



Friends of the Earth Brisbane
PO Box 8227,
Woolloongabba, QLD 4102

Submission to the Senate Committee Inquiry into the Impacts of Air Quality on Health

The intention of this submission is to make the Senate Committee aware of the both the scale and also effect on air quality that mining has on the residents of South East Queensland (SEQ) and metropolitan Brisbane even though they are located away from the actual mining areas. We also draw the Committees attention to broader air quality impacts and problems with current approaches to monitoring.

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1.0 Introduction

Air quality is fundamental to the healthy functioning of life. Where air quality is compromised, not only does life suffer immediate effects, but lifelong developmental and accumulate health effects can result.

The quality of air experienced by Australians can also be linked to social justice as more often than not, polluting industries and major roads are sited in poor neighbourhoods, or conversely, the poor must live in such areas where the only affordable housing may be available. This increases the environmental burden borne by the poor and links air quality to other social justice issues including housing, employment and education.

1.1 About Friends of the Earth

We campaign for a world where environmental protection, social justice and economic welfare for all people, go hand in hand. Through our local, national and international networks, we work with the community to communicate, raise awareness, put forward alternatives and take action.

We are the world's largest grassroots environmental network, uniting 76 national member groups and some 5,000 local activist groups on every continent. With over 2 million members and supporters around the world, we campaign on today's most urgent environmental and social issues. We challenge the current model of economic and corporate globalization, and promote solutions that will help to create environmentally sustainable and socially just societies.

Friends of the Earth (FoE) is a federation of autonomous local groups who are working towards an environmentally sustainable and socially equitable future.

Our vision is of a world where everyone's needs are met in a way which safeguards the future of the environment. We campaign for a world where environmental protection, social justice and economic welfare for all people, go hand in hand. Through our local, national and international networks, we work with the community to communicate, raise awareness, put forward alternatives and take action.

The alternative we seek to implement is a sustainable society. This involves a reliance on the use of renewable resources which are equitably distributed. It involves the recognition that there is an inextricable link between people and the environment. FoE sees that pursuing environmental protection is inseparable from broader social justice concerns, and as a result uses an environmental justice perspective in its campaigning.

FoE Australia supports Indigenous sovereignty and works at both the local level with specific Indigenous communities as well as participating in debates and campaigns at the national level.

FoE believes in working for a sustainable and empowering future. To this end, many FoE groups are working now to create the type of world we want: one that will be based on healthy communities and healthy ecosystems.

2.0 Air quality and human health impacts

In recent decades science has become more aware of the detrimental effect of airborne pollution on human health. Particulates, and the minerals from which they are composed, both pose risks.

Particulate sizes smaller than PM_{2.5} are implicated in cardiovascular deaths and lung cancers worldwide as their small size allows them to penetrate the lungs and remain lodged there. As pollution levels rise in cities with growing mobile populations, so do rates of particulate related deaths (Robinson 2005). In 2005 the National Environment Protection Council estimated that in Sydney, Melbourne, Brisbane and Perth, PM_{2.5} was causing 1661 premature deaths each year. The very small size of particulates can allow them to deeply penetrate the body, with studies finding them even entering the brain (Sierra-Vargas & Teran 2012).

Breathing in pollutants in the environment has been linked to a host of ill effects from minor irritation to premature death. Children and the elderly are the most effected. People who exercise or cycle near sources of particulate emission - such as coal trains and busy roads - are also at risk of increased deep respiration of particulates.

- **Increased rates of hospital admissions:** Multiple studies have found a correlation between hospital admissions and exposure to air pollution (Morgan et al 1998, Barnett et al 2005, Chen et al 2007, The Chen et al study (2007) found a correlation between proximity to major traffic thoroughfares and increased incidence of hospital admission in Brisbane. The very young, the elderly and people with pre-existing health conditions are more at risk
- **Asthma, respiratory and Chronic Obstructive Pulmonary Diseases:** pollutants such as ozone and sulphur dioxide affect changes in the airways that exacerbate respiratory diseases and cause irritation to healthy tissue depending on length of exposure.
- **Cancers:** Along with cardio pulmonary disease, there is a high association between air pollution exposure and lung cancer. This is the result of both small particulate size and the numerous carcinogenic compounds in exhaust fumes .
- **Birth defects:** In 2002 Ritz et al. first linked birth defects to maternal exposure to air pollutants, in particular carbon monoxide(CO₂), nitrogen dioxide (NO₂), ozone (O₃), and particulate matter <10 microm in diameter. Exposure over the first two months after conception increased odds ratios (OR) for cardiac ventricular septal defects (hole in the heart) and orofacial defects (cleft lip or palate). A Brisbane study in 2009 confirmed this (Hansen, Barnett, Jalaludin and Morgan). In that study a 5 ppb increase in O₃ was associated with an increased risk of pulmonary artery and valve defects (OR 2.96) while a 0.6 ppb increase in SO₂ was associated with an increased risk of aortic artery and valve defects (OR 10.76). Similar in the Brisbane study, the risk of cleft lip was increased on exposure to SO₂ (OR 1.27).
- **Low birth weight, prematurity:** Mannes et al (2005) found that carbon monoxide and nitrogen dioxide concentrations in the second and third trimesters had a statistically significant adverse effect on birth weight of babies born in Sydney. Bobak (2000) found an association between exposure to sulphur and nitrous dioxides and growth retardation in a UK study, while Hansen et al (2006) found that ozone, particulates and NO₂ affected prematurity based on Brisbane statistics.
- **Premature death:** In 2004 the CSIRO estimated air pollution related deaths in Australia at about 2% of all deaths, 2400 in that year. They did not include potential and probably cancer related deaths in that estimate. In 2012 the World Health Organisation estimated approximately 2.4 million premature deaths as a result of air pollution globally (Sierra-Vargas & Teran 2012).

3.0 Case Study: Coal Dust and South East Queensland

In South East Queensland there has been continued and mounting concern over the potential health impacts that residents may be facing arising from increased coal mining production and transport.

In South East QLD – three key players operate open cut coal mines with their product being transported through Metropolitan Brisbane via rail prior to stockpile and export through the Port of Brisbane.

transport of coal at present levels sees residents exposed to 7400 uncovered coal wagons a year, with residents at Jondaryan rail loading facility and also the port of Brisbane exposed to uncovered coal stockpiles of up to 1 million tonnes

These mines impact the communities of Acland, Rosewood, Macalister and Chinchilla.

The West Moreton rail system connects the coal mines in localities of Rosewood and the Darling Downs to the Port of Brisbane through the Brisbane metropolitan area. In 2005/2006 this system transported 4.1 mega tonnes per annum (mtpa) of coal to the port of Brisbane this figure ballooned to 7.4mtpa in 2010/2011.

For the coal to be exported through the port of Brisbane it first needs to be transported through the satellite cities of Toowoomba and Ipswich then through 21 residential suburbs of metropolitan Brisbane, passing on the fence line or within 100m of many of these properties.

This transport of coal at present levels sees residents exposed to 7400 uncovered coal wagons a year, with residents at Jondaryan rail loading facility and also the port of Brisbane exposed to uncovered coal stockpiles of up to 1 million tonnes.

Coal mine expansion projects currently in the pipeline for the West Moreton Coal deposits will see an increase of 6.3mtpa passing through these residential areas, this equates to approximately 3160 extra trains.

3.1 Sources of Coal Dust in SEQ

Coal trains and Coal Dust

Queensland Rail identified coal dust can be emitted from the following sources in the coal rail system:

- _ coal surface of loaded wagons
- _ coal leakage from doors of loaded wagons
- _ wind erosion of spilled coal in corridor
- _ residual coal in unloaded wagons and leakage of residual coal from doors
- _ parasitic load on sills, shear plates and bogies of wagons

The coal dust blown from trains is comprised mainly of fine black particles that are carried by winds on to properties adjoining the railway tracks.

Coal Loading Facilities which have large stockpiles of coal waiting to be loaded onto the coal trains and at the port site to load onto the boats for shipping. The Jondaryan coal pile from the New Acland mine is located approximately 1km away from the closest resident.

3.2 Residential Concerns

A review of resident's quotes in media articles related to coal dust in Brisbane and firsthand accounts from residents living in communities with Coal mines in Rosewood/Darling Downs – shows a clear linkage between fugitive dust emissions having an impact on amenity of property and general concerns about the unknown levels and associated health effects from these particulates.

R Hopper - "Right across regional Queensland, there are homes constantly covered in a film of black dust,"

G Johnson - We already get coal dust on our roofs, water tanks, our washing, on our lawns and that's just the stuff we can see. It horrifies us to think how much we are breathing in. (Fairfield Brisbane)

A survey of residents living in proximity to coal stockpiles at the Port of Brisbane all expressed concern at the unknown health effects of coal dust and what levels they were being exposed to. "There is no clear understanding of what health effects can arise from continued long term exposure to low levels of dust particulates".

Also shown is a clear linkage between particulate emissions from mining operations/coal stockpiles and residential health.

G Hammond is a resident at Jondaryan QLD, the coal loading facility is located 1.2km from there house. "We are forced to live in houses constantly shut up to prevent coal dust entering our homes. I experience on a regular basis – burning sensation on tongue and eyes, Poor lung function, Extremely high blood pressure. After five weeks away – I was home for approx. two hours when I noticed by breathing worsen my headache start and tongue burning, I awake to the usual gunky eyes and knew I was home."

4.0 Air quality: changing climate, changing nature, changing health

Air quality not only affects human health directly. It affects the health of our environment indirectly.

- Air pollution particulates reduce droplet size in rainfall and suppresses precipitation forming processes, reducing rainfall (Rosenfeld et al 2006).
- Changes in air quality as a result of unabated climate change will result in hotter, drier air, more fires and an increase in air particulates from ash and dust, higher levels of ozone and thus an concomitant increase in respiratory and cardiovascular disease (Hansen, Peng and Nitschke 2009). Sierra-Vargas & Teran (2012) note that the 1998 Indonesian forest fires exposed over 20 million people to harmful smoke borne pollutants. During that time PM10 values more than doubled.
- High levels of CO₂ in the air is known to increase pollen production in plants. The subsequent pollen is not only an allergen to the asthmatic in it's own right, but becomes more toxic by virtue of the deposition of pollutants. For instance, Ragweed is shown to create more pollen in polluted environments near cities (Sierra Vargas & Teran 2012).
- Photochemical smog and ozone formation are enhanced by higher temperature brought on by climate change (Sierra-Vargas & Teran 2012).
- In 2007 the CSIRO released a report that claimed pollution in South East Asia was affecting weather in Australia, reducing rain on the south eastern coast.

4.0 Australian issues regarding air quality

Air pollution can cause cancer, birth defects and cause or exacerbate lung and heart conditions. Both toxicity of chemicals and number and size of particulate matter are important considerations for risk.

Polycyclic aromatic hydrocarbons (PAHs), are a group of 100 different chemicals, which according to the WHO are "the incomplete combustion of organic materials during industrial and other human activities, such as processing of coal and crude oil, combustion of natural gas, including for heating,

combustion of refuse, vehicle traffic, cooking and tobacco smoking”, and include benzene compounds amongst them. PAHs persist in the environment and Benzenes are linked strongly to cancer. A South Australian Department of Health fact sheet warns that “Health effects from chronic or longterm exposure to PAHs may include cataracts, kidney and liver damage and jaundice. ... Animals exposed to levels of some PAHs over long periods in laboratory studies have developed lung cancer from inhalation, stomach cancer from ingesting PAHs in food and skin cancer from skin contact.” Communities exposed to high levels of PAHs (such as at metal smelters and burning coal at power stations and coal gas production), “have also reported asthma-like symptoms, lung function abnormalities, chronic bronchitis and decreased immune function” (SA Dept of Health 2009).

Particulate levels are an important concern in Australia. In 2011 the Federal State of the environment report found that air quality standards rated at fair to very poor for between 1 -10% of a 24 hour period (fair-poor indicating air quality is unhealthy for sensitive groups, very poor meaning air quality is unhealthy for everyone). Some regional areas, including Wagga-Wagga, reported up to 20% fair-very poor air quality, with high PM10 measurements.

In 1998 Morgan, Corbett and Wlodarszyk found a significant proportion of hospital admissions in Sydney were attributable to air pollution levels. They recorded increased admissions for childhood asthma (5.29%) and chronic obstructive pulmonary disease (4.6%) in direct relation to increases in nitrogen dioxide and particulate levels. Both conditions are chronic and result in a decreased quality of life characterised by shortness of breath and difficulty moving and exercising. Short term exposure to particulates and ozone in pollution causes acute vasoconstriction, even in healthy individuals.

Since the late nineties these health conditions have increased in incidence in the Australian population although ambient air pollution levels are reported to be falling.

Air pollution has been linked to heart disease as a risk factor in Australian studies. Langrish, Mills and Newby (2008) claim that air pollution is now responsible for increased mortality worldwide at a high rate: “24% increase in the risk of a cardiovascular event and a 76% increase in the risk of death from cardiovascular disease...myocardial infarction and stroke.” Indeed, “people experiencing a myocardial infarction being three times more likely to have been in road traffic in the hour before the onset of symptoms” (Langrish et al 2008 p.875). Fine particulate matter is thought to be the link with the strongest epidemiological evidence.

Although the World Health Organisation sets permissible levels for particulate pollution, many researchers indicate that not only is this too high (as small quantities of carbon matter are sufficient to incite cancer) but that many places in the world exceed these levels regularly. For instance, Woolloongabba, an area of high-density development with major truck through-fares in Brisbane, Queensland, exceeded the WHO levels for particulate pollution on several occasions in 2010. Woolloongabba still experiences quite high levels of lead pollution compared to other areas, which researchers attribute to traffic induced turbulence of lead deposited prior to the introduction of unleaded petrol (Simpson & Xu 1994).

Dinmore State School in Ipswich (an area of low socio-economic status) in 2006 was the subject of numerous complaints by parents about the effects of pollution from the Warrego and Cunningham highways, where the EPA recorded levels of air pollution three times the national standard. Children at Dinmore developed asthma.

It is often minorities and children who are affected the worst by pollution in their communities. Certainly in the case of particulates children are most at risk =due to their small body size to dose, and their tendency to run and exercise so inhaling more quantities of dirty air.

The father of environmental justice Robert Bullard writes:

Poor children in urban areas are poisoned in their homes. And when they go to school, they get another dose. And when they go outside and play, they get another dose. It's a slow-motion disaster: the most vulnerable population in our society is children, and the most vulnerable children are children of color. If we protect the most vulnerable in our society — these children — we protect everybody. (Grist, March 2006).

The alleviation of urban and industrial pollution is a social justice issue for Australian cities and rural industrial areas.

4.1 Car exhaust and Diesel particulates

Both petrol and diesel engines emit gaseous pollution and particulates. Besides the toxicity of chemicals in fuel, particulates are of serious concern to community health.

Diesel fuel, commonly used by buses and trucks, emits both PM10 and PM2.5 particulates. Although diesel fuelled vehicles emit less gaseous pollution, the particulates they emit are 100 times greater than a typical petrol engine with a catalytic converter.

Studies in the US have recognised the dangers of particulates to small children travelling on diesel buses to school. In a 2005 study, Behrentz et al found that a child travelling on a diesel bus was exposed to 1/3 of their daily exposure to carbon while travelling boarding and waiting for buses.

Smaller particles are more dangerous as they can be deeply inhaled and remain within the lungs.

The effect of local air pollution is great in certain communities. Social and economic disadvantage mean that the poor often live on main roads or in polluted environments and combined with lifestyle factors, are more at risk for health effects of particulate pollution.

4.2 Industrial & agricultural pollution

The National Pollutant Inventory is the major source of information documenting industrial emissions in Australia. However, corporations only submit figures to the NPI on a voluntary basis. An obvious problem with this is self-monitoring can lead to under-reporting. Allowing polluting industries to monitor themselves is a conflict of interests.

Since the start of construction of the alumina plant in the 1960s through to the new construction project of the LNG gas plants, Gladstone has been the victim of an incredible, unregulated flood of pollution from industry. It has taken 40 years for the penny to drop with Gladstone residents that the state government has actually been lying to them systematically about the health of their environment. From the deformed birth clusters in the late '70s to Australia's highest levels of childhood asthma for the past 30 years, the high levels of attention deficit hyperactivity disorder (ADHD) to the caustic blowouts taking the paint off their cars, to the diminished bone density of the local raptors (at the top of the food chain). ... The oil shale pilot plant was an absolute environmental disaster too big to ignore, so it was closed, but to reopen soon. The smelter, the two alumina plants, the power station, the cyanide plant, the limestone slurry plant, but especially the coal stockpiles blowing their poison into the community and the harbour, have all contributed to the disaster that is Gladstone.

(Crook 2011)

In the 1970s a ground-breaking study by Robert Bullard 'Unequal Protection: Environmental Justice and Communities of Color' (1977) found a link between environmental pollution from industry and race. Environmental racism is the notion that people of colour, or from ethnic minorities or indigenous people, are more likely to be exposed to environmental pollutants. Whether this is because industries are sited in such communities, or these often economically disadvantaged communities tend to live in more polluted and industrial locations for economic and work reasons, is contentious. The importance of this concept for environmental policy makers and planners was recognised by the US Clinton administration in 1994. It has achieved only limited recognition in Australian policy to date.

There have been many cases in Australia where polluting industries have come in direct conflict with the needs of disadvantaged communities. In 2005 Arcioni and Mitchell made a study of the 1997 Port Kembla smelter issue, where a large population of multi-cultural residents opposed the reopening of an industry that they experienced as polluting and damaging to their and their children's health since 1908.



Left: Air pollution from industrial processes in Gladstone, Qld. Gladstone has a statistically significant higher level of cancers.

Similarly, communities now living with CSG exploration and coal mines are experiencing high levels of air pollution from gas leaks and coal dust respectively, that are largely unaddressed by planning and policy processes that have sought to fast track such developments.

Some other Australian cities that suffer from point-source industrial pollution include:

- **Newcastle (NSW):** in the heart of coal-producing region in NSW is the site of many polluting industries including steelworks. The City of Newcastle scores 983.1 on the SEIFA index, indicated greater disadvantage than average. Wollongong, also in NSW scores 983.8 on the SEIFA index of disadvantage and has a higher than average indigenous population at about 14%. It is also home to numerous steelworks and smelters. Cancer and leukemia rates were found to correlate with distance from Wollongong steel plants and heavy industry in a 1997 study.
- **Gladstone (Qld):** the air is being monitored by the EPA for nitrogen dioxide, sulphur dioxide, carbon monoxide, ozone; and particles, including ultra-fines; 19 metals including lead, zinc, arsenic and mercury; 53 volatile organic compounds including benzene; carbonyl compounds including formaldehyde; polycyclic aromatic hydrocarbons; and acidic and caustic aerosols; polychlorinated biphenals, dioxins, furans, fluorides, cyanides. Coal dust is one of the sources of a particulate problem in Gladstone. In 2010 the EPA and state governments boasted that Gladstone's air was clean after monitoring. In 2011 it was discovered that the air testing company contracted to carry out the tests had falsified the results. The company had ties with a number of big energy companies.
- **Whyalla (SA):** OneSteel is a major source of air pollution in Whyalla (SA). The plant exceeded emissions for PM10 in a 2005 study,. A health impact report found, "significantly more lung cancer in Whyalla...double the number expected" (SA Dept Health 2005). Associated conditions including Obstructive Pulmonary Disease, asthma, anemia and increased liver cancers were also observed as statistically significant. Whyalla scores 805 on the SEIFA index and is the 7th most disadvantaged town in SA. Port Pirie and Port Augusta suffer the same health effects as a result of industrial pollution
- **Wagga Wagga (NSW):** High levels of ambient air pollution (SOE report 2011) coincide with low socioeconomic status, high unemployment and a large ethnic and indigenous community in that regional area. Wagga Wagga scores 998.9 on the SEIFA index, indicating it is more disadvantaged than the national average. Agricultural burning, bushfires, prescribed burning, wood heaters, dust, motor vehicles and industrial and mining activities caused 21 days of particulate levels exceeding national air standards.
- **Esperance (WA):** in 2012 windy conditions caused a lead dust pollution incident that led to damaging levels of lead levels in the blood of local school children (Rossi et al 2012). Clean-up efforts have been less than satisfactory, with economic and practical barriers meaning hundreds of homes still contaminated after the airborne pollutant was discovered in 2007 due to the negligence of Magellan Metals exporting from the port there. Mining Australia claim the clean-up has been completed successfully.

Industrial large scale agriculture is a significant source of air pollution for local communities. While contamination from aerial spraying of crops is a sporadic source, the contaminants remain in the soil and waterways of local communities. Industrial scale farms expose a large amount of soil to weathering and can be a source of dust storms that stir up soil contaminants. This was partially the cause of the 2010 red dust storms that engulfed Australian east coast cities.

Agricultural sources of air pollution are much more difficult to monitor and regulate. As such the only way to regulate this source of air pollution is via the restriction of the contaminants, fertilizers, herbicides and pesticides used.

Fine particle pollution, ammonia, hydrogen sulphide, from factory farms (such as pork, poultry and egg production) is also a source of lung problems and eye irritation to locals. The US EPA have found levels more than three times higher than their 35 microgram standard.

4.3 Coal Mining

Coal dust particulates are included amongst the PM2.5 size range, known carcinogens and causes of cardio pulmonary disease.

Higginbotham et al (2010) studied Hunter Valley communities affected by 34 black coal mines and two coal-burning power stations.

Between 2005 and 2007, aerosol sampling in Muswellbrook found PM2.5 were between 5 and 6 µg/m³ (Muswellbrook Shire Council, 2006 and Muswellbrook Shire Council, 2007), less than the Australian National Environmental Protection Measure limit of 8 µg/m³ (annual average concentration) (Roddis and Scorgie, 2009), although the World Health Organisation advises that there is “no safe level” of fine particle air pollution (see Robinson, 2005, p. 213). (Higginbotham et al 2010, p.260).

In addition to rising levels of coal dust, other heavy metals including antimony, arsenic, cadmium, chromium, cobalt, lead, manganese, mercury, nickel are emitted into the air from the Hunter Valley mines (Higginbotham 2010, p. 260). Sulphur and Nitrous oxides are also released in large amounts. No public health surveys or air monitoring of the pollution problem have been carried out.

The NSW Department of the Environment report notes that the Hunter Valley experienced higher than average air particulate pollution of 42 days exceeding the advisory reporting standard between 1997 and 2009. The risk of coal dust particulates is increased during incidents of high wind, which coincided with 8 of these 42 recorded exceedances. Community groups question the legitimacy of monitoring carried out by industry and government in favour of more coal mining. The Hunter community environment centre are calling for a community –led investigation into pollution in their region because:

Air quality is monitored in the Hunter Valley and Newcastle by the NSW EPA, Newcastle City Council, PWCS, Orica and other licenced industries. The collected data is not currently published in one accessible location, in an integrated form, nor in a timely fashion (NCC’s data, for instance, has not been published since late 2011).

Higginbotham’s study is of note, for they found many examples of government denial and obstruction to formal investigations into the now well known effects of particulates emitted from coal mines.

5.0 Recommendations

- Establishment of national monitoring standard for coal mines, coal transport corridors and coal storage facilities or stockpiles that includes:
 - real time monitoring of PM2.5 and PM10s with the data immediately publicly available
 - the percentage of nuisance particles in residential areas that are attributable to coal dust
 - consistent monitoring over a minimum period of 50 years
- Uncovered coal trains are banned within 10km of residential and urban areas.
- The covering of all coal stock piles.
- Proper research, analysis and monitoring of health impacts from coal mining and coal burning.
- The reduction of fine particulates in the environment should be a priority. This means the phasing out of wood heaters and diesel vehicles. Such measures have affected big decreases in mortality and morbidity in cities (eg. Christchurch) where these measures have been instituted (Robinson 2005).
- More efficient and cheap public transport is the key to reducing vehicle emissions overall. Gas buses, whose emissions are by no means yet proven to be safe, are a vast improvement on diesel. Robinson (2005) estimates that the annual costs of each diesel engine is over \$1100 in health costs per vehicle.
- Higginbotham et al (2010) in their analysis of coal dust problems in the Hunter Valley advice the use of the Precautionary Principle in policy making decisions. In such a policy environment, the burden of proof of harm should be placed on the polluters, not on the victims. The health costs of cumulative air pollution effects will be footed by the Australian taxpayers and the health system long after the coal companies have made their billions and moved on to pollute elsewhere.
- Addressing climate change. Bushfires and hot dry conditions increase airborne pollutants. Yet another good reason to reduce fossil fuel use and convert to renewable energy sources.
- Ending polluting industries in populated areas. Given the Woolsongong study, the link between disadvantage, pollution and illness indicate that current acceptable limits for release of toxins is inadequate for human health needs.
- The committee visits the communities of Jondaryan, Acland, Rosewood, Collinsville, Moranbah, Dysart, Blackwater and Louisa Creek in Queensland to hold hearings and gather testimony about the impact of particulate pollution.
- Community based monitoring of air pollution. Contracting air monitoring to private corporations that also work for energy providers is not in the public interest.

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