

Submission on the Wollongong Coal Ltd Russell Vale Revised Underground Expansion Project (Major Project 09-0013)

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Doctors for the Environment Australia (DEA) is a non-profit organisation comprised of Australian medical doctors and students with the goal of promoting human health by advocating for preservation and care of the environment.

It is the position of DEA that ongoing coal mining and combustion poses an unacceptable health risk due to greenhouse gas emissions, air pollution and destruction of the local environment. In this case the latter includes destruction of Aboriginal heritage and damage to the water catchment of Greater Sydney. For this reason, we oppose the Russell Vale underground expansion project.

The proposed Russell Vale Mine expansion project will harm the health of the community. And it will harm people in different ways, further reinforcing existing inequities in health and wellbeing experienced by individuals and communities in the Illawarra.

Aboriginal cultural heritage destruction

Wollongong Coal's Revised Underground Expansion Project proposal document considers Aboriginal cultural heritage only in passing. It is difficult to find information relating to Aboriginal cultural heritage in this document. Table 5.1 in the UEP states that "several aboriginal heritage sites have been previously identified within the UEP area. These sites are mainly associated with rock shelters in sandstone cliff formations, and grinding groove sites on upland sandstone outcrops".

These sites are very vulnerable to subsidence-related damage. [Media stories](#) in recent weeks have described the damage to Whale Cave, a site within the Illawarra Escarpment area known for its extensive rock art and estimated to be 6000 years old. It is believed that Whale Cave was irreparably damaged by bord-and-pillar mining at the Nebo Colliery in 1979. It is now being held up by wooden posts, but the rear wall of the cave is continuing to collapse. It is believed that there are as many as 4000 aboriginal cultural heritage sites across the Illawarra Escarpment. It is no comfort that Wollongong Coal believes that its bord-and-pillar mining method will not damage cultural sites within and adjacent to the UEP area, and it is telling that the UEP is so lacking in detail about where these sites even are.

Destruction of cultural heritage is part and parcel of the ongoing genocide and dispossession of Aboriginal peoples on this continent. Aboriginal people die on average 8 years younger than their non-Aboriginal counterparts, and rates of mental illness and [suicide](#) are many times greater than the rest of the population. An approval of the Russell Vale UEP will be complicit with the ongoing cultural genocide of Aboriginal peoples, the destruction of invaluable country and history, and contributes in very real terms to the ongoing poor health outcomes for Aboriginal people in this continent.

Sydney Water Catchment

Water is an essential environmental determinant of health. Clean and plentiful supplies of water in Greater Sydney are dependent on our natural catchments. At present, Sydney's 16,000 square km drinking water catchment provides good quality and quantity of water – enabling the continuous delivery of over 500,000 million litres in 2013-14 - to about 4.5 million households and businesses in the Sydney, Illawarra, Blue Mountains, Southern Highlands, Goulburn and Shoalhaven regions.

Despite good current access to water coming through Sydney's taps, The World Resources Institute report entitled [Aqueduct Global Maps 2.0](#) identified the Sydney area as already being under water stress (defined as "total annual water withdrawals (municipal, industrial,

and agricultural) expressed as a percent of the total annual available flow)". Inter-annual variability and threats to amphibian species (indicating ecological health of catchments) are extremely high. Future risk modeling scenarios by the WRI taking into account as much as possible predicted climate change impacts and population increase to 6.5 million in 2050, suggest the water stress will significantly increase for the Sydney and Illawarra regions. While increased demand can be mitigated partially by water conservation and additional water sources such as recycling and desalination, it is critically important firstly that the health and capacity of our current water supply system, fed by rain water and river systems, is maintained as the primary source of drinking water to meet this demand.

[WaterNSW](#) is aware of the detrimental effect of coal mining within the water catchment areas, including the Russel Vale mine in the Cataract catchment. A [report commissioned in 2016](#) clearly describes the damage to the catchment such mining causes, and the gaps in knowledge of the effects of even current mining. Such damage threatens the integrity of the catchment, and its ability to provide adequate drinking water from a thriving ecosystem.

Mining in the Russell Vale expansion will take place in the Special Areas of the Greater Sydney Water Catchment and up to an area underneath the shores of the Cataract Reservoir. It is particularly risky mining – despite being bord and pillar method, not longwall – because a third seam of coal is being mined beneath two previously mined seams. Triple seam mining has little precedent and impacts are difficult to predict.

Recent information shows that even existing subsidence may be much greater than originally estimated. [A meeting between the Resources Regulator and the IPC Panel](#) on 13 October 2020 reveals that subsidence has continued above longwalls 4 and 5. What was reported several years ago as 1.4 metres of subsidence (still nearly 5 times the predicted subsidence of 30cm) is now 1.78m of subsidence.

[A recent open letter to the Premier of NSW](#) from concerned scientists with expertise in hydrology, chemistry, geology and Earth science, environmental and ecosystem science, and public health, urged an ongoing suspension of the approval processes for any further planning applications or post-approval plans (Subsidence Management Plans and Extraction Plans) for mining in the Schedule 1 Special Areas of the Sydney Drinking Water Catchment.

"The suspension should remain in place until the cumulative impacts and consequences of mining to date can be reliably assessed and quantified, with a suitably high degree of scientific confidence. The suspension should remain in place until predictive estimates of the compounding effects of new mining proposals can be made with a suitably high degree of scientific confidence."

Current information and data suggest a drinking water loss rate of between 8 and 25 million litres a day as a consequence of mining in the Special Areas. This is likely to be an underestimate of the loss due to *"long recognised deficiencies and inadequacies in data gathering and reporting, alert triggers, data and information access, modelling, knowledge and understanding."* The integrity of the water catchment of 5 million people is being literally undermined, and further expansion of coal mining in the catchment will exacerbate the problems with unforeseen and cumulative impacts. In this time of climate change and global heating with more severe and prolonged droughts we can ill afford to be so careless with one of our biggest public health assets.

Air Pollution

The Russell Vale colliery is the closest mine to a suburban area in Australia. Homes are within 300 metres of the coal stockpile, and schools and preschools are within hundreds of metres of the stockpile.

There is [extensive medical literature](#) detailing the strong links between PM2.5 and PM10 pollution and a host of health conditions, such as cardiorespiratory disease, cerebrovascular disease, and cancers. It is clear that there is no level of PM2.5 or PM10 exposure that can be considered “safe”, and indeed the cumulative exposures to this particulate air pollution has an additive damaging effect on health. Indeed, one of the Public Health Association of Australia’s [key policy](#) positions is *there is no known absolute safe level for inhalation of particulate matter so population exposure should be minimised.*

The revised Underground Expansion Project (UEP) proposes two new coal stockpiles - bringing the total to three - an onsite coal processing plant, as well as 32 coal trucks an hour transporting the coal through residential areas to the Port Kembla Coal Terminal. It is notable in the UEP document that the contribution of the 32 trucks an hour to the air pollution along the transport corridor is not considered in modelling. Particulate pollution from diesel engines is a notable carcinogen, with demonstrated links to bladder and lung cancers. Local residents along the coal truck route will be exposed this pollution and increased cancer risk should the expansion be approved.

It is also unclear what weather conditions were considered in the modelling of PM2.5 and PM10 concentrations in Section 6. Anyone who lives in the Illawarra knows that the region is often experiences very windy weather, especially in the Northern Suburbs where the Russell Vale Mine is located. It is unclear what the spread and concentration of this particulate pollution will be during windy weather. This ambiguity is especially concerning as there are predicted to be exceedences of the 24-hour average PM10 criterion to the north of the Russell Vale site - we do not know how the wind will effect these air pollution levels.

It is clear that the air pollution from the Underground Expansion Project will harm the health of the communities living near the mine and along the trucking route. There is no safe level for inhalation of particulate matter. These harms will disproportionately affect the already-vulnerable: very young, very old, pregnant people, and those with pre-existing health conditions. Approval of the UEP will worsen health outcomes and deepen health inequalities in these communities.

Greenhouse gas emissions

The UEP estimates that a total of 11,147,000 tonnes of CO2 equivalent will be generated over the 5 year life of the mine. This is comprised of 1,523,000 tonnes of Scope 1 and 2 emissions, and 9,624,000 tonnes of Scope 3 emissions. If approved, the Russell Vale Mine would be one of the Top 100 emitters of Scope 1 emissions in Australia.

[The Lancet Commission in 2009](#) declared that “climate change is the biggest global health threat of the 21st Century”. The 2019 report of the Lancet Countdown on health and climate change described these issues as follows:

- “a child born today will experience a world that is more than four degrees warmer than the pre-industrial average, with climate change impacting human health from infancy and adolescence to adulthood and old age
- across the world, children are among the worst affected by climate change

- through adolescence and beyond, air pollution - primarily driven by fossil fuels, and exacerbated by climate change - damages the heart, lungs and every other vital organ... total global air pollution deaths reaching 7 million {in 2016}
- later in life, families and livelihoods are put at risk from increases in the frequency and severity of extreme weather conditions, with women among the most vulnerable across a range of social and cultural contexts
- finally, although difficult to quantify, the downstream risks of climate change, such as migration, poverty exacerbation, violent conflict, and mental illness, affect people of all ages and all nationalities.”

Furthermore, climate impacts will not affect everyone equally. To quote the Lancet again, “by undermining the social and environmental determinants that underpin good health, climate change exacerbates social, economic and demographic inequalities”.

There is no other regulatory body on the planet that currently has the power to assess the impact that the Scope 3 emissions from the Russell Vale Extension Project will have on climate change over the coming years. This is a responsibility that lies wholly with the consent authorities of New South Wales.

The argument that the Russell Vale Mine will contribute only a small proportion to the overall greenhouse gas emissions “balance” of this country, is specious. There is an overwhelming amount of evidence to demonstrate the immediate need to make drastic cuts in greenhouse gas emissions, to avoid widespread devastation to human societies and the biosphere as a whole. To approve the UEP would be to deny an immense body of scientific literature, and to disregard the contribution of each and every project to the overall picture of greenhouse gas emissions. To approve this project is to endorse climate-related harms to our communities, and to signal that the community’s health and wellbeing is a secondary consideration in the face of resource extraction.

Conclusion

The Russell Vale Mine Underground Expansion Project proposal poses clear harms to the health of the communities of the Illawarra, Greater Sydney and beyond. DEA opposes this project, and we voice our concern for the thousands of individuals set to suffer the lifelong health impacts that Wollongong Coal’s operations would deliver to the region. We have an opportunity before us to preserve invaluable Aboriginal cultural sites, prevent damage to the water security of millions of people, improve air quality, and decrease greenhouse gas emissions that contribute to the unfolding climate health emergency. The IPC has an opportunity to protect the health and wellbeing of our communities for generations to come.