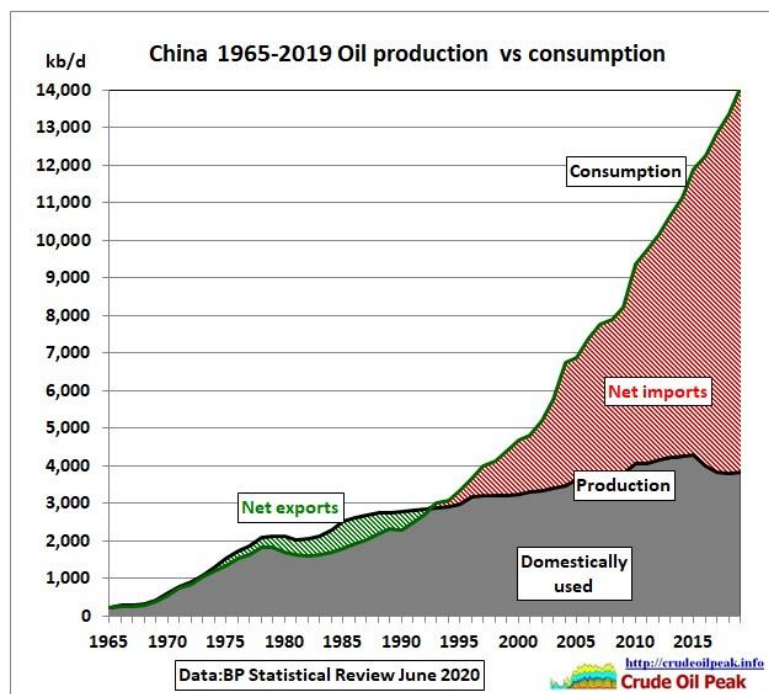
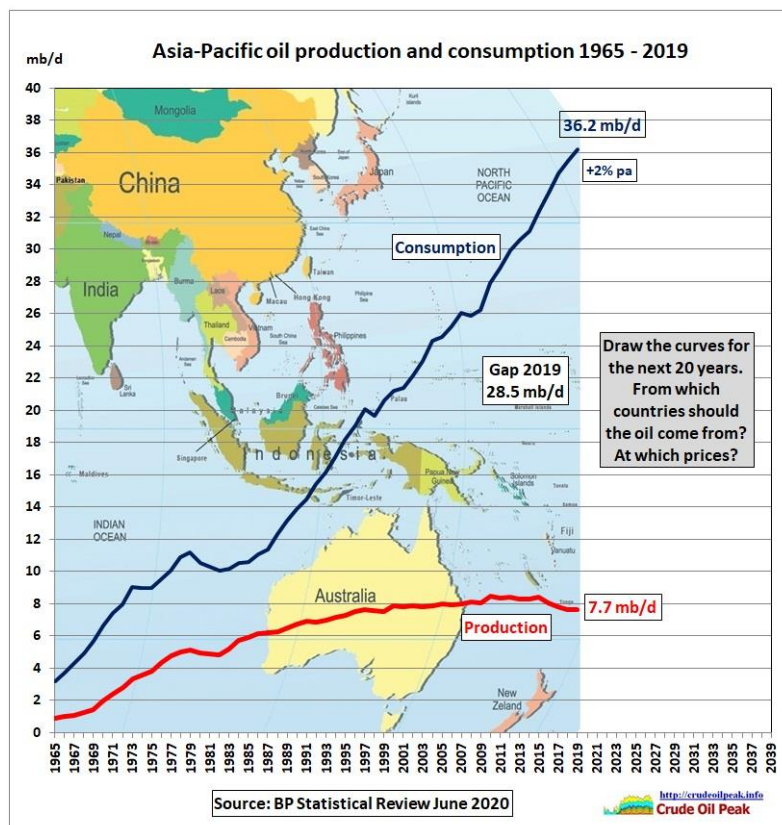
Dual voltage tram train >>>



Quote: "The Future Transport 2056 strategy (Transport for NSW, 2018) is the NSW Government's 40-year strategy to support growth and the NSW economy"

Comment: There will be no perpetual growth in the next 4 decades. The world has entered a period of de-globalisation, trade wars and ultimately military conflicts. The underlying root cause is the evolving energy and climate crisis, especially in Asia, including China. The reader is encouraged to fill in the next graph.

Peak oil in Asia including China will change the world

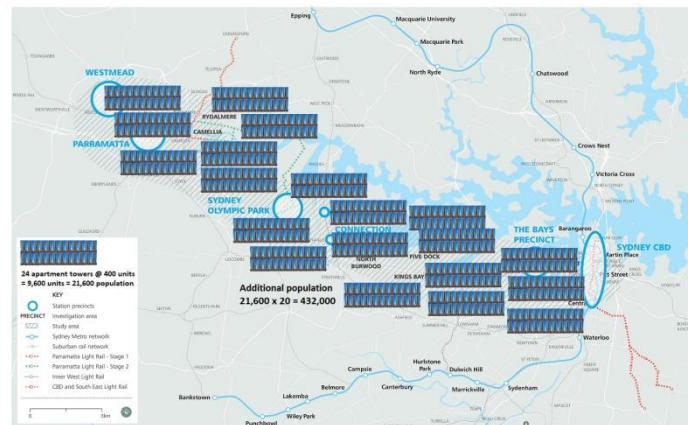


The more new residents (=oil consumers), the bigger the problem

Quote: "Support new residential and employment zones along the Greater Parramatta to Sydney CBD corridor, including at Sydney Olympic Park and The Bays – providing improved transport for the additional 420,000 new residents and 300,000 new workers forecast to be located within the corridor over the next 20 years"

Comment: On the basis of these numbers I had written this article:

11/3/2019 Sydney's Immigration Metros (Part 1)



<http://crudeoilpeak.info/sydneys-immigration-metros-part-1>

I had never come to releasing part2 but did a lot of research on it, including on sea level rises impacting on this project.

Quote: *"Based on analysis by Sydney Metro of the population, housing and employment forecasts by Greater Sydney Commission, 2018, Sydney Metro West is forecast to facilitate between 2016 and 2036:*

- *An additional 169,000 jobs within walking catchments of proposed metro stations. Of these new jobs, about 47 per cent would not otherwise be achieved without Sydney Metro West*
- *An additional 46,000 homes within walking catchments of proposed metro stations, of which about 43 per cent would not be achieved without Sydney Metro West*
- *A population increase of 106,000 new residents within walking catchment of proposed metro stations, of which about 44 per cent would not be achieved without Sydney Metro West."*

Comment: These 2 quotes above are obviously contradictory. Maybe the "corridor" in the first quote is generously defined. There is no chapter (incl. Annexes and Technical Papers) on population and employment within the catchments of stations. For example, what is natural population growth in the Metro West Corridor? What is the GDP growth assumed for employment?

Quote: *" The Sydney Metro West network objectives are:*

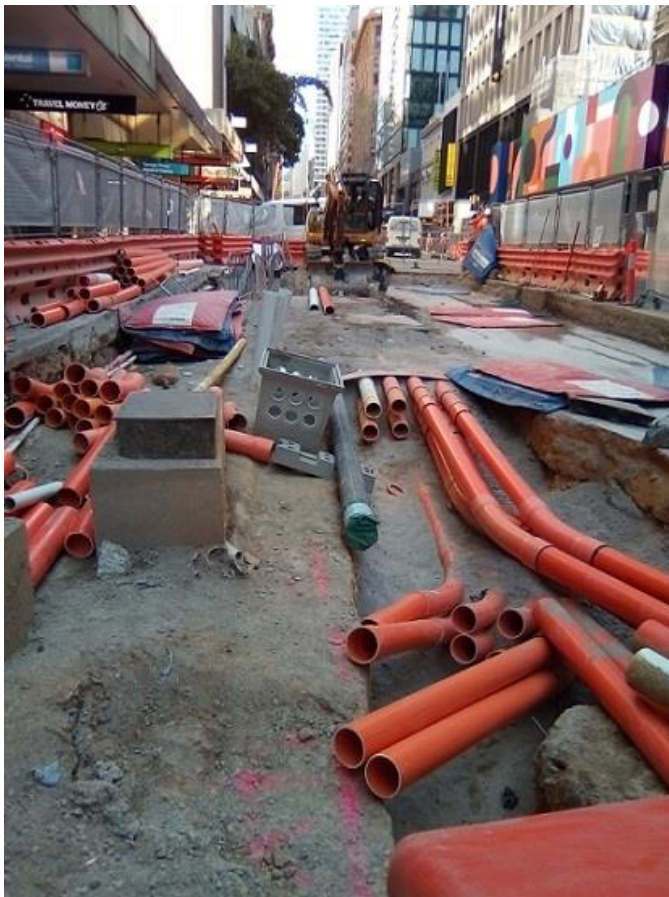
- *Ensure transport services are meeting the needs of customers*
- *Deliver outcomes that align with and support key strategic land use and transport frameworks including the Smart Cities Plan, Greater Sydney Region Plan, Future Transport Strategy and the relevant District Plans*
- *Boost Sydney's international competitiveness, productivity and employment growth by supporting new and existing strategic centres*
- *Support future housing needs by increasing housing supply, choice and affordability*
- *Improve liveability and provide a catalyst for positive change by enabling urban renewal opportunities, enhancing housing supply and supporting productivity of centres*
- *Improve access to and resilience of the transport network through integrated land use and transport planning, including integration of Sydney Metro West with other transport modes*
- *Ensure value for money and a sustainable and deliverable solution"*

Comment: The above objectives would fit almost any transport related project.

Objectives for a Metro	
These should be the objectives:	These should NOT be the objectives:
Replace existing car traffic	Serve as a tool for population growth and new real estate development to accommodate additional traffic from these apartment towers
Create transport links which heavy rail does not provide	Replace or run parallel to existing rail infrastructure
Integrate in a well defined urban rail hierarchy: (a) Trams (b) Light rail (c) Metro (d) Heavy rail local (e) Heavy rail express Allow hybrid solutions when necessary to reduce costs or adapt to local conditions	Reduce the influence of Rail Unions Reduce operational flexibility
Decentralize urban development to subcentres	CBD centric planning

The Metro West does not meet the objectives in the above table. It does not replace existing car traffic as the M4 East has been built and WestConnex (in competition!) is under construction.

It is so painful to see how expensive light rail is in Sydney. It should not cost more than \$50 m per km plus power supply to substations, the depot/maintenance facility and rolling stock (to be manufactured in Australia!)



The hidden cabling project under Sydney's tram line in George St. How much did it cost?

Appendix C: Hierarchy of Urban Rail System in Frankfurt

Heavy rail



Double deckers are used as city or regional express only; limited stops every 15 mins or so



Single deckers for all stopper services. Average distance between stations: 2.5 kms

Metro



Stops every 800-1000 m, runs every 5 mins



Also above ground on dedicated track.

Light rail – surface metro



8 car trains - high platforms - frequent stops



Simple stations can be built fast

Trams – low floor



Sharing road way



On dedicated track; car lanes gone

Sydney is a special case. According to the engineer who designed the double deckers, the DDs were introduced for all-stopper services as a quick fix alternative to building new rail lines.

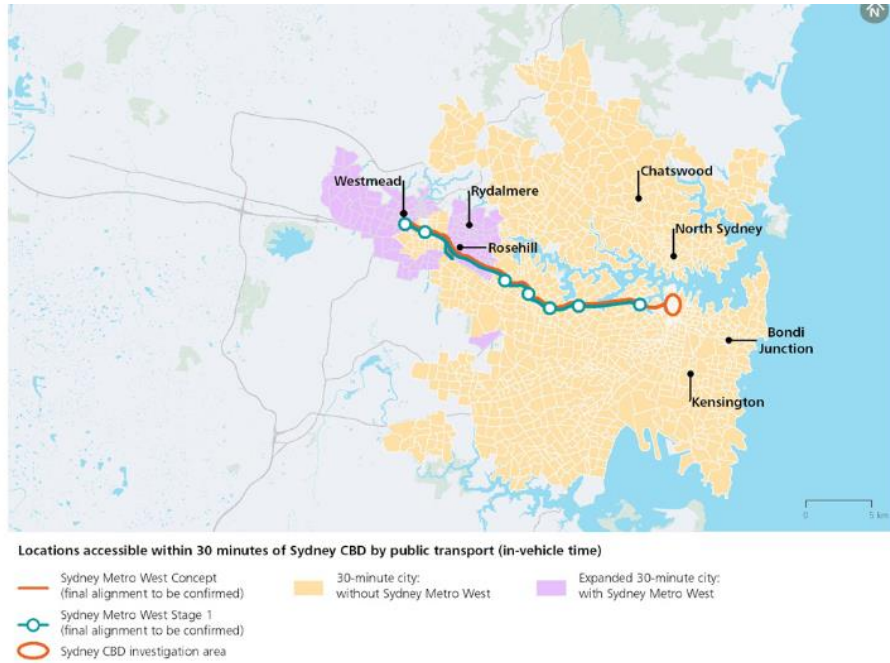
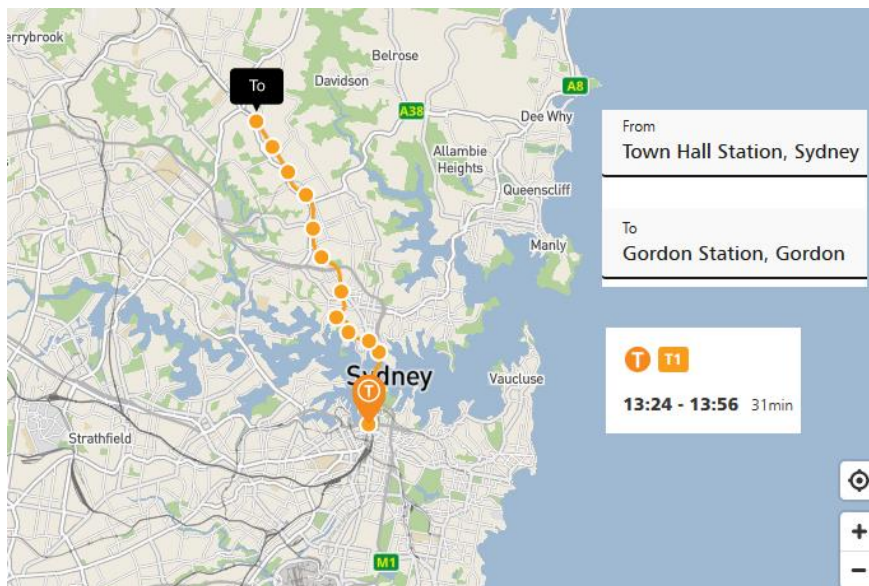


Figure 2-11: '30-minute city' for Sydney CBD with and without the Sydney Metro West

The 30 minute PT catchment marked in light orange has been made larger than it actually is



The 30 min PT catchment from the CBD ends in e.g. Gordon and Epping (CCN). That Sydney consists of three 30 min cities is pure government spin with the objective to make the public accept an 8 million Sydney.

Quote: "Sydney Metro West would help to support urban renewal along the corridor. Development within the corridor would provide the opportunity for new homes that use less electricity, gas and water compared to existing larger homes, reducing the cost of living for these households and greenhouse gas emissions."

Comment: Wishful thinking. "urban renewal" usually means that older houses are demolished (embodied energy destroyed) and replaced with luxurious, energy hungry duplexes which are

preferred by rich Asian investors. Or a group of older houses is replaced by blocks of flats or apartment towers, all consuming more power and increasing emissions.

Quote: *"Housing affordability is a key issue in Sydney mainly due to strong demand for new homes, limited future housing supply and a relative lack of housing diversity (and associated diversity in housing prices). Sydney Metro West would support planned improvements in land use and a broader range of housing opportunities, which can offer improved and more affordable housing with better access to services and employment, and improved liveability."*

Comment: We just have to look at the impact of the North West Metro to see whether this statement is true. A Polyhorizon apartment was selling for \$1.05 – 1.15 m in 2017 with a strata levy of up to \$1,450 per quarter. Is that affordable? A 1 bedroom flat with 657 sqft is selling for HK\$ 3.33 m, apparently for Chinese investors. It is not the function of a metro to allow foreigners to make more profits.

The research team should provide evidence from sales records that housing became more affordable for poor Ozy battlers after the metro was opened to traffic. Otherwise the above statement would also be propaganda and should be removed from the final document.

Chapter 3 Alternatives

Quote: *"The current and planned light rail network would largely serve local demand focused on the Parramatta and Sydney CBDs and provide feeder services to mass transit spines (currently the Sydney Trains network), rather than providing connectivity across the entire corridor"*

Comment: There is no proper integration of Parramatta light rail (stage 1 and 2) with the Metro West line. Bizarrely, Parramatta L2 (PL2) ends in Carter St. It also needs a new bridge (or tunnel?) to cross the Parramatta River. It is doubtful whether this will ever happen. And has the Dioxin problem been solved? Interestingly, PL2 goes along Victoria Rd recognising the need for a rail link in this corridor.

The distance between Olympic Park station and Parramatta station is around 7 kms with just 1 station in Silverwater (Derby St – industrial area). This means the catchment areas along the Metro West line have not been optimized (no station in Newington). The area is also fragmented by the Duck River, the M4 and a tank farm.

Quote: *"Other longer-term future transport initiatives identified for investigation in Future Transport Strategy 2056 include:*

Parramatta to Epping Mass Transit/Train Link

These future transport initiatives do not fundamentally service the Greater Parramatta to Sydney CBD corridor, and in many instances would be complementary to Sydney Metro West"

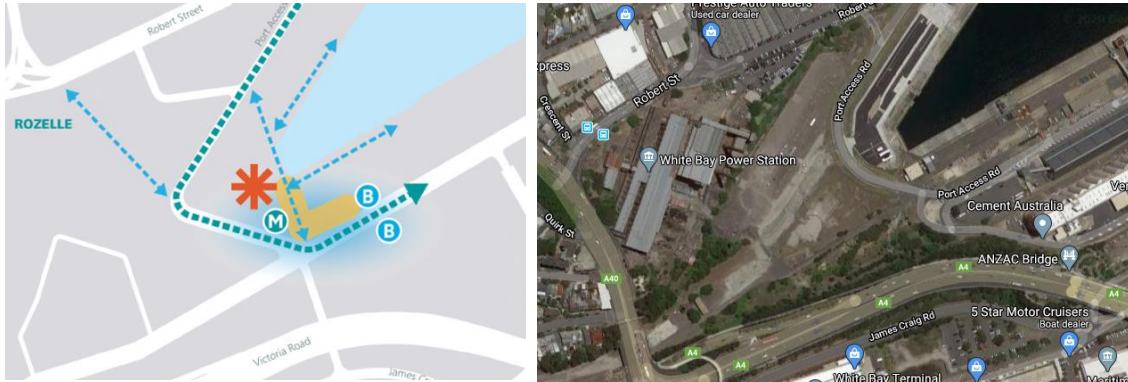
Comment: PERL would of course reduce pressure on the CBD – Parramatta rail corridor. Here we have another example of how this report uses twisted semantics to fabricate a case for Metro West.

Quote: *"An 11 to 12 station option north of Parramatta River ('Metro Local North') was also investigated; however this alignment would be unable to service key precincts including Sydney Olympic Park."*

Comment: Yet, a metro under Victoria Rd (via Top Ryde and West Ryde) would be better in replacing car traffic and increasing the number of catchment areas around stations while at the same time

connecting to the T9. As a minimum, the Bay station and/or a Rozelle station should be designed in such a way that a future Victoria Rd metro can be easily connected

Quote: “The Bays Precinct Sydney Urban Transformation Strategy (2015) sets out a strategy for the transformation of The Bays Precinct over 25 years. This transformation is envisaged to include a major new mixed use precinct around Glebe Island and White Bay (known as Bays West).”

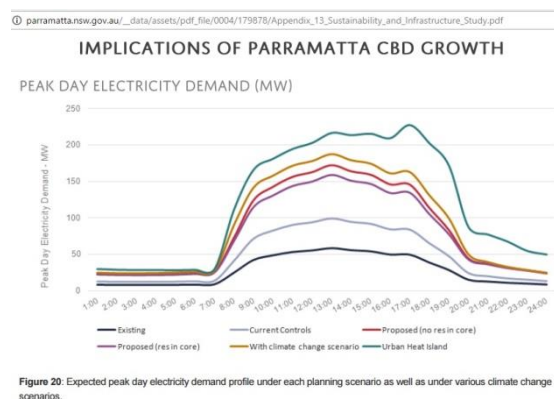


Comment: The site is currently an industrial wasteland, cut off by a busy Victoria Rd. This is not walkable. The cruise ship terminal is an absolute liability. It should be closed as a pre-condition for the location of this metro station. Given the evolving economic crisis, a 25 year time horizon for this metro station to become fully economic is unacceptable. The site will be subject to sea-level rises, possibly 2 m by 2100 (<https://www.pik-potsdam.de/sealevel/>)

Omitted issue Power Supply



Parramatta Council itself calculated peak demand:



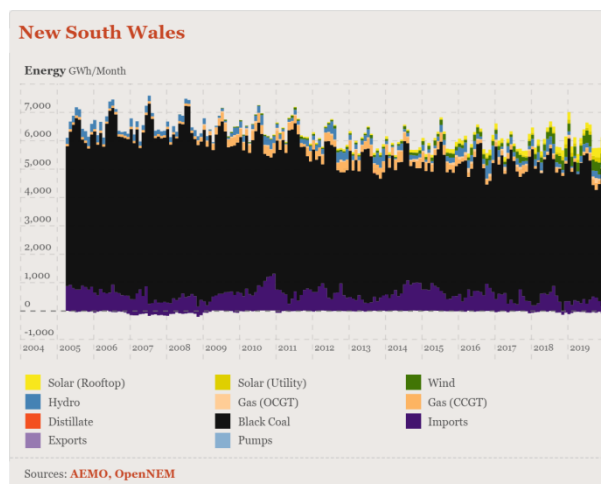
<https://www.cityofparramatta.nsw.gov.au/sites/council/files/inline-files/pdf%2017%20-%20Sustainability%20and%20Infrastructure%20Study.pdf>

Figure 1.2 Artist's Impression of Sydney Olympic Park and surrounds in 2030



From Sydney Olympic Park Master Plan 2030 (2018 Review)

Power supply for assumed development of high rises and the metro operation itself would require massive pumped hydro storage in combination with primary energy from wind and solar.



For the last 7 years there was no trend of using less coal. Around 4,000 GWh/month of coal fired baseload would have to be replaced! Unless this job is done it makes no sense to plan for more electricity hungry buildings.

Summary

The original plan to reduce pressure on the CBD – Strathfield – Parramatta rail corridor was the Chatswood – Epping – Parramatta rail link. Consecutive governments have botched that planning. The Metro West is proof of how expensive it is to change plans on the run.

The objectives

- Provide a fast rail link CBD – Parramatta
- Maximise catchment areas for new residential developments
- Connect Olympic Park

are incompatible. This has resulted in a lack of stations between Olympic Park and Parramatta (7 kms) and The Bays and Five Dock (4.5 kms).

The length of 24 kms with only 6 intermediate stations (excluding Pyrmont) gives an average distance of 3.4 kms between stations. That is NOT a metro. For comparison, line 14 in Paris has 7 intermediate stations on 9 kms (= 1.1 kms), line 12's average distance is 550m. U7 in Berlin (32 kms) has 40 stations (820 m). The Central line (74 kms) in London has an average distance of 1.5 kms.

Irrespective of how you name the line, there are only 3 new stations (The Bays, Five Dock and North Burwood – just 1 km from Burwood Stn). All other stations are already served by Sydney Trains. It is doubtful whether it is worthwhile to spend \$ 6.4 bn on just 3 new stations.

In the era of the Corona Virus no luxuries can be afforded. There will be international travel restrictions for many years to come, reducing immigration, which has been the driver for the ambitious population plans of the Greater Sydney Commission.

Recommendation

Back to the drawing board. The light at the end of the tunnel is that WestConnex can be used for an express rail line when the time comes. The longer the oil prices are low, the sooner the next oil crisis.

To close on a humorous note this is a video on the implications of a national transport policy:



Minister for Bernhard to take notes: "Commuters to pay full economic fares" Sir Humphrey: "That will double the price of the tickets" Minister: "You can't make an omelette without breaking eggs"

<https://www.youtube.com/watch?v=FOIs9wCuf-0>

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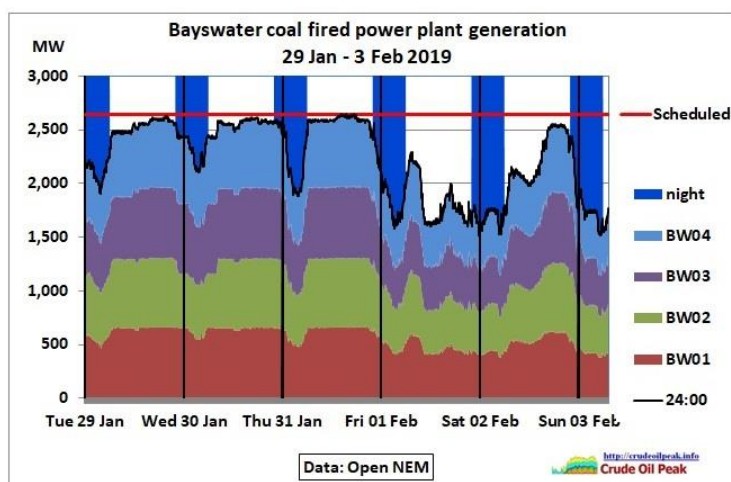
ANNEX on power supply shortages

4/2/2020 Bush fires cause load shedding in NSW January 2020



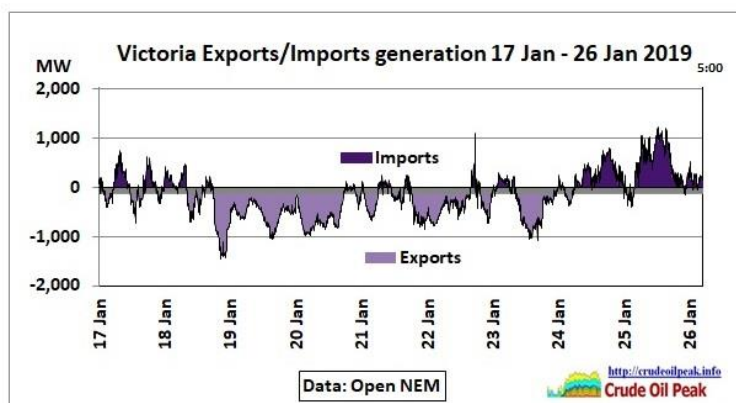
<http://crudeoilpeak.info/bush-fires-cause-load-shedding-in-new-south-wales-january-2020>

5/2/2019 NSW coal fired power plants generation in late January 2019



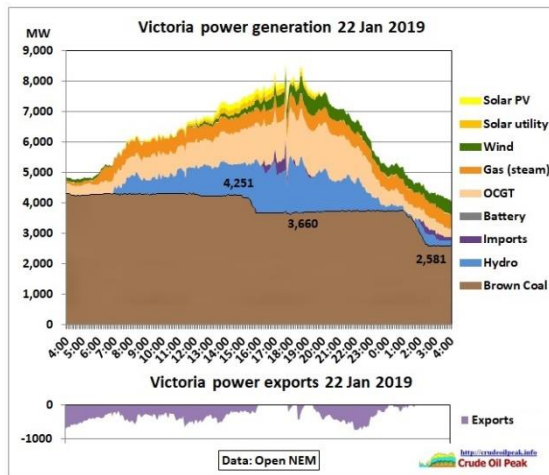
<http://crudeoilpeak.info/nsw-coal-fired-power-plants-generation-in-late-january-2019>

29/1/2019 Victoria became power importer in January 2019 heatwave



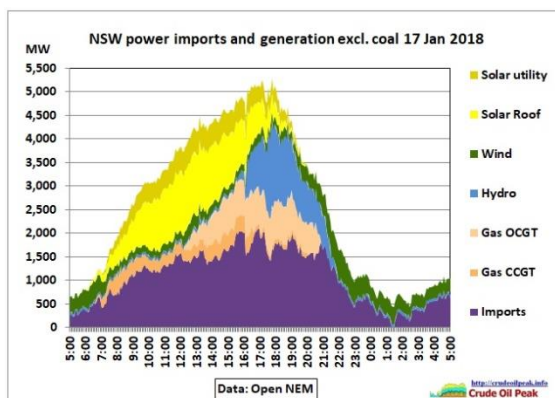
<http://crudeoilpeak.info/victoria-became-power-importer-in-january-2019-heatwave>

23/1/2019 Victoria's 600 MW brown coal plant outage leads to price spike but system survives



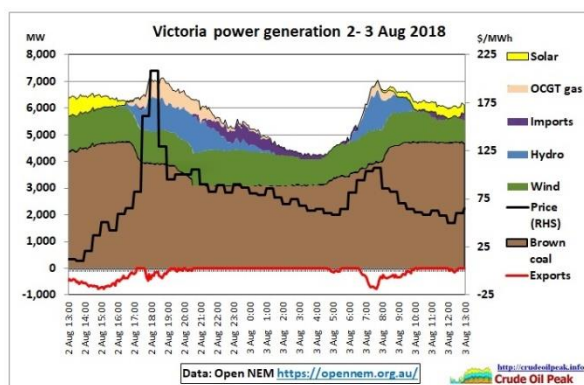
<http://crudeoilpeak.info/victorias-600-mw-brown-coal-plant-outage-leads-to-price-spike-but-system-survives>

21/1/2019 NSW power imports in January 2019 heatwave exceed 2 GW, drive up electricity prices



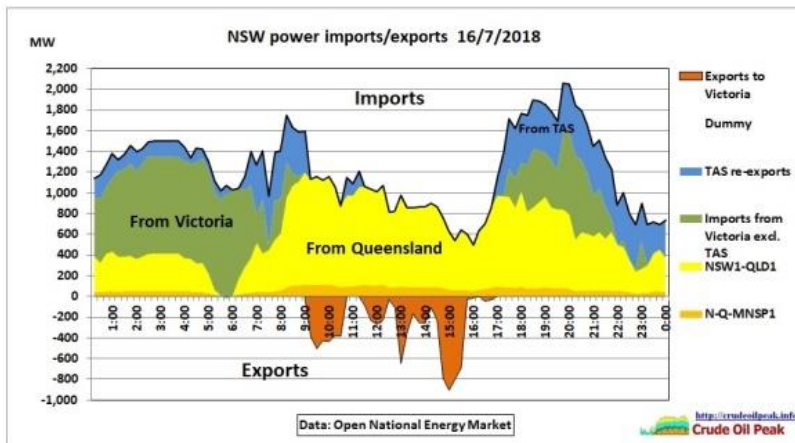
<http://crudeoilpeak.info/nsw-power-imports-in-january-2019-heatwave-exceed-2-gw-drive-up-electricity-prices>

4/8/2018 Victoria brown coal power plant lost 1,600 MW over 4 hrs



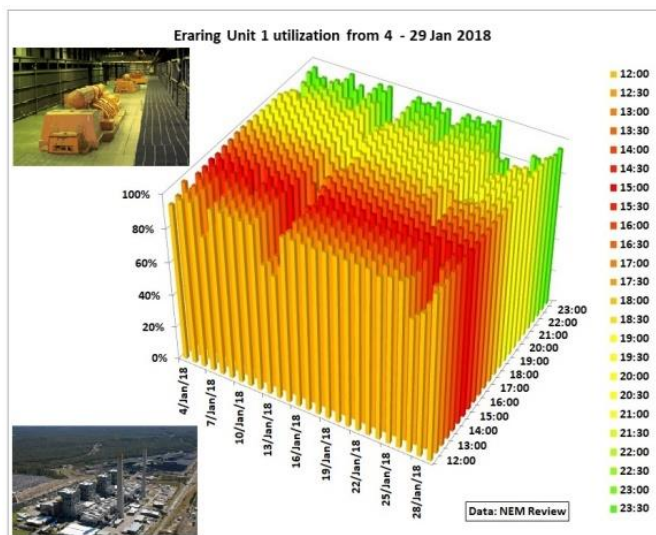
<http://crudeoilpeak.info/victoria-brown-coal-power-plant-lost-1600-mw-over-4-hrs>

20/7/2018 Sydney go on your rooftops and save power for 3 million new immigrants



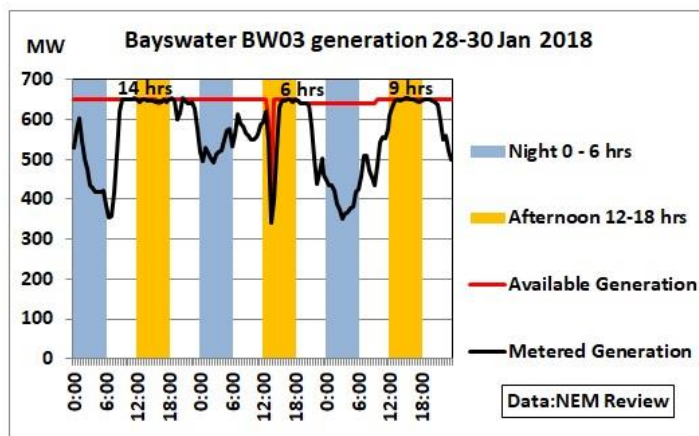
<http://crudeoilpeak.info/sydney-go-on-your-rooftops-and-save-power-for-3-million-new-immigrants>

16/3/2018 NSW coal power maxed out in hot summer (part 2)



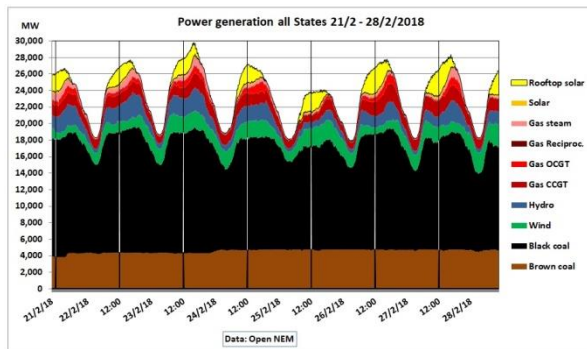
<http://crudeoilpeak.info/nsw-coal-power-maxed-out-in-hot-summer-part-2>

14/3/2018 NSW coal power maxed out in hot summer (part 1)



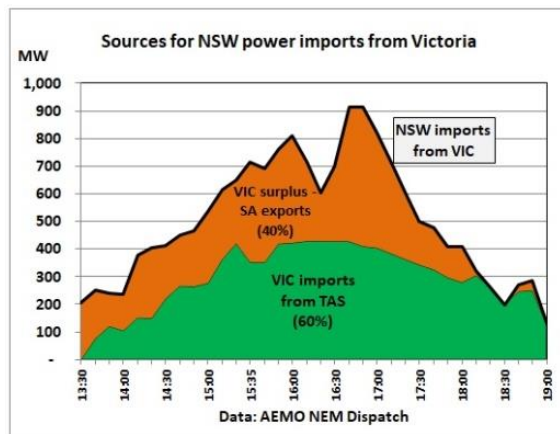
<http://crudeoilpeak.info/nsw-coal-power-maxed-out-in-hot-summer-part-1>

11/3/2018 Australia's east coast solar generation is replacing coal by only 2% in late summer



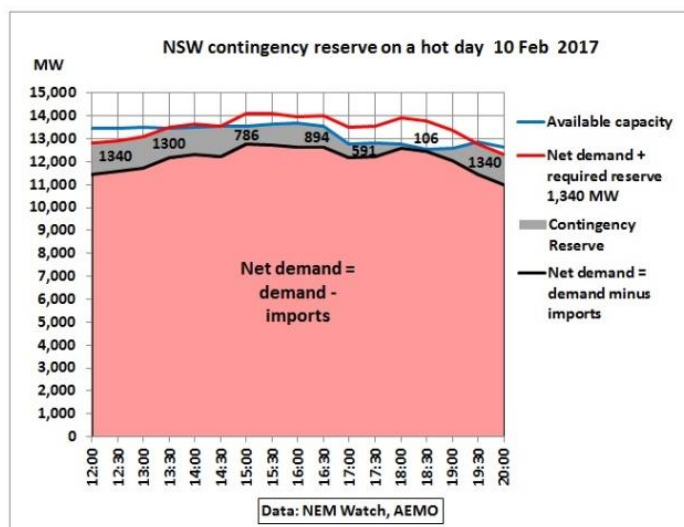
<http://crudeoilpeak.info/australias-east-coast-solar-generation-is-replacing-coal-by-only-2-in-late-summer>

13/1/2018 Energy guzzling NSW had to import up to 1,700 MW on 7 Jan 2018



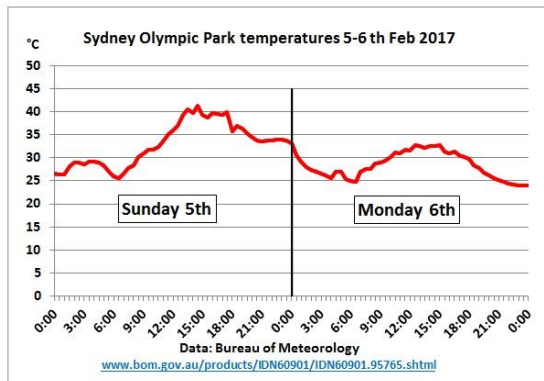
<http://crudeoilpeak.info/energy-guzzling-nsw-had-to-import-up-to-1700-mw-on-7-jan-2018>

14 Feb 2017 NSW's privatized giveaway coal plant causes load shedding in extreme weather



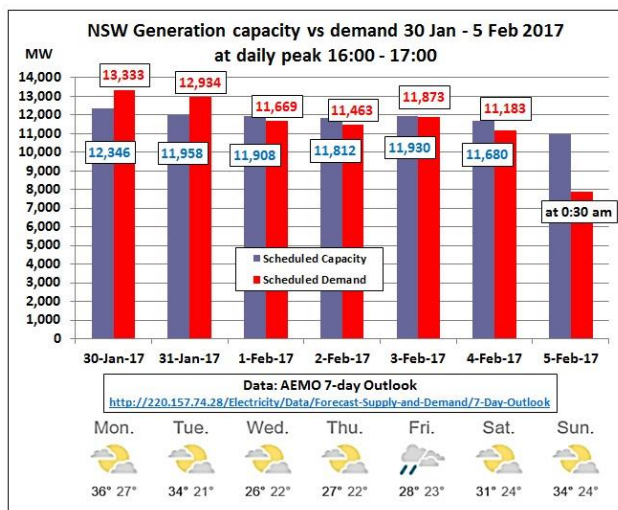
<http://crudeoilpeak.info/nsws-privatized-giveaway-coal-plant-causes-load-shedding-in-extreme-weather>

10 Feb 2017 NSW running low on contingency reserves during hot days



<http://crudeoilpeak.info/nsw-running-low-on-contingency-reserves-during-hot-days>

28/1/2017 Power Supply in Australia's New South Wales: how will it cope in coming heatwave?



<http://crudeoilpeak.info/power-supply-in-australias-new-south-wales-how-will-it-cope-in-coming-heatwave>