QUIT COAL SUBMISSION TO THE SENATE COMMITTEE ON THE IMPACTS ON HEALTH OF AIR QUALITY IN AUSTRALIA

15th March 2013

Dear Committee Members,

Thank you for holding this inquiry.

Quit Coal wishes to make a submission in relation to coal mining, use and exports in relation to air quality impacts, resultant impacts on public health and inadequacy of current processes for community involvement in these issues.

About Quit Coal

Quit Coal is a volunteer-based, collectively run community group based in Melbourne, Victoria but with branches in Sydney, NSW and now Brisbane, Queensland. Quit Coal was independently founded and is now a member of Friends of the Earth Australia. We have a wide volunteer base of hundreds active members and a much broader network of thousands of supporters who receive our communications. Our volunteers come from all walks of life including teachers, child care workers, trades people, small business operators, medical and health professionals and students. Our members are united by a concern about the impacts of coal and coal seam gas mining on farmland, water, health, communities and the climate change. We use a wide variety of public engagement and advocacy techniques with the aim of creating rapid and meaningful positive change on these issues. We welcome the opportunity to participate in the Senate Committee process.

Our submission is structured to respond to the terms of reference.

PART A: The impacts on health of air quality in Australia: particulate matter, its sources and effects;

Electricity generation (primarily coal-fired) and coal mining are the two largest sources of particulate matter of size 2.5 micron or less (PM2.5) in Australia. [1,] The two largest single emitting facilities are Loy Yang Power and Yallourn Power in Victoria's Latrobe Valley, with Victoria's Loy Yang B and Hazelwood power stations all in the top six national emitters. Eight of the nations top ten emitters of PM2.5 are power stations. [2]

Coal mining is the largest source of particulate matter of size 10 micron of less (PM10) in Australia, with coal combustion for energy generation the 6th greatest source.[,3]

Health problems associated with these particles include immediate impacts on serious heart and lung problems including irregular heart beat, heart attack, asthma, chronic lung disease and other lung symptoms such and cough and wheezing. Long term effects of exposure include worsening of heart disease (including ischaemic heart disease which includes heart attacks) and chronic lung disease. They are also associated with deaths from lung cancer. Of particular concern, these particles are shown to impair lung development in children, lead in an increased rate of respiratory deaths in infants and can trigger childhood asthma attacks which may be life threatening. The health impacts of particulate matter are well established in a wide body of international literature accumulated over decades.[4,5,6]

References:

1) Source: National Pollutant Inventory

http://www.npi.gov.au/npidata/action/load/emission-by-source-result/criteria/year/2011/destination/ALL/substance/92/source-type/ALL/subthreshold-data/Yes/substance-name/Particulate%2BMatter%2B2.5%2Bum

2) Source: National Pollutant Inventory http://www.npi.gov.au/npidata/action/load/emission-by-facility-result/criteria/year/2011/destination/ALL/substance/92/source-type/ALL/subthreshold-data/Yes/substance-name/Particulate%2BMatter%2B2.5%2Bum?sort=airTotal&dir=desc&pageSize=20
3) Source: National Pollutant Inventory http://www.npi.gov.au/npidata/action/load/emission-by-source-result/criteria/year/2011/destination/ALL/substance/70/source-type/ALL/subthreshold-data/Yes/substance-name/Particulate%2BMatter%2B10.0%2Bum
4) http://www.npi.gov.au/npidata/action/load/emission-by-source-result/criteria/year/2011/destination/ALL/substance/70/source-type/ALL/subthreshold-data/Yes/substance-name/Particulate%2BMatter%2B10.0%2Bum
5) **Effects of air pollution on children's health and development**, World Health Organization Special Programme on Health and Environment, European Centre for Environment and Health, Bonn office, 2005. (www.euro.who.int/document/e86575.pdf).
6) **Health aspects of air pollution with particulate matter, ozone and nitrogen dioxide,** World Health Organization. Report on WHO working group Jan 2003. (www.euro.who.int/__data/assets/pdf_file/0005/112199/E79097.pdf)
7) WHO Air Quality Guidelines Global Update 2005 Report On A Working Group Meeting, World Health Organization. Bonn, Germany, 18-20 October 2005. Copenhagen, WHO Regional Office For Europe (www.euro.who.int/__data/assets/pdf_file/0005/78638/E90038.pdf)

PART B: The impacts on health of air quality in Australia: populations most at risk and the causes that put those populations at risk;

There is no reason to believe that the serious health risks outlined above are not impacting on communities currently living around coal facilities around Australia. However, the lack of Australian research [1] that investigates this link is a clear failing of systems surrounding public health in Australia to date.

Very little research has been carried out even though for nearly a decade coal communities like those in the Upper Hunter region of New South Wales have been asking for comprehensive health studies. [3]

More extensive research carried out in the US found that the costs of air pollution caused by the coal fired power industry were at best 80 per cent of industry value added and at worst 5.6 times greater. [4]

A 2005 study found the cost of pollution from power stations was about $62 billion or 3.2 cents for every kilowatt-hour of energy produced, with health costs the major contributing cost. [5] When mining and climate change costs were added in a study published in the New York Academy of Science, 18c per kWh was added to the cost of electricity. [6]

Testimony before the US House Oversight Subcommittee on Energy Policy, Health Care, and Entitlements estimated the human health cost of coal fired electricity to be between $37 billion and $90 billion annually [6].

The damage arising from mining and burning coal doubles or triples the true cost of electricity generation. [7]

While health impacts are likely to be greater in the US, due to greater externalities, the impact in Australia is still considerable. A modest study by the Australian Academy of Technological Sciences and Engineering estimated the cost to be $2.6 billion per annum. This study included all externalities from electricity combustion, including the health burden of coal, but excluded the externality costs of mining and transport within regions like the Hunter. [8]

Within those populations exposed to poor air quality related to coal, those at highest risk are the elderly, children and those with pre-existing medical conditions including heart conditions, lung conditions, high blood

pressure and diabetes.[2]

Quit Coal Melbourne undertakes outreach and is involved in projects with communities in the Latrobe Valley, more broadly in Gippsland and in Anglesea, Victoria. This includes working with community members around the Latrobe Valley coal mines and coal fired power stations, and in Anglesea, adjacent to the Anglesea coal mine and power station.

Community members in these areas report experiencing health problems that they strongly believe are related to coal mines and/or combustion. In particular there is anecdotal evidence of high rates of related health conditions including asthma and other lung conditions.

These communities are particularly concerned about the health impacts on their children, as well as other vulnerable groups such as the elderly and those already suffering heart and lung conditions.

Examples of particular concern that have been raised with Quit Coal are:

- Anglesea Primary School is located only 800m from the edge of Anglesea coal mine, which is also adjacent to the 150 MW Anglesea Coal Fired Power Station. The Primary School is approximately 1.4 km from the smokestack of the power station.

- Yallourn North Primary School is located approximately 2.6 km from the Yallourn Power Station. Yallourn Power Station is the second largest single source of PM2.5 in Australia.

Most of the communities affected by coal mining and combustion in Victoria are rural and regional areas, which may include a larger proportion of families and individuals of lower socio economic status compared to more wealthy urban areas.

These groups are likely to suffer a greater burden of diseases which can be worsened by exposure to poor air quality.

The communities we work with express a perception that their health is not taken as seriously as that of people in more affluent and urban areas.

These communities are under greater socio-economic pressure to accept mines into their communities in order to provide jobs and maintain their ability to live in rural and regional areas. We feel the government and industry should be be undertaking comprehensive regional development plans for these communities to develop sustainable industries that without the attendant air quality and health impacts of coal. These should include renewable energy projects which provide more jobs per unit of electricity and are also a vital part of Australia's transition to a low carbon economy.

RECOMMENDATIONS

1) Given the overwhelming evidence about the harms of air pollution associated with mining, transport and combustion of coal, Australia's energy, minerals and trade policies should give the highest priority to rapid deployment of renewable energy generation technologies such as wind, solar photovoltaic and solar thermal technologies that produce electricity without the serious health harms associated with coal mining and combustion.

2) Government, working together with local communities and industry, should undertake comprehensive regional development plans for communities currently affected by coal infrastructure to develop sustainable industries that without the attendant air quality and health impacts of coal.

References:

1) Castleden et al, The mining and burning of coal: effects on health and the environment, MJA 2011; 195: 333–335 doi: 10.5694/mja11.10169

2) Executive Summary: Coal's Assault on Human Health, Physician's Society for Responsible Medicine: http://www.psr.org/assets/pdfs/coals-assault-executive.pdf

3) Coal powered energy is a public health issue: http://www.medicalobserver.com.au/news/coal-powered-energy-is-a-public-health-issue

4) William Nordhaus, Environmental Accounting for Pollution in the United States Economy 2011, American Economic Review

5) National Academy of Sciences, 2005.

6) http://www.businessspectator.com.au/article/2013/2/21/resources-and-energy/climate-spectator-taking-account-coals-full-cost#ixzz2Na0lkk46

7) Epstein et al, Full cost accounting for the life cycle of coal, Ann NY Acad Sci 2011; 1219: 73-98

8) Australian Academy of Technological Sciences and Engineering. The hidden costs of electricity: externalities of power generation in Australia. Melbourne:ATSE, 2009. http://www.apo.org.au/sites/default/files/ATSE_Report_Hidden_Costs_Electricity_2009.pdf

PART C: The impacts on health of air quality in Australia: the standards, monitoring and regulation of air quality at all levels of government

A common thread in community concerns is that there is inadequate monitoring and reporting of health impacts associated with coal facilities. These communities have a strong sense that their well being is suffering. They have a deep sense of abandonment and disillusion that Governmental and regulatory authorities have not put in place measures to protect them, nor are there avenues they can take to improve the health of their communities.

Air quality monitoring is at present undertaken under the requirements of the National Environment Protection Measure Ambient Air Quality Standards. These are primarily aimed at population level monitoring for general background levels of Air Quality and specifically exclude monitoring of populations at risk as a result of polluting industry.

In the Latrobe Valley, monitoring of air quality is undertaken by the EPA Victoria in Traralgon, Victoria, which is approximately 15km from Yallourn North Power station, 7 km from Loy Yang Powerstation and 15 km from Hazelwood and Energy Brix Power Stations in Morwell.

Information about their levels of exposure is therefore not available for residents of Morwell, Yallourn, Moe and other nearby townships who could be expected to experience diminished air quality.

In addition, the range of information collected at monitoring stations in Victoria is limited (does not necessarily include PM2.5) and it is not immediately available. Immediately available data is now technically feasible. Information available on a website, or ideally through SMS alerts, would allow residents, particularly the most vulnerable and those caring for them, to take protective action to avoid exacerbation of medical conditions as a result of diminished air quality.

Recommendations:

1) National enforceable rather than advisory standard for PM2.5, which should be a criteria pollutant.
2) Air quality monitoring for relevant criteria pollutants at residential, educational and occupational buildings sited closest to coal mining, transport and combustion facilities.

3) Monitoring data should be immediately available via the internet.
4) Alerts for breaches of air quality standards should be available through free subscription services such as text message, email or social media alerts to those living, working or studying near coal facilities.

PART D: The impacts on health of air quality in Australia: any other related matters.

The final matter we wish to raise is that of avenues open to communities who are concerned about their current level of air quality or possible diminishment in air quality as a result of proposed coal developments.

Communities where coal developments are proposed

We have worked closely with community members at Bacchus Marsh, near Melbourne, who are concerned about the impact of coal dust and other diminishment of air quality associated with a proposed brown coal mine in their area.

This is a growth area, with a high proportion of young families and plays a crucial role in supplying market garden produce to Melbourne.

At the exploration stage of the project, there are no formal avenues to raise concerns regarding air quality and health concerns associated with the proposed development. Community members do not feel they will be adequately protected by current legislation and regulations but have no recourse for their significant concerns until later stages in the proposed development.

Proponents of the project and Governmental bodies, eg, the Department of Primary Industry, are not willing to engage on these issues despite the high level of public concern. For example, the DPI states that it is too early to address these issues as it is not known whether the development will proceed.

There are a number of negative impacts that communities face from the commencement of work on a proposed coal development prior to any requirement of the project proponent or regulatory authorities to address potential air quality concerns.

These include:

- diminishment of property values because of perceived likely impacts of the project, including air quality impacts
- individual and family emotional stress associated with uncertainty about the future financial, health and amenity impact of the possible development.
- negative impacts on the fabric of the community where these issues are unaddressed.

We submit that communities should be assured from the commencement of a project of the adequacy of standards under which a project would proceed to protect their health, livelihood and property values.

Communities near existing coal developments

There are no clear avenues for communities to appeal for improved air quality where current coal infrastructure exists but the community has a reasonable concern that there is inadequate monitoring, inadequate enforcement or that enforceable standards for air quality are themselves inadequate on the basis of evidence available to the community.

One example is the community of Anglesea in Victoria, where people are concerned about the exposure of primary school children to PM10 and PM2.5 levels but enquiries to the Environment Protection Authority, members of Parliament, the Minister for Health and Department of Education have not resulted in any monitoring or measures to address the concerns of the community.

In the absence of clear, demonstrable harm to a single individual or individuals, there is no apparent legal recourse for the community to seek greater protection.

Recommendations:

1) There should be reform of approval processes for coal facilities to ensure that community concerns about air quality and health are heard and responded to at early stages of the approvals process, and that clear avenues exist for appeal against decisions about coal infrastructure on health grounds and that these are easily available to communities.

2) All approvals for new coal mines, power station and coal handling facilities as well as amendments and extensions to existing projects should be required to undergo a Health Impact Assessment process. This should include baseline monitoring of all criteria pollutants and include PM10 and PM2.5 monitoring.

3) Communities living with coal facilities have a reasonable expectation that these facilities should be maintained to world's best practice health and environmental standards including installation of best practice technology for reducing particulates and other pollution. Clear avenues for enforcement of world's best practice standards should exist and be evident to communities living with coal facilities.

4) Clear avenues for appeal should exist where communities have reasonable grounds to believe that diminished air quality associated with coal developments is harming their health.