Submission No 24

INQUIRY INTO PROTECTION OF THE ENVIRONMENT OPERATIONS AMENDMENT (CLEAN AIR) BILL 2021

Organisation: Healthy Futures

Date Received: 30 June 2021

Submission to the inquiry into the Protection of the Environment Operations Amendment (Clean Air) Bill 2021

Dear Committee members,

Healthy Futures is an organisation of healthcare workers and community members deeply concerned about the health impacts of pollution. We have a "Healthcare for Clean Air" group based in the Hunter and the Central Coast and our members regularly see the devastating frontline impacts of air pollution including presentations of asthma and other illnesses.

Those experiences have given rise to our serious concern about the historic inability of the current regulatory framework to appropriately reduce air pollution. The health impacts of air pollution include higher rates and exacerbation of ischaemic heart disease, chronic obstructive pulmonary disease, asthma, lung cancer, diabetes, infertility, birth complications and cognitive and developmental disorders, among others.

Air pollution is a serious issue in Australia, causing more premature deaths than the national road toll.[1] The impacts are worse in NSW than in any other state or territory in Australia due to the growing urban population, increased heat promoting the formation of fine particle pollution, and proximity of large population centres to major sources of pollution, particularly coal-burning power stations. Prior to recent years, there have been significant barriers to the ability to implement life and health-saving measures to achieve cleaner air, but fortunately many of these have now been overcome.

We appreciate that the NSW government acknowledges the seriousness of this issue and we now insist on appropriate life-saving action.

Astonishingly, prior to April 2020 there was no scientific evidence available to the NSW Government to justify pollution control at power stations because nobody had published a peer-reviewed epidemiological study on the health impacts of burning coal. That study was finally published by the Director of Environmental Health at NSW Health, Dr. Richard Broome, and is the first study of its type in Australia.[2] The

[1] https://stateofglobalair.org/data
[2] *Broome et al,* "The mortality effects of PM2.5 sources in the Greater Metropolitan Region of Sydney", Environment International, Vol 137, April 2020, 105429

study was highly conservative but provides a compelling basis for action, finding that power station pollution results in 10.5% of urban fine particle pollution, with most of the health impacts felt in metropolitan Sydney from the five coal-burning power stations in NSW, which while outside city limits, emit pollution that travels vast distances across state borders due to the height of the pollution stacks and the temperature and velocity of the emissions.

Broome et al found that burning coal comes at a cost of $2.2 billion annually, equivalent to $43.15/MWh, which is equivalent to or greater than the average wholesale value of the electricity generated at the power stations.

A similar study that used CALPUFF predictive modelling and applied conservative epidemiological concentration-response functions found that power stations in NSW caused 450 low-weight births, 7,582 childhood asthma days and 477 premature deaths every year.[3]

A key reason that health impact modelling had never previously been conducted was the assumption that health impact assessment was only necessary if there were exceedances of the National Environment Protection Measures for ambient air quality, combined with the lack of understanding that power stations are contributing to the exceedances in Western Sydney.

There is now overwhelming agreement among public health experts that any amount of PM2.5 pollution causes harm, and air pollution has been recognised as the biggest environmental threat to public health in the world. It is critically important to note that the overwhelming majority of power stations' PM2.5 pollution is secondary to precursor sulphur dioxide and oxides of nitrogen, and therefore both gaseous *and* particulate emissions must be reduced to minimise health impacts.

Further research by the Office of Environment and Heritage published in *Atmosphere* found that coal-burning power stations cause as much pollution in every Sydney district as motor vehicles, and even more so during winter.[4]

Advocacy around the health impacts of air pollution, already heightened due to the 2019 Black Summer bushfires, has now significantly increased community understanding of, and concern around, air pollution.

Now that the substantial health burden from coal-burning power stations is understood, the problem can be appropriately addressed by government.

---

[3] Farrow, Anhäuser, Myllivirta, "Lethal Power", August 2020

[4] Chang et al, "Major Source Contributions to Ambient PM2.5 and Exposures within the New South Wales Greater Metropolitan Region", Atmosphere, 13 March 2019

We accept the NSW Government's statement in the draft NSW Clean Air Strategy that power station pollution will be ameliorated by the increased amounts of emissions-free renewable energy replacing coal as part of the NSW Electricity Strategy. We are also concerned about the health impacts of climate change, which are a secondary effect of burning fossil fuels including coal. However, we believe that far more can be done to reduce air pollution from coal-burning power stations, firstly by hastening the roll-out of renewable energy, storage, transmission and demand management to reduce reliance on coal, and secondly through the use of pollution controls that are commonplace in most parts of the world. Currently the entire OECD and even China require superior pollution control technologies to Australian jurisdictions, leading to unacceptable health impacts for Australians.

While there is widespread agreement that the transformation of the energy sector must happen as quickly as possible, we accept that it will not happen overnight and therefore while coal-burning power stations remain open, chemical scrubbers will be able to eliminate more than 90% of the pollution and resultant health harms until their closure.

There are a variety of ways in which the NSW Government could reduce air pollution and as our primary concern is public health, we support any and all measures which could achieve this, including the adoption of the European Emissions Directive standards proposed by the bill.

We note that while the National Health and Medical Research Council used to inform air pollution limits for industrial stationary sources, that work is now being done by environmental regulators without the assistance of specialist public health agencies.

The result is that air pollution limits in licenses are set so high (at rates multiple times higher than any comparable jurisdiction internationally) that power station operators would not be able to exceed them if they tried, even in the absence of best available control technologies. Curiously, lower limits have often been rejected on the basis that they would require abatement of air pollution, which after all is the purpose of government policy.

Another measure that could reduce pollution from power stations is the Load-Based Licensing Scheme, yet the current fee structure is such a tiny fraction of the abatement cost, and a tinier fraction of the health damage cost, that it does not currently drive any pollution reduction, as demonstrated by economic research from the University of Sydney.[5] Fees could be adjusted to meet the damage cost, or ramped up over a period of a few years to allow price signals to drive better decision-making by power station operators.

---

[5] Ancev & Betz, "Load-based licensing: Getting the Rates Right", University of Sydney, viewed online at http://www.ceem.unsw.edu.au/sites/default/files/uploads/publications/ancevbetz-1.pdf

New best-practice limits could also be adopted so that they apply to any upgrade or refurbishment of a boiler unit, or after any period of scheduled maintenance.

We are concerned about recent claims by power station owners that epidemiological studies are not sufficient to justify concern about air pollution. There is no such thing as a diagnosis of pollution-induced disease for individuals, the reason we know about the health damage is the same reason we know about the health harms posed by second-hand smoke: because the clear evidence shows up in hundreds of statistical studies. While the tobacco industry made similar arguments during the debate around secondhand smoke, we had hoped that industry would approach this issue with a little more maturity given the recent increase in respect for epidemiology due to the Covid-19 pandemic.

While out of scope of this inquiry, we would also urge the Committee to ensure greater transparency through requiring continuous emission monitoring systems, live reporting on a user-friendly platform in the interests of our more vulnerable patients, and greater use of the alerts system.

We thank the committee for your interest in public health and would be willing to assist the committee further if required. Please do not hesitate to contact for any further elaboration on the issues contained in this submission.