



Environmental Defenders Office

30 June 2021

NSW Legislative Council Portfolio Committee No. 7 – Planning and Environment
NSW Parliament House
Macquarie St Sydney NSW 2000
By email: portfoliocommittee7@parliament.nsw.gov.au

Dear Committee,

Inquiry into the Protection of the Environment Operations Amendment (Clean Air) Bill 2021

Environmental Defenders Office (**EDO**) welcomes the opportunity to make a submission on the *Protection of the Environment Operations Amendment (Clean Air) Bill 2021 (Bill)*.

EDO is keenly aware of the health impacts of coal – as a consequence of both its mining and combustion - and has advised and represented many communities throughout NSW, and in particular the Hunter Valley, in relation to these impacts, amongst other things. We have written extensively on the need for effective regulation of air pollution across NSW.

The Bill seeks to amend the *Protection of the Environment Operations Act 1997 (POEO Act)* to provide for emissions limits for a range of air impurities emitted by coal-fired power stations. Specifically, the bill seeks to improve air quality by introducing tighter standards (exceedance limits) for emissions of the air pollutants nitrogen dioxide, nitric oxide, sulfur dioxide, solid particles and mercury from coal-fired power stations. The Bill demonstrates a commitment to public health and those communities directly affected by air pollution.

EDO strongly supports tighter standards for emissions from coal-fired power stations. **Our submission identifies opportunities for strengthening emissions exceedance limits and standards in NSW to better align with best practice, requiring the use of best available techniques, and provides further recommendations on strengthening air pollution laws, including the regulation of greenhouse gases.**

Best practice? Current settings are inadequate in NSW

The regulation of air pollutants, particularly from industry, in NSW is far from best practice. Coal-fired power stations in NSW are currently permitted under their Environmental Protection Licences (**EPLs**) to emit air pollution at levels many times the maximum prescribed in other jurisdictions such as the European Union.

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The current section 128 (in Part 5.4 Air Pollution) of the POEO Act specifies that an occupier of premises must not undertake activities or operate plant that would cause point source emissions (e.g. from a chimney, stack, pipe or vent) that exceed limits set out in regulations. The provision currently does not specifically refer to coal-fired power stations, nor specific standards for air impurities. Nor do the regulations set out, for the purposes of section 128, specified limits for air impurities emitted from coal-fired power stations.

It should be noted, however, that the emission of certain pollutants from coal-fired power stations – including those set out in the Bill – is included in the load-based licensing (**LBL**) scheme under the *Protection of the Environment Operations (General) Regulation 2009*. The LBL scheme requires emitters to pay a fee for the total amount of each pollutant they emit, but does not place a limit (cumulative or point-in-time) on those emissions. However, we note the LBL review is still not finalised (see recommendations below).

The Bill seeks to amend section 128 by providing specific limits in relation to specified air impurities emitted by coal-fired power stations. The proposed amendment would therefore be a step in the right direction to improve air quality in NSW, by clarifying specific standards for coal-fired power stations – some of the largest sources of air pollution in the state.¹

For the air impurities identified in the Bill, the proposed emissions limits still exceed those set in comparable jurisdictions such as the European Union, but are much closer to this standard than any NSW power station is currently required to meet under its EPL. For example, the limits currently in place for the Eraring power station (Australia’s largest coal-fired power station) under its EPL (**EPL 1429**) are set out below, compared to those proposed by the Bill and those of the EU.

	Bill	EU²	EPL 1429³
Nitrogen oxides (NO _x)	200 mg/m ³ (total, as NO ₂ equivalent)	65-150 mg/m ³ (yearly average) < 85 – 165 mg/m ³ (daily average)	1100 mg/m ³
Sulfur dioxide (SO ₂)	200 mg/m ³	10-130 mg/m ³ (yearly average) 25-165 mg/m ³ (daily average)	1700 mg/m ³
Solid particles	20 mg/m ³ (total)	2-10 mg/m ³ (yearly average) 3-11 mg/m ³ (daily average)	50 mg/m ³

¹ NSW Government (2021) *NSW Clean Air Strategy 2021-30*, available at <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Air/nsw-clean-air-strategy-2021-30-draft-for-consultation-210080.pdf>, pp 12-14.

² See Commission Implementing Decision (EU) 2017/1442 of 31 July 2017 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for large combustion plants, available at <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017D1442>.

³ Available at <https://app.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=192607&SYSUID=1&LICID=1429>.

Mercury	1.5 µg/m ³	<1-4µg/m ³	50 µg/m ³
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The proposed limits therefore represent a significant improvement on current standards, and would have the additional authority of being set out in the legislation rather than by regulation. However, EDO would also support a mechanism to allow limits to be further reduced in future, with the aim to align with best practice limits.

Best available techniques

In order to ensure that the emissions of all pollutants are kept as low as practicable, the Committee should also consider recommending that the POEO Act be amended to require that industrial emitters use **best available techniques** (or **BAT**, a standard set for the regulation of air pollution from industrial installations by bodies such as the OECD⁴ and EU⁵) to manage the emission of pollutants from industrial facilities to air, land, and water.

BAT means the most effective and advanced pollution control methods available for the polluting activity in question. Although the concept is technology-based, requiring the implementation of a particular technology or combination of technologies, directives and guidance documents setting out what constitutes BAT for a particular industrial activity and pollutant will also set out the range of pollution concentration levels that can be achieved with BAT.

For example, the European Commission considers that BAT for NO_x emissions from coal-fired power stations is to use one or a combination of the following to achieve an emissions level for a large, existing coal-fired power plant, of a yearly average of 65-150 mg/m³ or a daily average of < 85–165 mg/m³:⁶

- Combustion optimisation;
- Primary techniques such as air staging, fuel staging, flue-gas recirculation, or low NO_x burners;
- Selective non-catalytic reduction;
- Selective catalytic reduction; or
- Combined techniques for NO_x and SO_x reduction.

Improving regulation of greenhouse gases

The Bill does not include a proposed limit or standard for all greenhouse gases produced by the combustion of coal for electricity, particularly the production of carbon dioxide, despite this causing significant air impurity which has a material impact on public health.

⁴ OECD (2020) *Best Available Techniques (BAT) to Prevent and Control Industrial Pollution*, available at <https://www.oecd.org/chemicalsafety/risk-management/best-available-techniques.htm>.

⁵ At n 2 above.

⁶ Ibid

Greenhouse gases such as carbon dioxide are air impurities for the purposes of the POEO Act, which provides that:

air impurity includes smoke, dust (including fly ash), cinders, solid particles of any kind, gases, fumes, mists, odours and radioactive substances.

Air pollution is defined as “the emission into the air of any air impurity”. That is, for the purposes of the POEO Act as it stands, carbon dioxide (a gas) is an air impurity, and when emitted to the air by coal fired power stations or any other point source, is air pollution. Climate change, which is caused in large part by the combustion of fossil fuels (such as coal) for electricity and the emission of greenhouse gases, will have an increasing impact on public health in the future.

To that end, **we strongly recommend regulating carbon dioxide and other greenhouse gas emissions as air pollutants.**

In November 2020 we released a policy paper exploring opportunities for the EPA to regulate greenhouse gas emissions in NSW: **Empowering the EPA to prevent climate pollution.**⁷ We refer the Committee to the recommendations in that report:

Recommendation 1: The EPA adopts an environmental protection goal of reducing greenhouse gas (**GHG**) emissions consistent with limiting global average temperature rise to 1.5°C above pre-industrial levels.

Recommendation 2: Consistent with the polluter pays principle, the EPA facilitates the reduction of GHG emissions by putting a price on carbon. This could be achieved by:

- a) Introducing schemes for economic measures (such as an emissions trading scheme) that set an appropriate price signal for reducing GHG emissions in NSW.
- b) The EPA immediately finalising the review of its **load-based licensing (LBL) scheme** and recommending that the LBL scheme be expanded to:
 - Include mining for coal and other related activities (which are currently not regulated by the LBL scheme);
 - Include carbon dioxide and methane (as well as other GHG pollutants not currently captured by the LBL scheme) as assessable pollutants (particularly for electricity generation, petroleum exploration, assessment and production, and mining for coal);
 - Increase fees to be more reflective of the costs of GHG pollution on society and drive cleaner production; and
 - Allow revenue from the LBL scheme to be used to fund GHG emissions reduction initiatives.

Recommendation 3: The EPA adopts other mechanisms to reduce GHG emissions in recognition of their impacts as an environmental pollutant including:

- The development of guidelines and policies for the reduction of GHG emissions, including standards or limits on GHG emissions;

⁷ Available at: <https://www.edo.org.au/2020/11/26/empowering-the-nsw-epa-to-prevent-climate-pollution/>.

- Placing conditions on environment protection licences (**EPLs**), including GHG limit conditions (consistent with relevant EPA guidelines or policies developed in relation to the reduction of GHG emissions);
- Implementing Pollution Reduction Programs via EPL licence conditions that require holders of EPLs to reduce GHG emissions; and/or
- The reduction of GHG emissions through emissions standards under the *Protection of the Environment Operations Act 1997* and *Protection of Environment Operations (Clean Air) Regulation 2010*.

Recommendation 4: The EPA prepares and recommends the making of a Protection of the Environment Policy (**PEP**) in accordance with Chapter 2 of the *Protection of the Environment Operations Act 1997* to address the transition to a zero-emissions economy and the prevention of climate change impacts on human health and the environment of NSW.

We note that, as is apparent from the recommendations above, the NSW EPA has an array of existing powers that could be utilised to regulate greenhouse gas emissions – these measures could be taken without the need for legislative amendment. We extract the following as an example:

Key mechanism	Options	Key provisions and features	Enforcement mechanism
Pollution and waste standards and limits	Non-statutory limits (guidelines etc.)	<ul style="list-style-type: none"> • Guidelines and policies for the regulation pollution or waste can provide standards or limits (e.g. <i>EPA Noise Policy for Industry (2017)</i>). • The EPA could develop a guideline or policy that outlines how GHG emissions can be assessed and regulated by certain industries, and set standards for decision-makers to consider in assessing and determining EPL applications and issuing licence conditions under the POEO Act. 	<ul style="list-style-type: none"> • Standards set out in guidelines may be implemented via conditions on EPLs. • Failure to comply with a condition of an EPL is an offence under section 64 of the POEO Act.
	Statutory limits	<ul style="list-style-type: none"> • Part 5.4 of the POEO Act and the POEO (Clean Air) Regulation currently regulate air pollution (e.g. emissions from wood heaters, fires, motor vehicles and fuels and industry) by prescribing standards or limits in the regulation, or directly prohibiting certain activities. • The scope of the POEO Act and POEO (Clean Air) Regulation could be expanded to include the regulation of GHG emissions. 	<ul style="list-style-type: none"> • The POEO Act contains various offence provisions for exceeding standards of concentration or rate (e.g. s128 - Standards of air impurities not to be exceeded).

However, as analysed in the EDO report, these existing legislative tools have not been used effectively. For this reason, this Bill provides an opportunity to establish enforceable standards for all greenhouse gases including carbon dioxide, that would galvanise necessary emissions reductions.

Placing limits on the emission of carbon dioxide from coal-fired power stations - either through amending legislation or regulations - is a practicable step that can be taken to commence addressing the harm caused by the emission of carbon dioxide and other greenhouse gases.

Imposing limits on the greenhouse gas emissions of power plants is not novel. For instance, standards for fossil fuel power plants were introduced by the Obama administration in the United States of America. In 2015 the United States Environmental Protection Agency set performance standards under the *Clean Air Act 1977* for new fossil fuel power plants. The *Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Electricity Generating Units* set limits — in the form of the maximum allowable carbon dioxide emissions per unit of electricity — on greenhouse gas emissions from power plants.⁸ New gas-fired power plants could emit no more than 1000lb CO₂e/MWh, and new coal-fired power plants no more than 1400lb CO₂e/MWh.

Climate change has, and will increasingly have, a significant impact on air quality and public health. This was made starkly apparent by the Black Summer bushfires. Measures to address air quality should be coordinated with measures to address climate change, through mitigation as well as management. We refer to EDO reports including recommendations to maximise co-benefits across pollution policy, climate change and the NSW planning system.⁹

We would be happy to discuss the above in more detail. For further information, please contact rachel.walmsley@edo.org.au or (02) 9262 6989.

Yours sincerely,

Environmental Defenders Office



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Attachment: [Empowering the NSW EPA to Prevent Climate Pollution - Environmental Defenders Office \(edo.org.au\)](#)

⁸ United States Environmental Protection Agency (2021) *NSPS for GHG Emissions from New, Modified, and Reconstructed Electric Utility Generating Units*, available at <https://www.epa.gov/stationary-sources-air-pollution/nsps-ghg-emissions-new-modified-and-reconstructed-electric-utility>.

⁹ EDO (2019) *Climate-ready planning laws for NSW: Rocky Hill and beyond*, available at <https://www.edo.org.au/publication/climate-ready-planning-laws/>; EDO (2020) *Empowering the NSW EPA to Prevent Climate Pollution*, available at <https://www.edo.org.au/2020/11/26/empowering-the-nsw-epa-to-prevent-climate-pollution/>.