Environmental Justice Australia

Submission

in response to

Proposed variation to the National Environment Protection (Ambient Air Quality) Measure standards for sulfur dioxide, nitrogen dioxide and ozone

prepared by

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About Environmental Justice Australia

Environmental Justice Australia (formerly the Environment Defenders Office, Victoria) is a not-for-profit public interest legal practice. We are independent of government and corporate funding. Our legal team combines technical expertise and a practical understanding of the legal system to protect our environment.

We act as advisers and legal representatives to community-based environment groups, regional and state environmental organisations, and larger environmental NGOs, representing them in court when needed. We also provide strategic and legal support to their campaigns to address climate change, protect nature and defend the rights of communities to a healthy environment.

We also pursue new and innovative solutions to fill the gaps and fix the failures in our legal system to clear a path for a more just and sustainable world.

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Introduction

Environmental Justice Australia welcomes the opportunity to provide a submission to the Proposed variation to the National Environment Protection (Ambient Air Quality) Measure standards for sulphur dioxide (SO_2), nitrogen dioxide (NO_2) and ozone (O_3) (**NEPM variation**).

Although the proposed cuts to ambient SO_2, NO_2 and O_3 standards, and removal of allowable exceedances are a step in the right direction to improving ambient air quality and protecting health, they are in no way adequate to address current and emerging air pollution issues in Australia. Further, a variation to the *National Environment Protection (Ambient Air Quality) Measure* (**NEPM**) standards alone is not enough to address the problem. As we expressed during the previous NEPM variation process,[1] the National Environment Protection Council (**NEPC**) knows well that revising the NEPM to keep it in line with the science suffers unacceptable delays. The NEPM approach is no longer adequate for the air pollution problems that Australia faces. Whilst this NEPM variation should be implemented as a priority, the Commonwealth and States should move towards a new system of national laws that effectively regulate air pollution for the health of all Australians and the environment.

The *Draft Variation to the National Environment Protection (Ambient Air Quality) Measure for sulphur dioxide, nitrogen dioxide and ozone* (**Impact Statement**) acknowledges that 'there is a large body of information that identifies health effects from exposure to air pollution at levels below the current AAQ NEPM standards',[2] and 'at levels currently experienced in Australian cities, there are strong associations between exposure to SO_2, NO_2 and O_3 and increases in daily mortality and hospital admissions for respiratory and cardiovascular diseases'.[3] Despite the well-established link between air pollution and a range of health impacts, including premature death, the proposed variation of SO_2, NO_2 and O_3 standards do not reflect current scientific and medical research that supports deeper cuts being made.

The proposed standards were identified by looking at a range of indicators, including 'standards that have been adopted by leading countries.'[4] It is disappointing that Australia does not propose to be amongst leading jurisdictions in the adoption of air pollution standards to mitigate the well-known health impacts of air pollution.

Standards for SO_2, NO_2 and O_3 need to be set at levels that will protect those populations who are most vulnerable to long-term exposure, including communities in: "hot-spot" areas close to industrial

[1] See: https://envirojustice.org.au/sites/default/files/files/Air%20Summit%202015/Envirojustice%20submission%20NEPM%20variation.pdf/.
[2] *Draft Variation to the National Environment Protection (Ambient Air Quality) Measure for sulphur dioxide, nitrogen dioxide and ozone* Impact Statement, May 2019, v.
[3] *Draft Variation to the National Environment Protection (Ambient Air Quality) Measure for sulphur dioxide, nitrogen dioxide and ozone* Impact Statement, May 2019, v.
[4] *Draft Variation to the National Environment Protection (Ambient Air Quality) Measure for sulphur dioxide, nitrogen dioxide and ozone* Impact Statement, May 2019, vi.

facilities; roads where large amounts of SO_2, NO_2 are emitted; areas where NEPM standards are routinely breached; and where existing ambient air quality monitors demonstrate the air quality routinely hovers just below current limits.

The object of the *National Environment Protection Council Act 1994* (Cth) is to ensure that wherever they live in Australia, people enjoy the benefit of equivalent protection from air, water or soil pollution and from noise.[5] In order to fulfil its objective, the NEPC needs to ensure that it sets strict standards immediately, introduces a long-term emissions reduction strategy, and inserts provisions requiring that the states comply with the standards to ensure the standards are not exceeded.

In addition, the NEPC is required to consider the environmental, economic and social impacts of the measure.[6] We emphasise the need to give environmental and social impacts full consideration. The environmental and social impacts of air pollution are well known, with communities that live closest to sources of air pollution at most risk of suffering serious adverse health impacts and premature death. The Impact Statement makes repeated comment on the adverse health impacts and associated expense borne by the Australian population with respect to air pollution. But rather than proposed standards that will reduce the health and financial burden of the general Australian population, the Impact Statement emphasises the economic impact on industry and government to abate SO_2, NO_2 and O_3. The expectation, according to the Impact Statement and Cost Benefit Analysis, is that communities most at-risk ought to continue to bear the environmental and social burden of air pollution because it is too fiscally cumbersome to implement an abatement package to require polluters to reduce their pollution.[7] This approach ensures that the environmental injustices suffered by communities most at-risk will continue well into the future.

Whilst the NEPM is intended to provide a nationally consistent framework, it has negative implications for environmental justice. Firstly, there has not been a nationally consistent framework for community access to monitoring data or for meaningful consequences for non-compliance with NEPM monitoring requirements. Secondly, there are hot-spot areas where NEPM standards are regularly breached, in regions which are excluded from the monitoring framework, such as the coal fields of the NSW Upper Hunter Valley and Central QLD. If those areas were included, the true extent of breaches would be captured.

The regional differences are an important and mandatory issue for the NEPC to consider,[8] as it is regional areas that bear some of the greatest air pollution burdens. However the NEPM monitoring framework does not account for some of those regions, which needs to change as a matter of priority. Given the significant presence of coal infrastructure in the region, regular breaches of NEPM

[5] National Environment Protection Council Act 1994 (Cth) s. 3(a).
[6] National Environment Protection Council Act 1994 (Cth) s. 15(b).
[7] *Draft Variation to the National Environment Protection (Ambient Air Quality) Measure for sulphur dioxide, nitrogen dioxide and ozone* Impact Statement, May 2019, pp. 56, 73, 94, 100-103.
[8] National Environment Protection Council Act 1994 (Cth) s. 15(g).

standards, and its exclusion from the NEPM National Environment Protocol, the Upper Hunter Valley in NSW should be included in the monitoring and reporting framework.

The greatest weakness of the NEPM is that it is not enforceable. Without enforcement mechanisms, including requirements for states to implement variations in a timely manner, air quality is unlikely to improve substantially. NEPC should include provisions in the NEPM that require participating jurisdictions to not breach the standards including standards that are adopted as part of an emissions reduction framework. NEPC should include provisions for regular standards review, commencing in 2025, to review standards against developments in science and medicine.

Standards that are set by NEPC contribute indirectly to pollution control. In order to achieve the proposed desired environmental outcome of 'ambient air quality that minimises the risk of adverse health impacts from exposure to air pollution for all people, wherever they live in Australia', NEPC needs to ensure that strict standards are set now, and implemented immediately. By setting strong standards to protect human health NEPC sends a clear indication to regulators in States and Territories that ambient air pollution levels are to be as low as possible.

Summary of recommendations:

1. Strong health-based standards are required now to protect health, with an exposure reduction framework in place for continual improvement of the standards.
2. The network of NEPM compliance monitors should be expanded to reflect particular risks from widespread source emissions, including the Upper Hunter Valley.
3. Air pollution monitoring data must be made publicly available through a coordinated national website, allowing access to real-time and historical data.
4. NEPM air pollution standards must include compliance obligations, including that NEPM standards cannot be breached.
5. Options for air pollution control and abatement should not be assessed on the basis of a cost-benefit analysis.
6. An improved protocol for community involvement in the development, implementation and review of air pollution standards should be adopted.
7. NEPC must adopt the new standards as a priority – by the end of 2019.
8. State regulators must ensure compliance with the new standards from the commencement of the NEPM in 2020.
9. A national review of this NEPM variation should be conducted in 2025.
10. NEPC must commit to new research and policy development for the future.
11. Australia's air pollution regulatory scheme should be replaced with a national Clean Air Act.

1. Strong health-based standards are required now to protect health, with an exposure reduction framework in place for continual improvement of the standards.

There is no safe threshold for exposure to air pollution. Health impacts have been studied and reported at concentrations well below the current and proposed NEPM standards.[9] Strong health-based standards are required now to minimise ongoing damage to the health of Australians.

There is no rational basis for proposing a weak standard now and a tighter standard in future. None of the standards proposed in the Impact Statement are the strictest standard of the options canvassed.

The NEPM variation proposes totally inadequate standards to reduce air pollution to levels that are more likely to protect health. The standards proposed in the Impact Statement are not world's best practice. It is alarming that the Impact statement, rather than be guided by international best practise, does not recommend the current World Health Organisation 24 hour standard for SO_2 – 7 parts per billion – and instead recommends a standard that is nearly 3 times higher.

These standards appear to have been proposed on the basis that they are readily achievable, or in some places already achieved, and would not impose a cost burden on polluters.[10] Weaker standards are proposed despite the Impact Statement presenting evidence of the health benefits that would be

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[9] Knibbs, Cortés de Waterman, Toelle, Guo, Denison, Jalaludin, Williams. (2018). The Australian Child Health and Air Pollution Study (ACHAPS): A national population-based cross-sectional study of long-term exposure to outdoor air pollution, asthma, and lung function. Environment International, 120, 394-403; Chen, Guo, Abramson, Williams, & Li. (2018). Exposure to low concentrations of air pollutants and adverse birth outcomes in Brisbane, Australia, 2003–2013. Science of the Total Environment, 622-623, 721-726; Bowatte, G., Lodge, C., Knibbs, L., Erbas, B., Perret, J., Jalaludin, B., Dharmage, S. (2018). Traffic related air pollution and development and persistence of asthma and low lung function. Environment International, 113, 170-176; Bowatte, Lodge, Knibbs, Lowe, Erbas, Dennekamp, Dharmage. (2017). Traffic-related air pollution exposure is associated with allergic sensitization, asthma, and poor lung function in middle age. The Journal of Allergy and Clinical Immunology, 139(1), 122-129.e1; Perret, J., Bowatte, Lodge, Knibbs, Gurrin, Kandane-Rathnayake, Dharmage. (2017). The dose–response association between nitrogen dioxide exposure and serum interleukin-6 concentrations. 18(5), 08 May 2017; Li, S., Guo, Y., & Williams, G. (2016). Acute Impact of Hourly Ambient Air Pollution on Preterm Birth. Environmental Health Perspectives, 124(10), 1623-1629; Xu, Z. W.; Hu, W. B.; Williams, G.; Clements, A. C. A.; Kan, H. D.; Tong, S. L., Air pollution, temperature and pediatric influenza in Brisbane, Australia. Environment international 2013, 59, 384-388; Pereira, G.; Cook, A. G.; Haggar, F.; Bower, C.; Nassar, N., Locally derived traffic-related air pollution and fetal growth restriction: a retrospective cohort study. Occupational and environmental medicine 2012, 69 (11), 815-822; Pereira, Gavin, Cook, Angus, De Vos, Annemarie J.B.M., & Holman, C DeArcy J. (2010). A case-crossover analysis of traffic-related air pollution and emergency department presentations for asthma in Perth, Western Australia. (Clinical report). The Medical Journal of Australia, 193(9), 511-514; Wang, X., Hu, W., & Tong, S. (2009). Long-term exposure to gaseous air pollutants and cardio-respiratory mortality in Brisbane, Australia. Geospatial Health, 3(2), 257-263; Hu, W., Mengersen, K., McMichael, A., & Tong, S. (2008). Temperature, air pollution and total mortality during summers in Sydney, 1994–2004. International Journal of Biometeorology, 52(7), 689-696; Jalaludin, B., Khalaj, B., Sheppeard, V., & Morgan, G. (2008). Air pollution and ED visits for asthma in Australian children: A case-crossover analysis. International Archives of Occupational and Environmental Health, 81(8), 967-974.

[9] Australian Government, Australian Institute of Health and Welfare, *Australian Burden of Disease study: Impact and causes of illness and death in Australia*, 2011 (Revised 2016).

[10] See, for example, the argument regarding SO_2: *Draft Variation to the National Environment Protection (Ambient Air Quality) Measure for sulphur dioxide, nitrogen dioxide and ozone* Impact Statement, May 2019, 57 [6.12.1.2 *1-hour standard*].

experienced in Australian communities if much stricter standards were set. Instead, the Impact Statement backs away from stricter standards on the basis that complying with stricter standards would impose too great a financial burned on polluters and government.[11]

By recommending standards that are largely achievable already the Impact Statement does not, in effect, propose anything other than a business-as-usual approach.

In order to reflect the proposed variation to the desired environmental outcome of the NEPM, to 'minimise the risk of adverse health impacts from exposure to air pollution for all people, wherever they may live', the NEPM standards need to be set at international best practice levels.

The adoption of strict standards is not the end of the process. At present, regulators in individual jurisdictions regulate air pollution levels up to the limit. The NEPM is inappropriately used as a target rather than a 'worst case scenario' measure to avoid. There is a prevailing attitude that so long as the NEPM is not breached, there is no requirement (and in fact no legal ability) to reduce point-source air pollution. This actively prevents further reductions in air pollution that are achievable, and that would have significant health benefits. The Impact Statement states that the management of SO_2 from industrial sources is through individual state management strategies, not through the implementation of the NEPM.[12] This statement is in fact untrue.

Victoria and New South Wales provide two examples of these interlinked issues. In Victoria, the NEPM standards are incorporated into the *State Environment Protection Policy (Ambient Air Quality).* The Victorian EPA interprets this as meaning that provided NEPM standards are not being exceeded the EPA has no need and no ability to regulate emissions further at point sources, for example, in coal-fired power stations. Moreover, the EPA believes that if they were to require point-source emissions reductions in order to achieve NEPM standards, they would likely be subject to legal proceedings by polluters. The Victoria EPA states that, in Latrobe Valley for example, NEPM standards for pollutants including SO_2 and NO_2 have remained below national standards,[13] the implication being that the EPA does use the NEPM as a regulatory tool and looks to ambient air quality before it looks to reducing point-source emissions.

Recent epidemiological research from NSW shows that every year, fine particle pollution – a lot of which is secondary particulate matter from the interaction of SO_2 and NO_2 in the atmosphere – from coal-fired power stations contributes to 279 premature deaths, 233 low birthweight babies, and 361 new cases of Type-2 diabetes.[14] This occurs despite ambient levels being under the NEPM standards.

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[11] *Draft Variation to the National Environment Protection (Ambient Air Quality) Measure for sulphur dioxide, nitrogen dioxide and ozone* Impact Statement, May 2019, pp. 100-103.
[12] *Draft Variation to the National Environment Protection (Ambient Air Quality) Measure for sulphur dioxide, nitrogen dioxide and ozone* Impact Statement, May 2019, 59.
[13] For example: Victoria Environment Protection Authority, *Frequently Asked Questions About Air Quality in the Latrobe Valley*, Publication 1623, April 2016, p. 1. Available at: https://www.epa.vic.gov.au/~/media/Publications/1623.pdf.
[14] Ewald, B, *The health burden of fine particle pollution from electricity generation in NSW*, November 2018. Available at: https://www.envirojustice.org.au/wp-

However the NSW EPA will not take measures to reduce air pollution because the standards for fine particles are largely achieved in some locations.

The NEPM should include an emissions reduction framework designed to continually reduce pollution to as close to zero as possible, not set a slightly less weak standard for one pollutant in five years. In order to achieve the proposed desired environmental outcome to minimise the risk of adverse health impacts from exposure to air pollution for all people wherever they live, the NEPM requires the implementation of an emissions reduction framework designed to continually minimise air pollution.

The standards we propose that NEPC adopts are the standards proposed by Doctors for the Environment Australia in their submission to the NEPM variation:[15]

Standard (in ppb)	**International standards**	**Current Australian standard**	**Standards proposed in the NEPM impact statement**	**We propose**
SO_2 1-hour	**US:** 75, as 99th centile of daily worst hour) **Canada:** 70, as 99th centile of daily worst hour **EU:** 124	200, as yearly worst hour, not to be exceeded.	100, as yearly worst hour, not to be exceeded.	60, as 99th centile of daily worst hour.
SO_2 24-hour	**WHO:** 7.6 **EU:** 44 **UK:** 44	80	20, no exceedances	8, no exceedances
SO_2 annual	**Canada:** 5 No standard in other jurisdictions.	20	No standard	No standard
NO_2 1-hour	**WHO:** 97 **US:** 100, as 98th centile of daily worst hour **EU:** 97	120	90, as yearly worst hour.	72, as 99th centile of daily worst hour.
NO_2 annual	**WHO**: 19 **US:** 53 **EU:** 19	30	19	9
O_3 1-hour	**NZ:** 70 **Japan:** 60	100	No standard	70
O_3 4-hour	No standard in other jurisdictions.	80	No standard	No standard

content/uploads/2018/11/Ewald_B_2018_The_health_burden_of_fine_particle_pollution_from_electricity_generation_in_NSW.pdf.

[15] Available at: https://www.dea.org.au/wp-content/uploads/2019/07/Proposed-variation-to-the-ambient-air-quality-measure-standards-for-ozone-NO2-and-SO2-Submission-06-19.pdf/.

O_3 8-hour	**WHO:** 47 **US:** 70 99th centile **Canada:** 63 **EU:** 56	No standard	65	47

2. The network of NEPM compliance monitors should be expanded to reflect particular risks from widespread source emissions.

Ambient air pollution standards must protect people where they live. This is especially so for people who live closest to heavily-polluting facilities such as coal-fired power stations and major roads. To accurately reflect population exposure, the network of NEPM compliance monitors should be expanded to more effectively evaluate the exposure of communities vulnerable to frequent air pollution exposure.

This expansion requires amending the provisions of the NEPM to lower the population threshold at which monitoring is required, and make monitoring requirements in high-risk areas mandatory rather than discretionary. In order to achieve the proposed desired environmental outcome to 'minimise the risk of adverse health impacts from exposure to air pollution for all people, wherever they live in Australia,' we must first understand what people are exposed to. This cannot be achieved if air pollution monitors are not required to be installed in the areas where people are exposed to regular and high levels of air pollution.

Giving "greater flexibility to jurisdictions" regarding their monitoring networks has resulted in no publicly available air pollution monitoring data in large regions that experience elevated air pollution concentrations, such as in the coalfields of central Queensland, the Upper Hunter Valley in NSW, or at Lake Macquarie on the Central Coast of NSW. The NEPM should provide clear direction to States on the matter of where to monitor rather than leaving this to the discretion of state regulators. An exposure reduction and continuous improvement model is recommended for all exposed populations.

The Upper Hunter Valley of NSW, one of Australia's largest coal fields, needs to be included in NSW's NEPM monitoring network. In this region, the NEPM standards for PM10 are regularly breached, often within the same day. But because the Upper Hunter is excluded from NSW's NEPM reporting requirements, NSW is able to report that it is largely compliant with the NEPM standards.

In the absence of the NEPM being enforceable, the least that can be done is that NEPC sets strict ambient air standards that participating jurisdictions adopt with a policy intention to achieve the new desired environmental outcome.

3. Air pollution monitoring data must be made publicly available through a coordinated national website, allowing access to real-time and historical data.

People have a right to know what they are breathing. All air pollution monitoring data must be made publicly available to community members in all states and territories through a coordinated national website, allowing access to real-time and historical data.

As a model for this we recommend the NSW Office of Environment and Heritage (OEH) Air website, which provides searchable and downloadable air pollution data.[16] Entire data sets for all NSW EPA and OEH monitoring stations are immediately available to the public. This contrasts with many other states and territories that can take half a year to validate their ambient air monitoring data before making it available to the public. As an example, Environmental Justice Australia routinely requests air monitoring data from the Victorian EPA, either as specific datasets or for a yearly period. It usually take several months for us to receive validated data from the EPA.

Data collected for the National Pollutant Inventory (NPI) and analysed by Environmental Justice Australia each year shows consistent variations and inaccuracies.[17] This can be attributed to a range of factors, including the complicated methodology by which NPI estimates are calculated. Whilst we believe that the NPI is a valuable tool for community members, the establishment of a complimentary database that provides ambient air monitoring data in real-time will augment community knowledge about air pollution in their region.

4. NEPM air pollution standards must include compliance obligations, including that NEPM standards cannot be breached.

The NEPM is a monitoring and reporting tool that sets non-enforceable standards to achieve a desired environmental outcome. In our experience, the Australian community's expectation is that the NEPM operates as a de facto public health tool because it sets standards for ambient air quality. However the lack of enforceability of these standards, and states' reluctance to regulate air pollution to drive down ambient air emissions keeps Australia's approach to regulating air pollution in a state of arrested development.

The lack of enforceability is the major weakness of the NEPM as a regulatory tool. There are regular exceedances especially in hot spot areas, but there are no mechanisms in the NEPC Act or NEPM to ensure compliance with standards nor to pursue remedies for breaches. The NEPM should include a provision that jurisdictions must ensure that the ambient air standards are not exceeded.

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[16] See: https://www.environment.nsw.gov.au/AQMS/search.htm/.
[17] For EJA's analysis on National Pollutant Inventory reporting see: https://www.envirojustice.org.au/our-work/community/air-pollution/national-pollutants-inventory/.

5. Options for air pollution control and abatement should not be assessed on the basis of a cost-benefit analysis.

The cost benefit analysis on which the entire variation proposal is based is seriously flawed and should not be used by decision-makers to make a decision.

The standards assessed in the NEPM impact statement are not world's best practice and appear to have been proposed on the basis that they are readily achievable (or already achieved) and would not impose a cost-burden on polluters. The Impact Statement presents evidence of health benefits that would be enjoyed in Australian communities if much stricter standards are set, then backs away from them on the basis that complying with the standards would be too costly for polluters.[18]

The Cost Benefit Analysis of the proposal to improve air quality standards was carried out by Aurecon, an engineering company that consults extensively to coal fired power stations,[19] and coal export projects.[20] Auercon's analysis overstates the costs of improving ambient air quality. For example, Aurecon claims that the cost of installing pollution controls into power station to reduce SO_2 emissions is $1090 per kilowatt, whilst the United States Energy Information Agency suggests a price of US$104.88 (approximately AUD$146.99) per kilowatt.[21] Auercon understate the benefits of improving air quality by omitting health impacts that do not include hospitalisation. Aureon conclude that air quality measures that are common around the world are nearly 100 times more expensive than they are worth, which is at odds with the reality of costs associated throughout the rest of the world.

Aurecon's analysis is not suitable for Australian government representative to make decisions about ambient air quality and health. This analysis has significant gaps and has made broad assumptions and incorrect calculations that appear at odds with the global community regarding the costs associated with pollution controls and the health benefits gained by air pollution reduction.

The *National Environment Protection Measure (Implementation) Act* provides that, *inter alia*, the object of the Act is 'to protect, restore and enhance the quality of the environment in Australia, having regard to the need to maintain ecologically sustainable development'.[22] The 'polluter pays' principle is a principle of ecologically sustainable development:

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[18] Auercon, Review of Ambient Air Quality NEPM for SO2, NO2 and O3, *Cost Benefit Analysis*, 6 July 2018, pp. 5, 24.
[19] For example: https://www.aurecongroup.com/projects/energy/eraring-power-station-boiler-and-turbine-upgrade-project; https://www.aurecongroup.com/projects/energy/callide-oxyfuel-project; https://www.aurecongroup.com/projects/energy/bluewaters-power-station; https://www.aurecongroup.com/projects/water/stanwell-power-station.
[20] See: https://www.aurecongroup.com/projects/resources/abbot-point-coal-terminal.
[21] See: https://www.eia.gov/electricity/annual/html/epa_09_04.html/
[22] *National Environment Protection Measure (Implementation) Act 1998* (Cth) s. 3(b).

Polluter pays – that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement.[23]

Having regard to ecologically sustainable development therefore requires the decision-maker to also have regard to the polluter pays principle when making decisions under the NEPM Implementation Act, including in the variation of standards. In this respect, the current proposal to reduce SO_2, NO_2 and O_3 standards based on the findings of a problematic cost benefit analysis cannot be said to be having regard to the polluter pays principle. If the polluter pays principle had been properly considered, the financial obligation of highly-lucrative industrial polluters whose pollution can be readily controlled with technologies that are widely available, such as coal-fired power stations, would be prioritised. The Impact Statement might then have concluded that the costs associated with mitigating large sources of industrial pollution was the favourable course of action, rather than those costs being born by the communities that are most frequently exposed to air pollution.

Moreover, it is a gross oversite that the distribution of costs and benefits were not considered in the cost benefit analysis. Most industrial polluters are large, multinational companies with only limited ability to pass on costs of operation to consumers. It is the Australian public who enjoy the benefits of clean air. In an airshed like the Latrobe Valley, where the health of the community is considered so poor as to require the establishment of Australia's first Health Innovation Zone,[24] the costs and benefits of reducing air pollution on that community are significantly greater than the economic burden to the heaviest generators of pollution.

6. Adopt an improved protocol for community involvement in the development, implementation and review of air pollution standards.

As we have previously expressed to the NEPC, community members and groups have up to this point been ignored in the policy process for development, implementing and reviewing air pollution standards.[25]

The Impact Statement has been in development for over three years. During this time, we have repeatedly attempted to engage with the process but were repeatedly denied obtaining further information about the variations being considered in the Impact Statement and the analysis that was conducted to arrive at the proposals in the Impact Statement. The secretive and opaque way that the NEPM variation process is undertaken, without input from civil society involvement, raises questions about the variation process.

It is absolutely inadequate that civil society is consulted once the Impact Statement has been completed and proposed standards have been chosen. The NEPM variation process must be

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[23] *Protection of the Environment Administration Act 1991* (NSW) s. 6(2)d)(i). See also: *Environment Protection Act 1970* (Vic) s. 1F(2); *Environmental Protection Act 1986* (WA) s. 4A(4)(2).
[24] For information about the Latrobe Valley Health Innovation Zone see: https://www2.health.vic.gov.au/about/health-strategies/latrobe-health-innovation-zone.
[25] See: https://envirojustice.org.au/sites/default/files/files/Air%20Summit%202015/Envirojustice%20submission%20NEPM%20variation.pdf.

redesigned to be open and transparent during the development stage of proposed variations, not after.

A protocol for community involvement should be negotiated and adopted, along the lines of the protocol that guided community involvement in the initial development of the NEPMs for Ambient Air and the National Pollutant Inventory.

7. NEPC must adopt the new standards as a priority – by the end of 2019.

It has been eight years since the NEPC recommended strengthening the desired environmental outcome of the NEPM to focus on minimising risk for all people wherever they may live and more than three years since the Victorian Government initiated the review of standards for these pollutants.

The variation must be finalised without delay. The NEPC must adopt this variation as a priority – by the end of 2019.

To do so, the NEPC must be adequately resourced. The NEPC is under-resourced to the extent that there have been years of significant delay in even getting to this proposed variation stage. A strong and proactive approach to air pollution prevention requires robust and well-resourced institutional arrangements capable of decisive policy intervention.

8. State regulators must ensure compliance with the new standards from the commencement of the NEPM in 2020.

State regulators must ensure compliance from the commencement of the varied NEPM in 2020. This may require strengthening point-source emissions in operating licences at large industrial sources of SO_2 and NO_2, including at coal-fired power stations.

9. Conduct a national review of this NEPM variation in 2025.

We recommend conducting a national review of the NEPM variation in 2025 to formally assess the merits of shifting to the stricter standards, consistent with an exposure reduction framework, and to respond to instances of non-compliance.

10. NEPC must commit to new research and policy development for the future.

Given the NEPM Impact Statement's omission of many health indicators from the cost-benefit analysis due to limited data, it is clear further research is required to adequately quantify the health impacts of air pollution and the benefits accruing from controlling air pollution. Moreover, according to Doctors for the Environment Australia, the Impact Statement does not take account of current research findings that indicate lower standards than those currently proposed ought to be implemented to improve health.[26]

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[26] Doctors for the Environment Australia, *Submission on the proposed variation to the ambient air quality measure standards for ozone, NO2 and* SO2, June 2019, pp.2, 6-7. Available at: https://www.dea.org.au/wp-

Additional research should include the utilisation of detailed atmospheric modelling to estimate ground level air pollution across all populated areas of Australia. It is also important to quantify other non-health indicators such as reduced labour productivity, the co-benefits of reducing other pollutants, and reduction in secondary particulate formation. The US EPA included an assessment of many of these factors in its assessment of the costs and benefits of the Clean Air Act.[27]

11. Replace Australia's air pollution regulatory scheme with a national Clean Air Act.

As the NEPM Impact Statement suggests, 'current policy interventions are not limiting emissions and concentrations in line with policy objectives'.[28] The Impact Statement considers five approaches to regulating pollution, of which the NEPM standards variation is just one. We support consideration of Commonwealth legislation. A stronger role for the Commonwealth, including the collection, analysis and reporting of air pollution nationally, is dismissed as an option on several grounds including:

- the Commonwealth is unlikely to have constitutional powers to introduce legislation that could deliver the desired environmental outcome;
- the Commonwealth would be unlikely to pursue a unilateral approach given the existing cooperative approach in relation to environmental issues;
- the Commonwealth was not well placed to assume a hands-on role in data collection, analysis and reporting of air quality data, and would have had to invest significant resources to duplicate systems that were already in place at the state and territory level.[29]

These reasons are for the most part incorrect, outdated, untested or spurious. Rather, they reflect the Commonwealth and State government's reluctance to further regulate industry to protect Australian communities from air pollution.

To address each of these in turn:

- While the Australian Constitution does not contain an explicit head of power for air quality, there is no doubt that the Commonwealth has sufficient constitutional powers via its other heads of power to substantially regulate the sources of air pollution and improve ambient air quality. Any statement that the Commonwealth does not have constitutional power to regulate is simply untrue. We would be happy to provide you with legal advice on this matter to clear up any confusion.

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content/uploads/2019/07/Proposed-variation-to-the-ambient-air-quality-measure-standards-for-ozone-NO2-and-SO2-Submission-06-19.pdf.

[27] United States Environment Protection Agency, *Benefits and costs of the Clean Air Act 1990-2020: the Second Prospective Study*, 15 September 2001, p. 493. Available at: http://www.epa.gov/clean-air-act-overview/benefits-and-costs-clean-air-act-1990-2020-second-prospective-study

[28] *Draft Variation to the National Environment Protection (Ambient Air Quality) Measure for sulphur dioxide, nitrogen dioxide and ozone* Impact Statement, May 2019, p. 24.

[29] *Draft Variation to the National Environment Protection (Ambient Air Quality) Measure for sulphur dioxide, nitrogen dioxide and ozone* Impact Statement, May 2019, p. 26.

- The existing cooperative approach of using NEPMs to develop national air pollution standards is clearly no longer working or adequate. Rather than national laws being a unilateral Commonwealth approach, buy-in of the States and Territories would be critical to its success. Numerous benefits would flow to both Commonwealth and State Governments if effective national laws were in place, not least the billions of dollars saved in health costs.
- National laws would provide a broad framework for binding national standards and actions. National laws would include the recognition of concurrently operating state and territory laws that would continue to play an important part in regulating and improving ambient air quality. In most instances States and Territories would continue to have responsibility for licencing, data collection and enforcement. There would be no duplication of systems at State and Territory level.

NEPC must reconsider what is possible and in the interest of Australian communities to achieve the proposed desired environmental outcome.

A strong and proactive approach to air pollution prevention requires robust and well-resourced institutional arrangements capable of decisive policy intervention. National air pollution regulation must include compliance obligations and enforcement mechanisms, including penalties that create a sufficient deterrent to prevent non-compliance. A good example of this comes from the US EPA and the US *Clean Air Act 1970*, where US states that fail to ensure compliance with national standards are subject to federal intervention[30] – including orders to comply, issuing penalties, and taking legal action[31] – to ensure compliance. By contrast, the NSW Government does not take action to control air pollution in Sydney or the Hunter Valley, where the current ambient air pollution standards are exceeded frequently.

The shortcomings of a state-by-state approach are illustrated powerfully by the fact that the Impact Statement could only rely on pollution inventories for two states, Victoria and New South Wales, and that both these inventories are more than a decade old. The Queensland Government was unable to provide an emissions inventory or air dispersion modelling to inform this NEPM variation. The Commonwealth could also publish an annual report on compliance in all jurisdictions early each year. Many states either publish years late or not at all.

The PM_{10} standard that was varied four years ago in December 2015 is not being met in a number of air sheds, including the Hunter Valley. The NEPM does not provide a sufficiently robust regulatory framework to ensure state governments monitor and enforce compliance with current air pollution standards, much less the stronger standards that will apply from 2025. In short, this NEPM is failing to achieve the desired environmental outcome of NEPMs: to ensure that people enjoy the benefit of equivalent protection from pollution, wherever they live in Australia.

[30] Clean Air Act 1970, 42 USC, §§ 7410.

[31] Clean Air Act 1970, 42 USC, §§ 7413.

Put simply, the implementation and enforcement of Australia's air pollution standards must not be left up to a patchy and unenforceable regime. Australia is not using its federated system to its best advantage for air pollution prevention and management. A national system that takes advantage of the strengths of the Commonwealth, as well as the strengths of the States and Territories could achieve fairer, more effective air pollution regulation across Australia.

Australia needs to legislate a national set of enforceable laws to control air pollution and a national regulatory body to enforce and monitor compliance. The Commonwealth Government should take responsibility for achieving clean air across Australia by implementing an enforceable national scheme for air pollution that the States and Territories must comply with. The Commonwealth should be responsible for standard setting to ensure communities across Australia have the same strong level of protection. The States should have responsibility for on-ground implementation of air pollution laws and be required to implement the national laws in each jurisdiction in a way that works best in that jurisdiction, provided they are meeting national standards and requirements.