

Wendy Wales

Dear Senate Committee,

I would like to add my voice to the concern raised in my community with respect to the impacts on health of air quality in Australia.

**(a) particulate matter, its sources and effects;**

The major sources of particulate matter in the Upper Hunter are the coal fired power stations, coalmines, diesel trucks, agriculture and possibly uncovered coal trains. Fine particulates ( $<2.5\mu$ ) can lodge in healthy persons lungs while the smaller particle ( $<1\mu$ ) can pass from the lungs into the blood stream and thereby have the potential to disrupt normal cellular processes. I understand enough about Biology to believe these chemicals inside the body could be the basis or exacerbate a wide variety of apparently unrelated diseases. I have heard we have a disproportionate number of people with motor neurone disease in the Muswellbrook/Singleton area.

**b) those populations most at risk and the causes that put those populations at risk;**

It seems there is evidence that children in Singleton have a higher rate of respiratory problems than those from Branxton.

Also, when taking a student group to Muswellbrook Hospital I learned that 5 people had been air lifted to larger hospitals the previous day, all with

respiratory or cardio problems. When I checked the air quality, it had been GOOD but approaching FAIR for the previous 3 days. Does 3 days of near FAIR air quality typically mean vulnerable people need to be helicoptered to larger hospitals? Another person with existing serious cardio problems died that weekend. Not being involved in hospitals I have no way of knowing what the baseline is but 5 people in one day was unusual. It seems people whose health is already compromised are going to be that much more at risk from poorer air quality. I was continuously checking air quality data and temperature predictions during my Mother's recent visit, worried by her cardio and respiratory problems.

**(c) the standards, monitoring and regulation of air quality at all levels of government;** Air quality monitoring in the Upper Hunter is significantly more transparent, accessible and better since the establishment of the Upper Hunter Air Quality Monitoring Network (Industry funded but coordinated by the NSW Office of the Environment). Community concern however is typically around the limited amount of smaller particle testing ( $<2.5\mu$  and  $<1\mu$ ) and gases such as  $\text{NO}_x$  and  $\text{SO}_x$ .

**d) any other related matters.**

I live near Muswellbrook in the Upper Hunter which is currently is not directly in line with the prevailing (NW, SE) winds and the nearest coal mines, unlike our nearest large town to the South, Singleton. I see this difference in situation as one that provides the possibility of a comparative study. There are coalmine proposals which will encircle Muswellbrook leading to a greater amount of particulate matter pollution for the residents.

I think another simple research opportunity would be to collate hospital data with air quality readings to see if there is correlation for respiratory/ cardio emergencies and the preceding air quality data. If there is correlation, is the air quality a significant factor?

I also think Singleton's Dr Au initiative to research the children's respiratory health in Branxton compared to Singleton should be endorsed, supported and funded. I see the lack of support from the Department of Education and Training as an obstruction to this important initiative.

I am concerned about the incidence of motor neurone disease in the upper hunter. The statistical incidence is approximately 2.65 people in 100,000, I have heard there are about 15 people in the Muswellbrook/Singleton districts with a total of approximately 40,000 people). I am concerned that there are similar statistics for other diseases and worry that fine particulates may be a pathway that results in higher incidence of diseases, beyond respiratory disease.

Thank you for the opportunity to make this submission,  
Wendy Wales