From:
To: Community Affairs, Committee (SEN);
Subject: Air Quality Inquiry - Newcastle hearing
Date: Wednesday, 17 April 2013 3:28:22 PM

I attended the whole day's hearing at Newcastle yesterday and wish to
1) supply some information requested by ?Sen di Natale
2) Suggest possible sources of expert evidence that was lacking yesterday

I am a retired psychiatrist with a special interest in the psychological impacts of mining and I live in the Gloucester area where this is very evident. I am the author of Submission No 47.

1) Re 2km Buffer Zone in Gloucester Gas Project Area
Senator di Natale, I think. asked whether the Gloucester area was in a 2km residential buffer zone.
The license area for PEL 285 includes the town of Gloucester which has apopulation of 2,500 persons and it also includes rural residential area and rural areas which together have a further 1,500 persons. The company (AGL) have stated the Project is only viable if the whole area is 'developed'. This will involve 300+ wells down the 35km of the Gloucester Valley. The closest exploration well was less than 1km from the residential area but I understand that well was not thought to be potentially productive. Altogether so far 17 Pilot wells have been sunk and all but 1 or 2 dry wells have been fracked and we have strong evidence of fugitive emissions as a result of fracking. We have been told that because a provisional license to produce has already been granted we will not be covered by the 2km buffer zone legislation.
We believe this is grossly unfair since the license has been granted prematurely by a disgraced minister conditional to a satisfactory comprehensive water study and the company is unable to do such a study.
Additionally no baseline studies of methane levels were done prior to fracking and no levels have been done after fracking. In addition no air quality studies were done during the nine months that continuous flaring took place.
Doctors for the Environment of Australia should be asked to present in person on health impacts of CSG.

2) The medical evidence to date has focussed on the effects of poor air quality on the respiratory and cardiovascular systems. In addition to this there are important impacts on the Central nervous System.
This includes the effects of psychosocial stressors, the effects of neurotoxins and the impacts of endocrine disruptors. There is a cumulative effect with ischaemic and hypertensive strokes from fine dust particles and the effects of diabetes. Together they impact on the emotions, learning, memory, cognition and behaviour. The fine and ultrafine particles in the upper nasal passages go through the mucosa and through the cribiform plate to enter the limbic system. they also enter the brain from the general circulation because about 20% of the blood supply goes to this very active and energy consuming organ.
The inquiry several times was told that one litre of diesel fuel is burned for each ton of coal and over 100million tons/yr are exported from newcastle. We also heard of the lack of exhaust emission legislation for off-road mining vehicles and machinery.
Diesel aswell as being a carcinogen forms PAH (polycyclic aromatic hydrocarbons) which is an important neurotoxin. This has the effect of reducing the IQ particularly of the very young near diesel emissions.
Prof Frederica Perera is the world expert from Columbia University's Mailman School of Public Health and she measures PAH levels in infant's cord blood and has demonstrated that those pregnant women living near high diesel exhaust

levels have children at age 5yrs with an IQ nearly 5pts below expected and also when a coal fired power station closed the level of IQ in 2yr olds near that power station raised with the lowering of PAH cord blood levels.
The lowering of IQ by 5pts has a devastating effect on a population and reduces the number of talented children and increases those with IQ's below 70 who need special care. Dr Dick van Steenis looked at the MY School results from Muswellbrook schools when he was visiting 2 years ago which were unexpectedly poor and postulated there was a significant impact from neurotoxins such as PAH, mercury from power stations and lead in the rainwater tanks etc.
The AMA evidence mentioned in passing neurocognitive effects but did not go into detail. It has a cumulative impact with the cognitive impact of noise and the disrupted sleep.
Mt suggestion is to request Prof Perera give evidence on the effects of diesel exhaust to the inquiry by teleconferencing since we have no equivalent expert in Australia.
Dr steve robinson