21st May 2015

Naomi Cleaves / Rob Sherry
NSW Planning Assessment Commission
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SYDNEY NSW 2001

Email: pac@pac.nsw.gov.au

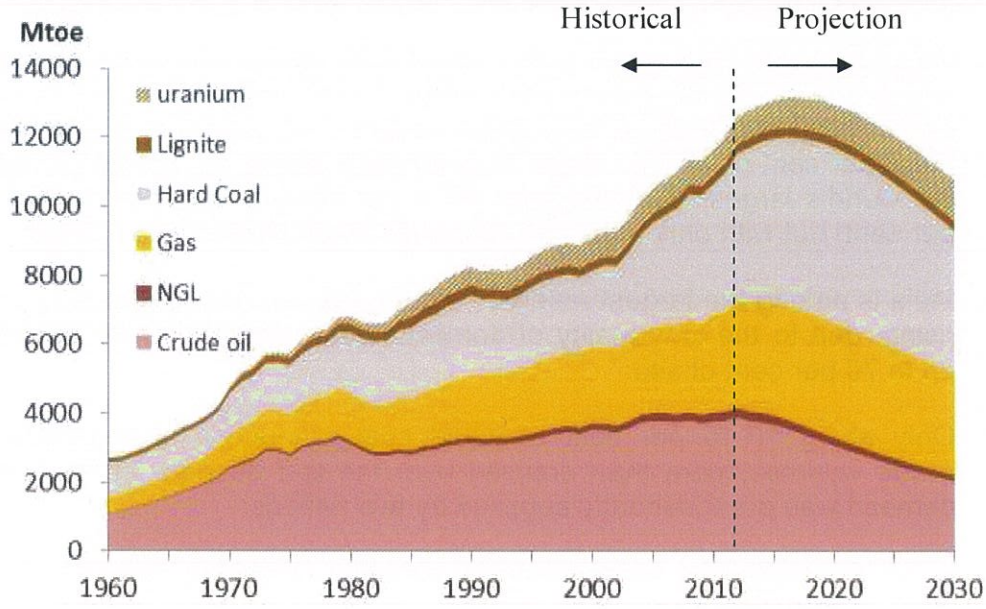
Dear Ms. Cleaves / Mr. Sherry,

Submission to NSW Planning Assessment Commission reviewing Springvale Mine Extension Project SSD 5594 Lithgow City Council Local Government Area

I declare I have not made any political donations ever.

I wish to draw your attention to an ongoing Australian Senate inquiry into "Australia's transport energy resilience and sustainability" (please see http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Rural_and_Regional_Affairs_and_Transport/Transport_energy_resilience). From this web page please click on the "Public Hearings" hypertext link, and download the 09 Apr 2015 hearing transcript and my submission (number 36). My opening statements in the Proof Transcript version are on pages 43 – 44 and comments on biofuels and Energy Return on Investment (ERoI) are on page 48.

Evidence I see indicates total world fossil fuel supply is close to peaking, with declining global oil production consequently initiating a rising energy deficiency that coal and natural gas will be unable to compensate for.



Mtoe = million tonnes of oil equivalent = 41.87 petajoules

Figure 1: Scenario of world supply of fossil fuels and uranium (Source: *Fossil and Nuclear Fuels – the Supply Outlook*, Energy Watch Group, March 2013)

Can the projections for the timing of peak oil, peak gas and peak coal be wrong (see Figure 1 above)? I think it's possible the projections could be out by a few years but highly unlikely to be out by a decade or more.

As I said in my opening statement at the Senate inquiry I would prefer the evidence to be incorrect, as the implications for our society are dire if governments continue on the current course of behaviour (as evidenced in the recent publication of the *Energy White Paper 2015*). Radical changes in energy policies by all governments are required. If I am wrong, then I would like someone to show me compelling evidence that contradicts the evidence I see.

Without an affordable energy supply nothing happens. Evidence I see leads me to the conclusion that unless we as a nation **begin to make a substantial transition** to alternative primary energy supply solutions before 2020 (Australia is currently around 4% non-fossil fuel primary energy), then millions of Australians are at risk of not being able to afford to live by 2030.

Coal is still widely regarded to be an abundant resource. However, internationally coal is only available from few countries having large export capacities. This signals a supply risk that is actually greater than it seems at first glance:

1. The USA has passed peak production of bituminous coal in 1990 and peaked in total coal production in 2008 at 1.171 billion short tons (1.062 gigatonnes). US coal production is now trending downwards on both a tonnage and energy content basis. The extent of US reported reserves (representing 26.6 per cent of global coal reserves) is also in question. Considering geology, technology and finance, profitable US coal supply may be significantly less than 20 years;

2. China has switched within a few years from being one of the largest coal exporters to being the world's largest coal importer. China at the end of 2013 is ranked as having the world's third largest coal reserves (12.8 per cent of world's share on a tonnage basis), is ranked as both the world's largest coal producer (47.4 per cent) and consumer (50.3 per cent) but with only a reported reserves to production of 31 years;

3. India is among the largest reserve holders, but also its coal imports are rising, due to the low quality of domestic coal reserves which contain up to 70 per cent of ash;

4. Only about 10-15 per cent of world coal production is sea-traded. Trade volumes more than doubled over the last decade. This rising demand was predominantly supplied by two nations:

    a. Australia, the world's largest exporter of coking coal for steel production; and

    b. Indonesia, the world's largest exporter of steam coal for power generation.

5. Future world coal trade volumes will predominantly depend on Australia and Indonesia;

6. The quality of mined coal will gradually decrease over time;

7. Global coal production is expected to peak around 2020, greatly influenced by China's expected coal production peaking at around this time (see Figure 2 below). There are indications that China has already reached peak coal **demand** (see http://www.macrobusiness.com.au/2015/03/peak-coal-china-last-year/).

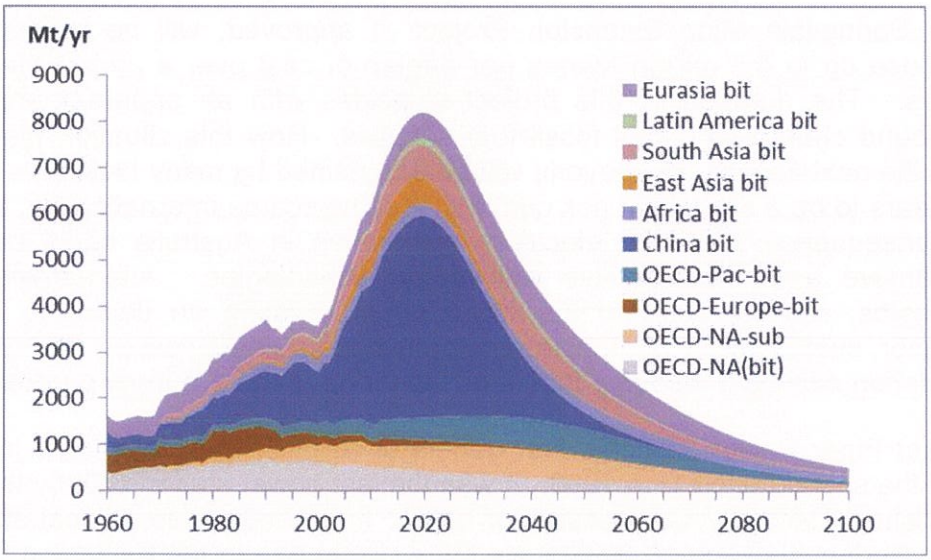


Figure 2: World coal production updated scenario according to Energy Watch Group (Source: *Fossil and Nuclear Fuels – the Supply Outlook*, Energy Watch Group, March 2013)

As Christiana Figueres indicated in an interview with Emma Alberici on ABC's *Lateline* programme broadcast on Friday, 8 May 2015 (please see http://www.abc.net.au/lateline/content/2015/s4232634.htm), China is "*increasing renewable energy*" and "*going to be increasing energy efficiency*". They are also substantially increasing their nuclear energy contribution. There is clear evidence China is doing many things to substantially reduce its dependency on coal in the long-term, unlike Australia.

Christiana Figueres also said in the same interview (bold text my emphasis):

> So, everyone is entitled to their opinion, but I do think that it would be rather dangerous for Australia not to look at very seriously at both the threats, but perhaps even more importantly the opportunities. Because nations around the world are wakening up to the fact that there are huge opportunities in innovation, in new industry, in job creation, **in better energy security** and better health for sure, that are brought about through measures that are, I would say, as a second step, they're actually helping to bring down emissions, but **first and most fundamentally there is an economic imperative from the national economic point of view**.

Australia's oil, natural gas and coal supplies are influenced by international markets and so any disturbance in global supply and demand will be felt within Australia.

Angus Place colliery's change from production to 'care and maintenance' status has been as a consequence of declining international coal prices brought on by an over capacity in global coal production. Other Australian coal producers are also experiencing difficulties. This will be a temporary situation as US coal production will probably decline further and China's coal production peaks and then begins a steep decline.

The Springvale Mine Extension Project, if approved, will be permitted to produce up to 4.5 million tonnes per annum of coal over a project life of 13 years. The duration of this project coincides with an apparent projected profound change in global fossil fuel supplies. How this situation plays out into the next decade and beyond will be determined by many factors but there appears to be a significant risk coal will become scarce internationally, and as a consequence coal-fired electricity generation in Australia could become expensive and uncompetitive with other technologies. Alternatively, like asbestos, societies around the world begin insisting on deploying better, cleaner, sustainable, more environmentally benign energy supply alternatives, rendering coal as a resource that is no longer needed for energy purposes.

Mount Piper Power Station's first generator (Unit 2) was completed in 1992 and the second (Unit 1) in 1993. It was the last power station built by the now abolished Electricity Commission of NSW. It currently sources coal supplies from Springvale Mine. If Springvale Mine closes due to the Extension Project not gaining approval Mount Piper Power Station is also at risk of closing due to sourcing alternative coal supplies possibly becoming problematic. Without reliable alternative power generation capacity available to fill the gap, particularly during peak electrical demand conditions, areas within NSW could experience periods of blackouts. Additional job losses due to the closure of the power station within the Lithgow LGA would also result.

Relying on 'market forces' to dictate change risks a delayed transition and as a consequence societies may risk falling off the 'energy cliff' while attempting to deploy alternative energy solution in an uncoordinated, unplanned, panicked and *ad hoc* basis. To minimise disruption the transition needs to begin occurring before fossil fuels become scarce and expensive.

An inevitable profound change is coming in the way our civilisation sources primary energy, whether we like it or not. How we as a society manage this profound change will determine how disruptive the transition is to our way of life. The longer we try to delay the transition required, by pursuing dead end solutions (and consuming limited resources) which are aimed at protecting and prolonging vested interests, the more we face the risk of falling off the 'energy cliff' with severe to potentially catastrophic disruptions to our economy, politics and society.

The NSW Planning Assessment Commission needs to be cognisant of these challenges and incorporate this information into its deliberations regarding any

projects concerning energy security (not just specific to the Springvale Mine Extension Project).

Ultimately, governments need to set appropriate energy policies that deal competently with the changing reality in a coordinated and timely manner. In my opinion that appears not to be happening at the moment at all levels of government.

Yours Sincerely,

[redacted]

Geoffrey Miell

Contact Information:
(I request the contact information below and my signature above not be disclosed publically)

[redacted]