



Submission on the New South Wales Protection of the Environment Operations Amendment (Clean Air) Bill 2021

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Thank you for the opportunity to comment on proposed amendments to the *New South Wales (NSW) Protection of the Environment Operations Act 1997*.

About the Centre for Air pollution, energy and health Research (CAR)

[CAR](#) is a Centre of Research Excellence funded by the National Health and Medical Research Council. The centre brings together more than 30 researchers at the forefront of their fields, based in seven of Australia's leading universities. CAR is the only group of its kind nationally to bring together researchers focusing on health impacts of air pollution, and new versus traditional forms of energy. The centre supports teams of researchers in the fields of epidemiology, exposure assessment, toxicology, chemistry, biostatistics and clinical respiratory medicine to pursue collaborative projects and to develop their capacity. Our centre's vision for a healthier community is the driving force behind our research.

Summary

There is no safe level of air pollution. We commend and support any legislative amendments that reduce the permitted emission of harmful pollutant concentrations from fossil fuel energy sources.

Fossil fuel emissions contribute to short-term and long-term, direct and indirect human health impacts. Accordingly, efforts to reduce emissions from fossil fuel energy sources should be complemented by policies that incentivise a transition to alternative, low carbon energy sources.

Reduced concentration standards for fossil-fuelled energy sources will contribute to reducing the risk of adverse human health impacts. The proposed concentration standards as outlined in the *NSW Clean Air Bill 2021* are a step in the right direction in terms of limiting the risk of adverse health impacts caused by coal-fired power stations in NSW. We recommend the pursuit of increasingly stringent concentration standards for existing fossil-fuelled energy sources and strongly oppose the approval of new fossil-fuelled energy sources.

There is no safe level of air pollution

We commend and support any legislative amendment that reduces the permitted emission of harmful pollutant concentrations from fossil-fuelled energy sources.

CAR is facilitating and translating research on moving to alternative, renewable forms of energy that have the most beneficial (or least detrimental) impacts on the economy, environment and health, considering a technology's life cycle. CAR researchers and affiliates have been involved in numerous publications relating to the health impacts of air pollution in Australia. For example, this year CAR researchers published an assessment of the health-related impacts of long-term exposure to human-made particulate matter (PM), and found impacts cost the Australian economy an estimated AUD\$6.2 billion annually (Hanigan et al 2021). In relation to New South Wales specifically, CAR researchers and affiliates recently modelled the health impacts of eight major sources of PM and found that power stations were an important pollution source (Broome et al 2020).

Australian studies show that adverse health effects resulting from particulate matter (PM) exposure occur even at low levels of PM_{2.5} (particles with a diameter of 2.5 micrometres or less), i.e. mean annual of 4.5 $\mu\text{g}/\text{m}^3$ (Hanigan et al 2019). A wide and substantial body of evidence shows that health effects include the increased risk of premature death and exacerbations of cardiovascular disease, respiratory disease, metabolic disease and neurological disease (Landrigan et al 2018). This suggests that there is no safe level of air pollution exposure in terms of human health.

Fossil fuel emissions contribute to short-term and long-term, direct and indirect human health impacts

Emissions from fossil-fuelled energy sources directly impact human health in the short-term through poor air quality, and indirectly impact human health longer-term through contributing to climate change. Coal mining is by far the greatest contributor to human-made sources of fine (PM_{2.5}) emissions in NSW, responsible for over 10,000 tonnes per year of fine PM emissions, as reported in the 2013 Air Emissions Inventory for the Greater Metropolitan Region in NSW (Department of Planning, Industry and Energy (DPIE), 2021). Beyond tightening concentration standards for fossil-fuelled energy sources, we strongly encourage complementary policies that progress a transition away from fossil-fuelled energy sources towards alternative, low carbon options to address the disproportionately high burden on human health that coal mining causes in the Greater Metropolitan Region of Sydney and NSW more broadly.

Reduced concentration standards for fossil-fuelled energy sources will contribute to reducing the risk of adverse human health impacts

Emission limits for pollutants from coal-fired power stations in international jurisdictions are significantly lower than current emission limits in NSW (Lipski et al 2021). Introduction of the proposed concentration standards as outlined in the *NSW Clean Air Bill 2021* would see NSW emission limits align more closely to existing emission limits for the European Union. Bearing in mind that no level of air pollution is safe, we support these proposed concentration standards; but only as the first step in moving towards carbon-free energy sources. We recommend the pursuit of increasingly stringent concentration standards for existing fossil-fuelled energy sources in future, and strongly oppose the approval of new fossil-fuelled energy sources.

Conclusion

We support the proposed amendments to the *NSW Protection of the Environment Operations Act 1997* as articulated in the *NSW Clean Air Bill 2021* on human health grounds. We strongly encourage the ongoing pursuit of further reductions in air pollution, including emissions from fossil-fuelled power stations.

References

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For more information

This submission has been produced by the Centre for Air pollution, energy and health Research (CAR).



For more information about CAR and our work in the health impacts of air pollution: contact us at car@sydney.edu.au or visit our website: www.car-cre.org.au