

Submission on the United Wambo Open Cut Coal Mine Project and associated modifications

February 2019



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Healthy planet, **healthy people.**

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Doctors for the Environment Australia (DEA) is an independent, self-funded, non-Government organisation of medical doctors in all Australian States and Territories. Our members work across all specialties in community, hospital and private practices. We work to prevent and address the diseases - local, national and global - caused by damage to our natural environment. We are a public health voice in the sphere of environmental health with a primary focus on the health harms from pollution and climate change.

Three members of DEA have written this submission; a general practitioner and a specialist physician both from the Hunter region who care for patients who suffer from diseases caused by the air pollution from coal combustion and from coal mining; the third doctor is also a scientist who has served an 8-year term on the Intergovernmental Panel on Climate Change (IPCC).

Recommendations

Doctors for the Environment Australia recommend that:-

1. The New South Wales Government, Independent Planning Commission oppose to United Wambo Open Cut Coal Mine project on the grounds of negative health effects of climate change, air pollution, social impacts, water quality and environmental risk as well as the economic damage to the infrastructure of Australia and not least to the lives of individual Australians.
2. The Commission take note of the recent judicial decision on the Rocky Hill Mine which reflects the increasing concerns on the impact of coal on climate change expressed by many judicial decisions worldwide.
3. The Commission take note of the rapidly progressing impacts of climate change on Australian health and lives and in particular the deteriorating air quality in the Hunter region.

Climate Change and the role of coal

In an important recent judgement, permission for the Rocky Hill coal mine was refused by the Chief Justice of the Land and Environment Court, and one of the reasons for refusal was that the development would increase greenhouse gas emissions at a time when they urgently need to be cut.

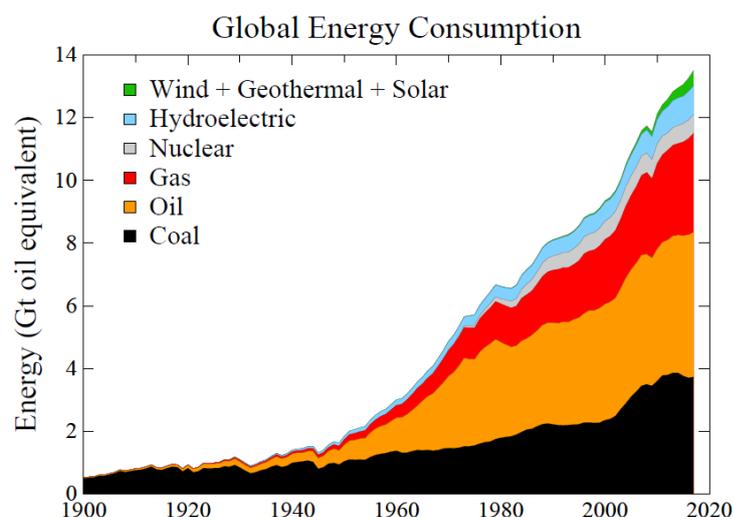
DEA made submissions on the health impacts of this mine, the Supplementary submission to Rocky Hill PAC (November 2017)² and the Rocky Hill Mine Project (October 2016)³ which we believe contributed to the judgement.

Current Evidence on climate change

According to the IPCC, to achieve a reduction in emissions that would limit the temperature rise to 1.5°C or less, use of coal would be reduced to 0% for global electricity by 2050. This mine expansion proposes to mine 150 million tonnes of coal over the next 23 years, and it is accepted in the Environmental Impact Statement that it will contribute to global emissions.

The International Energy Agency (IEA) reported in March 2018⁴ that the Earth's greenhouse emissions from fossil fuels had increased by 1.4% in 2017 after three years of flat emissions. The goals of the Paris Agreement on climate change are in jeopardy. And in Australia there is yet more evidence of increasing Australian emissions⁵.

The main cause of climate change is failure to curtail fossil fuel consumption as illustrated in this graph.



Source: 1965-2017 BP Statistical Review of World Energy; 1900-1965 Department of Energy Carbon Dioxide Information and Analysis Center (Energy unit: Gt = gigatons = billion tons of oil equivalent)

We conclude there has been little progress over the last 20 years. Australia's performance as a wealthy, technologically able country is deplorable and displays a 'She'll be right' attitude. Australia has copious available resources to reduce its emissions. There are significant opportunities to develop these opportunities which will provide economic, health and environmental benefits.

To meet the minimum target of 2°C, over 80% of current world coal reserves should remain unused from 2010 to 2050.⁶

Human use of fossil fuels is the primary cause of both global warming and ambient air pollution. Climate change caused by increasing atmospheric greenhouse gas concentrations is described by the Lancet Commission on Climate Change and Health *as the greatest health threat of the 21st Century*, with unprecedented implications for human health and wellbeing.^{7, 8}

Addressing both global warming and air pollution demands coordinated global efforts to rapidly transition away from the use of fossil fuels. The Paris Agreement emerged from the COP21 United Nations Framework Convention on Climate Change (UNFCCC) in 2015 with commitments from 175 countries to take responsibility for reducing greenhouse gas emissions and assist in limiting global warming to 2°C, or preferably to 1.5°C, with significantly lower risks to health, biodiversity and the environment.

On the basis of the need to curtail climate change and its national and international health effects, **DEA indicates that export of coal should be limited to present contracts and no new mines developed.**

We are aware that the Scope 3 emissions resulting from burning coal in the recipient country are not included in Australian emissions, but Australia has to take responsibility.

Coal is only economic to coal users overseas because it is cheap. It is cheap because externalities are not included in the price. The huge environmental and health costs are not included. As one of the world's largest exporters of coal, Australia is a significant contributor to the 4.2 million worldwide deaths per annum from particulate air pollution. The real price is being paid in deaths, disability and intergenerational inequality.

Health and economic costs from climate change in Australia

It is clear that the existing rise in world temperature of 1°C is already producing more pronounced droughts, floods, bushfires and heatwaves. The economic costs are enormous. As scientists we now recognise that even greater losses from climate change are imminent from loss of the Great Barrier Reef, the likely demise of the Murray Darling River, the modelling for which did not include climate change data, and falling production in several sectors of the agricultural industry.

Temperature increases significantly affects vulnerable populations. These are our older and younger populations, those with chronic disease like diabetes, heart disease and kidney disease, and others at risk of dehydration.

The IPCC has already accepted we are likely to have a rise in global temperature from the pre-industrial age of 1.5°C. This projected rise in global temperatures is already going to lead to an increased number of temperature related deaths compared to 1990 levels. If climate change continues to worsen without dramatic action to reduce global CO₂ emissions, we will see a significant increase in the number of temperature related deaths.

We know that climate change will lead to an increase in extreme weather events such as bushfires, heatwaves and drought. Australia has just suffered through its hottest average monthly January temperatures since records began.

Bushfires can cause direct harm from burns and deaths. Bushfires cause significant further air pollution and PM₁₀ particulate production and leads to increased pressure on access to basic healthcare and food security. After the Ash Wednesday fires in 1983, 42% of a study of 1,526 local residents were found to meet criteria for a potential psychiatric illness⁹.

Climate change is making drought conditions in southwest and southeast Australia worse¹⁰. The health risks of sustained drought include higher rates of mental illness and suicidality, loss of income for producers of local agriculture, and reduced food security and access to fresh healthy food. The impact of drought on adverse mental health has recently been again shown with a study in the Medical Journal of Australia this year on NSW farmers¹¹. Loss of food security hits vulnerable populations harder as the price of remaining low yield produce is forced higher. This has long term health implications of increased rates of diabetes, heart disease and cardiovascular disease for those who can't afford the healthier fresh food. (Therefore, to reduce the health risks associated with climate change and temperature rise, the department should not approve this project, as it will not help us to meet the modelling set out by the IPCC report.) There

are an estimated 210,000 premature deaths in the world associated with combustion of coal annually.¹²

Air pollution

Air pollution created by open-cut coal mining and combustion of coal poses multiple dangers to human health. PM₁₀ particulates, PM_{2.5} particulates, sulphur and nitrogen oxides, all produced by these industries, can enter the lungs and the blood stream and can cause heart disease, lung cancer, asthma and acute lower respiratory infections.

These chemicals are known to cause airway irritation, shortness of breath, headache, asthma exacerbation and in very high-level exposure to nitrogen dioxide, for example after exposure to a blast plume, dangerous levels of lung inflammation could lead to death.

The Environmental Impact Statement for this project directly states that maximum average PM_{2.5} concentrations have the potential to exceed safe levels for the nearby Warkworth Village. The current levels of pollution in NSW and particularly in the Hunter are a disgrace.^{13, 14, 15}

Blast plumes from open cut coal mining are unpredictable. There have been multiple blast plumes which due to wind direction have carried over nearby populations. Our health system in the Upper Hunter is not equipped to deal with multiple people presenting with critical illness to emergency departments e.g. what was seen recently with Thunderstorm Asthma events in Melbourne.

Despite raising our concerns about air quality earlier last year, there has been a steady increase in the number of monitoring stations recording particle levels above the recommended annual average.



The sites recording the highest number of days were in closest proximity to existing mine sites, negating the argument that this effect is solely due to drought.

Annual average particulate concentration for 2018 (ug/m³)

Location	PM 2.5	PM 10
Sydney Basin		
Liverpool	10.1	
Chullora	8.6	
Richmond	8.1	
Paramatta North	9.2	
Prospect	8.5	
Campbelltown	8.4	
Lower Hunter		
Carrington	8.2	27.3
Mayfield	8.3	26.9
Beresfield	8.7	
Upper Hunter		
Muswellbrook	9.4	27.2
Singleton	8.1	
Singleton NW		26.9
Camberwell	8.4	31.3
Maison Dieu		27.9
Mt Thorley		29.1
Warkworth		26.4
Rest of NSW		
Wagga Wagga North	8.4	27.4
Tamworth	8.3	

Social Impacts

Singleton is currently facing an affordable housing shortage. The average wait time for affordable public housing according to the Department of Family and Community services is 2-5 years for a 1 bedroom flat, and potentially 5-10 years for a house suitable for a family with children. New mining development is likely to exacerbate this in the absence of any planned new property development^{16, 17, 18} (See). Drive-in, drive-out workforces are also known to increase rates of alcohol related violence in local communities^{16, 17}.

J. Hresc et al.

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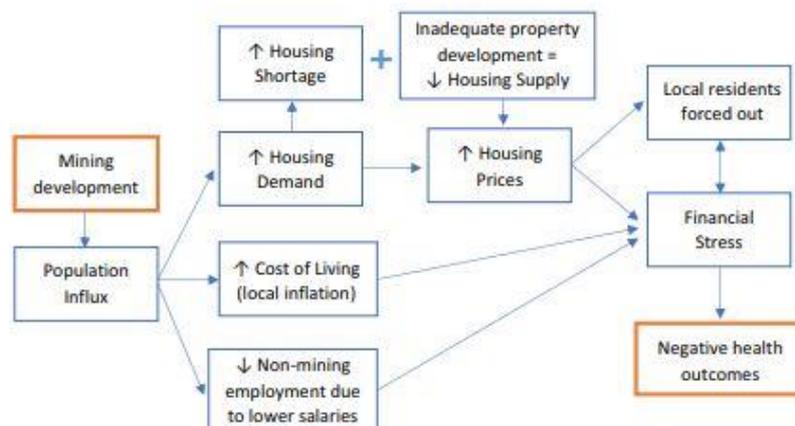


Fig. 1. Causal pathway of mining development indirectly influencing health outcomes of local community residents through indirect economic factors, based on published literature. (↑ means increase, ↓ means decrease).

The current employment characteristics of mining employment in the Hunter Valley have led to skill drain, an increasingly casualisation of the workforce, and traffic congestion. Data from Hunter New England Health has shown that from July 2016 to July 2017 Singleton has had an increase in presentations to our Emergency Department not seen in other areas of the Hunter Valley. Our health system is currently not equipped to deal with this increase.

Water Quality

The Environment Impact Statement states that cumulative drawdown modelling shows a reduction in flow to the Hunter River and Wollombi Brook. Rates of harmful contaminations of water sources are higher when less freshwater enters a system. We would likely see higher rates of infectious diseases, bacteria and parasites in the Hunter River.

Environmental Impacts

This project poses a risk to the threatened species Regent Honeyeater, Swift Parrot and Spotted tailed Quoll. The rehabilitation planned for this project does not meet community standards. The two large voids left at the end of this project pose risk of ongoing air pollution, salinity and negative ground water effects.

References

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