

REPORT BRIEF:

IS COAL MINING HARMING OUR HEALTH?



- Clear evidence internationally that living near coal mines or coal power stations causes serious harm to health.
- Hunter Valley has one of the highest concentrations of coal mining and combustion in close proximity to communities in Australia - yet no primary studies addressing the health impacts of coal.
- There are plans to at least double coal mining in the Hunter Valley.

FACTS ABOUT COAL

- With 30-40 active coal mines and six coal-fired power stations, the Hunter Region of NSW has the highest concentration of coal mining and coal burning in close proximity to population centres and farmland in Australia.
- Around 16% (approximately 315 square kilometres) of the Upper Hunter Valley is occupied by open cut coal mines.¹
- Burning coal is the single largest cause of global warming, described by the world's leading medical journal, The Lancet, as "the biggest health threat of the 21st century".²
- There are already regular alerts for dangerous particulate pollution exceeding national health standards in the Hunter Valley.
- Despite this, coal mining in the Hunter Valley is expected to double in the next few years, with another 30 major new mines or mine expansions as well as a huge new coal export terminal at Newcastle.
- Health problems associated with using coal as an energy source in Australia have been estimated to cost \$2.6 billion per year.³
- Less than half of one per cent of the Australian workforce is employed by the coal mining industry – an industry which is 87% foreign owned.
- Australian taxpayers provide enormous subsidies to the coal industry. For instance, the Federal Government funding for the Hunter Valley Corridor Capacity rail upgrade alone cost \$855 million.
- The tax rebate on the diesel that fuels the trucks and machinery amounts to a \$2 billion a year subsidy for the Australian mining industry. This is equivalent to an \$87 annual contribution from every Australian.¹
- These subsidies exist without any clear, primary studies addressing the health impacts of coal in Australia.

1. Rosewarne, S. & Connor, L. (2012) Coal curse: the black side of the subsidised resources boom, The Conversation, 3 July 2012

2. <http://www.thelancet.com/climate-change>

3. ATSE (2009) The Hidden Costs of Electricity: Externalities of Power Generation in Australia, Australian Academy of Technological Sciences and Engineering -

THE ANSWER IS... YES.

There is evidence from the international health literature that living near coal mines or coal fired power stations can cause serious harm to human health.⁴

THE REAL QUESTION IS... TO WHAT EXTENT?

4. Colagiuri R, Cochrane J, Girgis S. Health and Social Harms of Coal Mining in Local Communities; Spotlight on the Hunter Region. Beyond Zero Emissions. Melbourne, 2012



Photograph by Tim J Keegan

AUSTRALIA IS ONE OF THE WORLD'S LARGEST COAL EXPORTERS YET WE DON'T HAVE CURRENT PRIMARY STUDIES ADDRESSING THIS QUESTION

In the absence of primary research in Australia into the health impacts of coal, despite plans for a massive expansion of coal mining activity and public concern about the issue, Beyond Zero Emissions commissioned a report on the status of the international evidence about the impacts of coal mining activity for local communities.

The report, “Health and Social Harms of Mining in Local Communities; Spotlight on the Hunter Region” reviewed 50 international peer reviewed studies on the health and social impacts of coal mining and combustion.

It highlights a number of adverse health effects reported from a diverse range of countries. These effects range from excess deaths and increased rates of cancer, heart, lung and kidney disease and birth defects to minor respiratory complaints.

It is likely that many of these impacts – especially those experienced by communities in comparable countries - would also apply in Australia.

The full report can be accessed at:

<http://beyondzeroemissions.org/blog/coal-health-report-121023>

and a selection of the main health findings is provided overleaf.



Photograph by Jeremy Buckingham

SUMMARY OF HEALTH IMPACTS

Adults in coal mining communities have been found to have:

- Higher rates of mortality from lung cancer and chronic heart, respiratory and kidney diseases.
- Higher rates of cardiopulmonary disease, chronic obstructive pulmonary disease (COPD) and other lung diseases, hypertension, kidney disease, heart attack, stroke and asthma.
- Increased probability of a hospitalisation for COPD (by 1% for each 1,462 tons of coal mined) and for hypertension (by 1% for each 1,873 tons of coal mined).
- Poorer self-rated health and reduced quality of life.

Children and infants in coal mining communities have been found to have:

- Increased respiratory symptoms including wheezing and coughing; increased absence from school due to respiratory symptoms.
- A high prevalence of any birth defect, and a greater chance of being of low birth weight (a risk factor for future obesity, diabetes and heart disease).

Communities near coal-fired power plants and coal combustion facilities have been found to have:

- Increased risk of death from lung and some other cancers.
- Increased risk of heart attack.
- Increased asthma rates and respiratory symptoms.
- Higher rates of preterm birth, low birth weight, miscarriages and stillbirths.

SUMMARY OF SOCIAL IMPACTS

- Water pollution, impacting secure access to safe water for drinking, producing food, swimming and fishing.
- Slurry spills.
- Distress resulting from concerns and uncertainties about health impacts of mining-related pollution.
- Costs of environmental damage, including from global warming, to communities and society.
- Inability of the community to capture economic benefits.
- Social changes inhibiting economic activities other than mining.
- Labour shortages in other industries.
- Increased road traffic accidents.
- Increased pressure on local emergency services.
- Increases in criminal and other anti-social behaviours.

SPOTLIGHT ON THE HUNTER REGION

Despite the high concentration of coal mining and combustion and the proposed expansion of mining, there is a lack of primary evidence about the health harms of coal mining in the Hunter Region. However, there are several studies detailing social impacts such as:

- Social distress including concerns over the cumulative health impacts of mining, deepening social divisions and inequalities, and feelings of loss and disempowerment.
- Pollution/poor air quality, environmental hazards and damage, and the potential for these to impact on future generations.
- Asymmetry of power and influence including access to information, contestation over natural resources, and political conflicts of interest.
- The lack of mechanisms for local input into the granting of mining licenses.
- 'Failure to protect' - specifically the failure of government and the mining industry to adhere to the precautionary principle and protect local communities from potential or actual harms.

IN VIEW OF THESE FINDINGS AND OTHER EVIDENCE BZE CALLS FOR:

1. The NSW Government to undertake well designed local studies to obtain primary evidence capable of accurately quantifying the health impacts of coal mining and combustion in the Hunter Valley, before approving any new mines or major coal infrastructure.
2. The establishment of a statutory authority independent of government and the coal industry to undertake all monitoring of harmful impacts to land, air and water from coal mines and power stations.
3. Comprehensive cost benefit analysis including all health, social and environmental externalities to be undertaken before the approval of any new coal mines, mine expansions or coal power stations. This includes the contribution that coal makes to global warming and the cost of the impacts from this via worsening and more frequent droughts, bushfires, floods, heat waves and storms.
4. A minimum buffer zone between human habitation and all new open cut coal mines, mine expansions, coal and port infrastructure. The size of the buffer zone should be based on independent modelling of PM 10 and PM 2.5 particle dispersion which takes into account all existing and future projected climatic conditions. Until this modelling has been completed a precautionary 10 km buffer zone should be established.
5. Comprehensive monitoring of PM 10 and 2.5 particulates by the independent authority in relation to all existing and proposed mines, port and rail infrastructure. Removal of the diesel fuel subsidy for mining activities. The fumes from diesel have been recently listed by the World Health Organisation as a carcinogen.



A REPORT BRIEF OF “HEALTH AND SOCIAL HARMS OF MINING IN LOCAL COMMUNITIES; SPOTLIGHT ON THE HUNTER REGION”

There is clear evidence from the international health literature that living near coal mines or coal power stations causes serious harm to peoples health.

Burning coal is also the single largest cause of global warming, which the world’s leading medical journal, The Lancet, has described as “the biggest health threat of the 21st century”.

The report “*Health and Social Harms of Mining in Local Communities; Spotlight on the Hunter Region*”, commissioned by Beyond Zero Emissions looks at 50 peer reviewed studies on the health and social impacts of coal mining and combustion on local communities around the world.

It highlights a number of adverse health effects reported from a diverse range of countries. These effects range from excess deaths and increased rates of cancer, heart, lung and kidney disease and birth defects to minor respiratory complaints.

It is likely that many of these impacts – especially those experienced by communities in comparable countries - would also apply in Australia. Yet there are no primary studies addressing the health impacts of coal in Australia.

Against this backdrop there are at least 30 new coal mines and mine expansions planned for the Hunter Valley. An enormous new coal export terminal in Newcastle that would at least double the region’s coal export capacity is on the verge of approval without any health impact assessment being undertaken.

Beyond Zero Emissions hopes this report will play a role in better informing policy debates on this urgent issue.

About Beyond Zero Emissions

Beyond Zero Emissions Inc. is a not-for-profit research and education organisation developing blueprints for the implementation of climate change solutions. Our goal is to transform Australia from a 19th century fossil fuel based economy to a 21st century renewable powered clean tech economy. Through the Zero Carbon Australia research project BZE is encouraging climate change policy that is in line with the science. By sharing this research with thousands of Australians via the Repower Australia talks program, BZE is engaging, educating and inspiring the community with real and positive solutions to climate change.

We accept the findings of the most current science, which shows that we have already allowed climate change to go too far, and must act immediately to reduce our levels of greenhouse gas emissions to zero and below.



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