Submission No 31

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

Organisation: Clean Air Society of Australia and New Zealand

Date Received: 20 July 2021

CASANZ
Clean Air Society Of Australia and New Zealand

19 July 2021

Sent via email:
portfoliocommittee7@parliament.nsw.gov.au

Dear Sir/Madam,

Subject: Call for Comment | Protection of the Environment Operations Amendment (Clean Air) Bill 2021

The Clean Air Society of Australia and New Zealand (CASANZ) is a non-profit, professional association with a corporate charter to improving the quality of our air. The Society has been active for over 50 years, currently with a membership base of over 600 members who have a professional interest in air quality.

Our members have a common interest in air quality and environmental science, and represent a broad range of sectors including national, state and local governments, science, business, industry, education, management and policy, legal and the general community. We embrace the expertise and knowledge of our diverse membership to advance research, innovation across all areas that affect our air quality.

CASANZ promotes awareness and understanding of the issues affecting air quality. With the support of local and world-renowned leaders in the sector, we facilitate training courses, conferences, webinars and events. We host a biennial conference and grant awards to leaders in the air quality space, celebrating the work being done to achieve cleaner air in our region and beyond.

We embrace the expertise and knowledge of our members to advance air quality science and innovation to achieve healthy air for all. This submission from CASANZ is based on the responses from members and reflects their views on the various issues identified in the consultation documents.

Summary

CASANZ supports measures to improve air quality, however, we do not believe the proposed Protection of the Environment Operations Amendment (Clean Air) Bill 2021 is an appropriate mechanism for prescribing or tightening standards of concentrations for power stations.

The Protection of the Environment Operations (Clean Air) Regulation 2010 (hereafter the 'Clean Air Regulation') is the key regulatory mechanism in NSW for reducing emissions of harmful pollutants to air and is where standards of concentrations are prescribed for all industrial facilities in NSW, in combination with averaging periods and reference conditions against which standards can be assessed.

In accordance with the requirements of the Subordinate Legislation Act 1989 and the 'Better Regulation Principles' set out in the Guide to Better Regulation[1], a proposed change to standards of concentrations would need to be supported by a regulatory impact statement that examines the economic and social costs and benefits of regulatory proposals and their alternatives, and provide the community with an opportunity to comment before it becomes law.

We thank you for the opportunity to contribute to the Call for Comment on the Protection of the Environment Operations Amendment (Clean Air) Bill, and look forward to being involved as it progresses. If there are any queries regarding this submission, please contact us.

Yours sincerely,

Ronan Kellaghan
NSW/ACT Branch President
E:

Vicki Callaway
General Manager
E:

[1] https://www.treasury.nsw.gov.au/sites/default/files/2019-01/TPP19-01%20-%20Guide%20to%20Better%20Regulation.pdf

CASANZ Summary of Member Responses

The following summarise comments received from our members.

No.	Summary
1	Lowering the emissions standards for power stations should require detailed assessment, including a review current emissions limits, review typical operating emissions concentrations, and effects on existing air quality. Only then would we be in a position to be able to review the limits.
2	It is more appropriate that revisions to standard setting is performed by regulators who have the expertise and training to properly inform and assess the revisions, rather than those with political interests.
3	Based on the information provided in the second reading of the bill, some tighter regulations are required. However, an amendment to the Act, without any defined time frame for implementation, is probably not the best way to keep the lights on in Sydney. It would be better if amendments to the act focused on measures to phase out wood burning appliances in urban built up areas.
4	I would strongly support the tightening of the emission standards as suggested in the Bill. Reference conditions need to be specified to avoid the limits being met by dilution. I'm not sure what the latest emission technologies can achieve but available technologies have been around for a long time, including fabric filters, flue gas desulphurisation, selective catalytic reduction, activated carbon injection, and NOx combustion controls. Obviously older plant may need to upgrade their control equipment but I am of the view that this is long overdue and brought into line with polluter pays principles.
5	Standard reference and Oxygen correction should be stated as required expression of reportable limits, Usually Dry, 101.3kPa, 273K @ 7% oxygen With the exception of the Mercury, many coal fired power stations will find these limits very hard to meet. Are these limits possible with existing abatement systems and by imposing these limits, would it make the stations economically unviable? Sulphur dioxide emissions are predominately dependent on sulphur content of coal, so applying a blanket limit could affect some stations more than others, requiring significant desulphurisation upgrades.

6	Ambient air pollution is an environmental threat to human health globally. Combustion of fossil fuels, including coal, is the main anthropogenic contributor [1]. The level of air pollutant emissions from coal-fired power plants is a matter of international concern [2]. Coal combustion creates CO2 as well as fine particulate matter (PM2.5) and its gaseous precursors sulfur dioxide (SO2) and nitrogen oxides (NOx) into the air. CO2 contributes to climate change, while PM2.5 can enter the human respiratory system. Additionally, airborne SO2 from fuel sulfur can lead to acid rain. Emissions of NOx are toxic and contribute to smog and terrestrial acidification [3]. Further, particulate mercury emissions from coal-fired power plants deposit locally with rainfall and accumulate in the food chain by contaminating fish [4]. The air pollutant removal technologies installed in coal-fired power plants in Japan, and Germany are advanced. Air pollutant emissions have decreased in these countries due to stricter emission standards as described in the proposed The Protection of the Environment Operations Amendment (Clean Air) Bill 2021. Japan, for example, has achieved advances in air pollutant removal technologies for coal-fired power plants, by increasing the thermal efficiency of coal-fired power plants. In Germany, coal-fired power plants use selective catalytic reduction units for NO2 removal, followed by an electrostatic precipitator and a wet flue gas desulfurization unit in sequence to control particulate matter (PM) and SO2, respectively. The emission control devices used in NSW coal power plants are bag filters, and electrostatic precipitators in Victoria, with neither acid gas control devices nor mercury specific devices in use [5]. The implementation of advanced air pollutant controls is largely driven by local emission limits and their enforcement. While significant progress has been achieved globally as evidenced by Japan and Germany, more could be done in NSW. The combination of air pollution monitoring initiatives and the incorporation of control technologies will contribute towards controlling air pollution from coal fired power plants in NSW to the limits set out in The Protection of the Environment Operations Amendment (Clean Air) Bill 2021. [1] R.Y. Cui, N. Hultman, M.R. Edwards, L. He, A. Sen, K. Surana, H. McJeon, G. Iyer, P. Patel, S. Yu, T. Nace, C. Shearer, Quantifying operational lifetimes for coal power plants under the Paris goals, Nature Communications 10(1) (2019) 4759. [2] M. Wiatros-Motyka, An overview of HELE technology deployment in the coal power plant fleets of China, EU, Japan and USA, IEA Clean Coal Centre, CCC/273 (2016). [3] C. Oberschelp, S. Pfister, C.E. Raptis, S. Hellweg, Global emission hotspots of coal power generation, Nature Sustainability 2(2) (2019) 113-121. [4] R. Meij, L.H.J. Vredenbregt, H.t. Winkel, The Fate and Behavior of Mercury in Coal-Fired Power Plants, Journal of the Air & Waste Management Association 52(8) (2002) 912-917. [5] L. Schneider, N.L. Rose, L. Myllyvirta, S. Haberle, A. Lintern, J. Yuan, D. Sinclair, C. Holley, A. Zawadzki, R. Sun, Mercury atmospheric emission, deposition and isotopic fingerprinting from major coal-fired power plants in Australia: Insights from palaeo-environmental analysis from sediment cores, Environmental Pollution 287 (2021) 117596.

This submission has been prepared by the members of CASANZ.

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