

# Submission to NSW Government Planning and Environment on the Rocky Hill Coal Project

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## Submission into the amended development application and revised EIS of the Rocky Hill Coal Mine Project<sup>1</sup>

Doctors for the Environment Australia (DEA) is an independent, self-funded, non-government organisation of medical doctors and students 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 health risks- 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.

DEA objects to the Rocky Hill Open Cut Coal Mine Project because of the significant threat to health of local and global communities resulting from pollutants produced at all steps of the coal life-cycle from mining, transportation and washing to combustion and disposal of combustion wastes.<sup>2,3</sup>

## Global Effects

### Climate Change and Combustion of Coal

Climate change is widely regarded as the biggest threat to health in the 21<sup>st</sup> century<sup>4</sup> and burning coal is one of the major contributors.<sup>5</sup> There are multiple health effects of climate change. For instance, by 2050, it is estimated that climate change will be causing an additional 250,000 deaths each year just from malaria, diarrhoeal disease, heat stress, and under-nutrition.<sup>6</sup>

To avoid a rise of greater than 2°C, 80% of known coal reserves must stay in the ground<sup>7</sup>. The burning of 21 million tonnes (Mt) as projected by mining at Rocky Hill, might be a small contribution in the overall scheme of things, but the cumulative impact of ongoing coal mining here and elsewhere, inevitably will worsen health for people world-wide - who are already dying at the rate of 200,000 premature deaths per year from coal combustion<sup>8</sup>. It is a fundamental flaw in human thinking to ignore this potential health impact.

Regrettably, the EIS under-states the negative impact of this mine on global greenhouse gas emissions as follows: *"Average annual Scope 1 emissions from the amended Project (0.1 million tonnes [Mt] CO2-e)*

*would represent approximately 0.02% of Australia's commitment under the Kyoto Protocol (591.5Mt CO<sub>2</sub>-e) and a very small portion of global greenhouse emissions, given that Australia contributed approximately 1.12% of global GHG emissions in 2012".* This is a misleading analysis of the climate impacts of this project because the coal from this mine when burned would release 50.4, not 0.1Mt of CO<sub>2</sub>; this accounting may be legal but it is without ethical justification to assess a coal mine on only Scope 1 emissions.

DEA holds the view that the contribution to greenhouse gas emissions is an over-riding reason to prevent development of this (or any other fossil-fuel-based) mining activity.

## **Local Effects**

### **Impacts on workers and nearby residents**

In addition to global impacts, there are negative health risks both for individual miners (miner's lung and accidents) and for local communities (cumulative effects of poor air quality, blasting and light pollution) from this mine.

Populations living close to coal mines, for example the residents of Warkworth village, Maison Dieu, Jerrys Plain, Bulga and Singleton have been identified as the most at risk from poor air quality in the Upper Hunter.<sup>9,10</sup> The village of Gloucester is even closer to the Rocky Hill mine proposal than most of the above mentioned townships. Consequently, the village of Gloucester and the nearby community will have corresponding increases in health risk.

The health risks arise from:

### **Deteriorating Air Quality**

This project is very close to a number of homes:

- 900m to 1800 m of the Forbesdale Estate
- 1.8 to 2.5 km from the Thunderbolts and Avon View residential estates
- 1.8 to 2.5 km from the houses along Bucketts Way

People living in proximity to open-cut mines have increased rates of: cardiopulmonary disease, chronic obstructive airway disease, hypertension, kidney disease, strokes, asthma and mortality and hospitalisation for obstructive pulmonary disease. Children have increased: respiratory symptoms (wheeze and cough), blood levels of lead and cadmium, school absences, neural tube defects, chances of low birth weight (which is a risk factor for future obesity, diabetes and heart disease)<sup>11</sup>. Particulate matter such as PM<sub>2.5</sub> and PM<sub>10</sub> is a likely

cause for a component of this mortality and morbidity. Particulates can trigger heart attacks and strokes and have been deemed carcinogenic by the World Health Organization (WHO)<sup>12</sup>.

The Environmental Impact Statement for this project uses the old 30mcg/m<sup>3</sup> level for annual PM<sub>10</sub> rather than the National Environment Protection Measures (NEPM) agreed levels of 25µg/m<sup>3</sup> in force since December 2015<sup>13</sup>. In 2013 however, the WHO stated: "*There is no evidence of a safe level of exposure (to PM<sub>10</sub> or PM<sub>2.5</sub>) or a threshold below which no adverse health effects occur.*" Mortality rates from non-accidental causes increase more than 3% with every 10mcg/m<sup>3</sup> increase in PM<sub>2.5</sub>.<sup>14,15</sup>

What is worse, but typical of fossil-fuel developments, is that there is no independent EPA baseline data regarding the air quality in Gloucester. The EIS states "*The Applicant considers it is unnecessary to establish any monitoring locations within Gloucester township given the range and location of monitoring locations between the Site and the township and the modelling outcomes.*" Air pollution is however of most concern where substantial numbers of people are exposed to it. This is a blatant disregard for the wellbeing and health of the local population. It is highly concerning that the proponents for this submission would disregard the health of the local population.

DEA makes these recommendations:

- if the mine proceeds, there should be air quality monitoring by the EPA within Gloucester township commencing prior to mining activity
- because it has been demonstrated at other sites that there can be errors in monitoring when companies monitor their own air quality, the air quality baseline study needs to be independently performed
- ongoing air quality monitoring is also required and also needs to be independently performed
- because it is unclear from the submission what will be the process if there is a deterioration in air quality, the criteria for suspending operations need to be defined (Will the mines operations be suspended until air quality has improved for a day? for a week? for the life for the project?).

### **Intrusive Blasting**

The EIS states that there may be up to 4 blast plumes per week at the Rocky Hill mine. Blast fumes are unpredictable and are potentially dangerous for those residents within a 2km radius. Possible sequelae from nitrogen dioxide exposure are respiratory irritation, pulmonary oedema and death.

Blast plumes sometimes travel rather than disperse. In recent years a number of workers at Mt Thorley were hospitalised after a plume travelled 3km from the Warkworth mine. A similar blast plume asphyxiated miners in QLD after travelling 6km from the blast site. This problem remains a public safety hazard and has not been addressed. The movement of blast plumes is unpredictable and allowing ANFO blasting within 2km of a residential area shows reckless disregard for public safety.

If this mine were to go ahead, DEA recommends an extensive health education programme for the local community on how to protect children in the event of a blast plume. There would need to be a guarantee that ALL members of the community were informed regarding the health effects of a blast plume. There would need to be an upgrade of the local health facility to be able to manage multiple victims from a serious blast plume event.

### **Light Pollution**

The EIS has no mention of light pollution. Light pollution causes a disruption of circadian rhythms resulting in sleep/wake disturbance, body temperature disturbance, hormonal dysregulation and effects patterns of gene expression possibly increasing the risk of cancers such as breast cancer.<sup>16</sup>

Gloucester is a unique environment. There is a low level of night time light. The evening and night time operation of this mine will significantly increase the night time light levels resulting in potential health consequences. If the mine were to proceed these effects could be minimised by turning off site lights at 10pm, by environmentally sensitive lighting design, and shielding vegetation to minimise off site exposure.

### **Social Effects due to inequitable risks and benefits**

*"Gloucester Shire Council has been motivated to oppose the amended Project primarily because of its proximity to the township and the fact that some of the proposed mine will be on land that has been zoned E3, Environmental Management. Council recognises the value of mining to the local economy but does not want a mine in this zoning and in this proximity to the township of Gloucester."*

There is already social disharmony due to this project. There are those who are concerned about the impacts on their health and the environment. There are those whose properties are affected. There are those who want the project to proceed. Consequently, the town has already been affected. It is probable that as the project proceeds that there will be further social disharmony between these groups.

There are significant social impacts with the influx of workers at the onset of this type of project. There is a change in the components of the population. This effects the availability of housing. Initially there is a shortage of housing but once the construction phase has been completed, there is an oversupply of housing. This has impacts on house pricing. This circumstance has been seen elsewhere for example Gladstone, QLD and currently in Darwin, NT where house prices are declining due to the movement of workers.

## Fire Hazard of Open Cut Coal Mines

Given the proximity of the village of Gloucester to the open cut mine pit and given the events of Hazelwood coal mine fire in 2014, which is likely to have resulted in an increase in deaths in the La Trobe Valley in 2014, a detailed plan needs to be made to be prepared for this type of event in Gloucester. This would require more than a plan with the local rural fire service. A fire of this type will need a state-wide approach and consequently detailed planning needs to be made to deal with this eventuality.

## Conclusion

The proponent has not satisfactorily resolved the issue of greenhouse gas emissions, the deterioration in air quality, the social impact, or addressed the impact of light pollution.

On the basis of these criteria, this project is not justified. DEA opposes the Rocky Hill Coal Mine Project.

## References

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- <sup>1</sup> [http://majorprojects.planning.nsw.gov.au/index.pl?action=view\\_job&job\\_id=5156](http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=5156)
  - <sup>2</sup> Castleden WM, Shearman D, Crisp G and Finch P. The mining and burning of coal: effects on health and the environment. The Medical Journal of Australia, 195: 333–335 (2011)
  - <sup>3</sup> Climate Council Briefing paper: Health effects of coal  
<http://www.climatecouncil.org.au/uploads/d2b6cbbfff522e700c99f3c4e3c0aee0.pdf>
  - <sup>4</sup> Costello A, et al. Managing the health effects of climate change. The Lancet 373:1693-1733 (2009)
  - <sup>5</sup> Lockwood A, et al. Coal's Assault on Human Health: A Report from Physicians for Social Responsibility (2009) <http://www.psr.org/assets/pdfs/psr-coal-fullreport.pdf>
  - <sup>6</sup> Chan M. Climate change and the right to health. WHO Human Rights Council panel discussion, Geneva (2016) <http://www.ohchr.org/Documents/Issues/ClimateChange/Impact/MargaretChan.doc>
  - <sup>7</sup> Leaton J, et al. Unburnable Carbon: Australia's carbon bubble. The Climate Institute (2013). [http://www.climateinstitute.org.au/verve/resources/Unburnable\\_Carbon\\_Australias\\_Carbon\\_Bubble\\_finalreport.pdf](http://www.climateinstitute.org.au/verve/resources/Unburnable_Carbon_Australias_Carbon_Bubble_finalreport.pdf)
  - <sup>8</sup> Burt E, et al. Scientific Evidence of Health effects from Coal Use in Energy Generation. Healthcare Research Collaborative, University of Illinois at Chicago School of Public Health (2013).

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- <sup>9</sup> NSW Health, 2010, Respiratory and cardiovascular disease and cancer in the Hunter New England Area Health Service, Sydney. <http://www.health.nsw.gov.au/environment/Publications/HNE-respi-cardio-disease.pdf>
- <sup>10</sup> NSW Office of Environment and Heritage "Upper Hunter Air Quality Monitoring Network" 2012 Annual Report <http://www.environment.nsw.gov.au/resources/aqms/140090UHAQMN12AR.pdf>
- <sup>11</sup> Hendryx M, and Ahern MM. Relations between health indicators and residential proximity to coal mining in West Virginia. Am J Public health 98: 669-671 (2008)
- <sup>12</sup> International Agency for Research on Cancer. Outdoor air pollution a leading environmental cause of cancer deaths. WHO Press Release No. 221 (2013)
- <sup>13</sup> National Environment Protection Council. Variation to the Ambient Air Quality NEPM – particles standards (2015) <http://www.nepc.gov.au/resource/variation-ambient-air-quality-nepm---particles-standards>
- <sup>14</sup> Cesaroni A, et al. "Long-Term Exposure to Urban Air Pollution and Mortality in a Cohort of More than a Million Adults in Rome." Environmental Health Perspectives 121: 324-331 (2013)
- <sup>15</sup> Pope CA, et al. Cardiovascular mortality and exposure to airborne fine particulate matter and cigarette smoke: shape of the exposure-response relationship. Circulation 120:941-948 (2009)
- <sup>16</sup> Stevens RG, and Zhu Y. Electric light, particularly at night, disrupts human circadian rhythmicity: is that a problem? Phil.Trans. R. Soc B 370:2014120 (2015) DOI: 10.1098/rstb.2014.0120