ENVIRONMENTAL JUSTICE AUSTRALIA

Submission to

The United Nations Special Rapporteur on Toxics and Human Rights

prepared by

Environmental Justice Australia

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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. Our legal team provide strategic and legal support to campaigns to address climate change, protect nature and defend the rights of communities to a healthy environment.

1 Introduction

1. Harms deriving from human-produced toxic substances and hazardous waste adversely affect a range of internationally protected human rights. In this submission we focus on impacts of toxics on:

    - The human right to a safe and healthy environment (including as related to the right to life and the right to health). This right is recognised in international instruments but not enshrined in Australian law.
    - Procedural environmental rights (including rights to environmental information, public participation, and accessible justice).

2. During his visit to Australia, we encourage the Special Rapporteur to meet with EJA and concerned community groups about the issues raised in this submission.

2 Sources of toxic waste and pollution

3. Over more than two decades EJA has worked with and represented civil society organisations in tackling and seeking to reduce or eliminate harm from toxic waste and pollution.

4. As in other advanced capitalist states, Australia produces and generates very high levels of toxic waste and pollution from a multitude of sources.

5. Some key areas of concern that arise from community groups we work with include:

Waste and pollution from coal mining and power generation

6. EJA work on waste and pollution generated from coal mining and power generation is extensive. Further details on this work are set out below and in a separate submission on behalf of local Latrobe Valley clients.

Toxic waste from mining operations generally

7. Mining has long been a major economic activity in Australia. Toxic waste contamination from legacy and current mining is widespread, affecting environments and communities (including Aboriginal communities). There are more than 50,000 abandoned mine sites. In addition to toxic impacts from coal mining, many other forms of mining in Australia generate toxic pollution and waste in operations and leave widespread toxic legacies.[1]

Landfill operations

8. Waste disposal via landfill in Australia represents a major legacy problem due to toxic emissions landfills contribute to contamination of groundwater, land, and air.

Plastics pollution

9. Plastic pollution is a major, rapidly accelerating, and ubiquitous source of harm to human health and environment. Plastics pollution and waste is associated with fossil fuel production. Attempts to manage plastic waste in Australia through recycling

[1] See for example Salmi et al Towards an Inventory of abandoned mines in Australia: risk, prioritisation and opportunities (CRC for Transformations in Mining Economies, 2022), https://crctime.com.au/macwp/wp-content/uploads/2022/04/Project-4.5_Final-Report_18-Jan-2022.pdf.

schemes are mixed. Recent catastrophic failures of such schemes included large-scale pollution events arising from fire in storage facilities.[2] These typically occur in lower-income neighbourhoods.[3]

10. Our clients, Port Phillip EcoCentre and Tangaroa Blue Foundation, are well-placed to provide evidence on plastics and 'microplastic' pollution. Their citizen science work is a subset of evidence of the wider plastics pollution problem in Australia.

Transport and other industrial air emissions

11. Pollutants generated from transport and industrial emissions, such as particulate matter, disproportionately and adversely impact poorer communities in Australia. Industrial works are often concentrated in poorer suburbs of major cities or in discrete regional areas. Sources of toxic pollution include those that are cumulative in nature (such as truck fleets) and concentrated (such as hazardous industrial facilities). Repeated large-scale fires and accidents in industrial production and storage facilities are acute sources of harm from toxic pollution, both to workers and communities.

Planned burning operations and the relationship of climate change to fire

12. Many Australian landscapes are highly fire-prone and rely on fire for ecological function. Current 'hazard reduction' or 'regeneration' burning involves fire application typically at 'industrial' scale to burn large areas under relatively high intensity fires. Increasingly controversial for ecological and human health impacts, this 'industrial' burning may be a major source of particulate pollution. While intentional burning in many Australian landscapes is unavoidable and necessary, the nature of methods and effects of burning operations are relevant to human rights questions such as rights to life, health, and a safe environment.

13. Climate change amplification of bushfire and its effects, including pollution, in the Australian landscape represents a significant pathway for generation of air pollution[4] and its adverse impacts on human health.[5] In this respect, climate change is exacerbating toxic effects of air pollution from fire in the landscape (by more regular, intensive and severe bushfires) and climate change represents a factor in the compromise of human rights from toxic pollution.

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[22] Secombe 'The soft-plastics recycling debacle' *The Saturday Paper*, 15-21 April 2023, https://www.thesaturdaypaper.com.au/news/environment/2023/04/15/the-soft-plastics-recycling-debacle; Kerr 'As Melbourne's recycling stockpile keeps growing so does the fire risk posed by waste' ABC News 21 October 2018, https://www.abc.net.au/news/2018-10-21/melbourne-recycling-facilities-pose-fire-risk/10368302;

[3] For example, May 'Huge fire rips through plastics factory in south-east Melbourne' *Guardian Australia,* 8 February 2023, https://www.theguardian.com/australia-news/2023/feb/08/huge-fire-plastics-factory-south-east-melbourne-keysborough

[4] Intense and widespread bushfire may also contribute significantly to water pollution, such as through large and locally catastrophic production of 'slugs' of ash and fire-exposed soils into waterways: see for example Kirono et al Vulnerability of the Gippsland Lakes Ramsar Site and its Catchment to Bushfire and Climate Change (2022), https://publications.csiro.au/publications/publication/PIcsiro:EP2022-1720

[5] Van Oldenborgh et al 'Attribution of the Australian bushfire risk to anthropogenic climate change' (2021) 21 *Natural Hazards and Earth System Sciences* 3 941, https://nhess.copernicus.org/articles/21/941/2021/; Climate Council *'This is not normal': Climate Change and Escalating Bushfire Risk* (Briefing Paper, 2019), https://apo.org.au/sites/default/files/resource-files/2019-11/apo-nid267541.pdf

'Waste-to-energy' power generation

14. Use of various waste 'streams' as feedstock is an emerging feature of power generation.[6] Concerns around this waste management approach include direct contribution of facilities to air pollution[7] and use of this activity to enable unabated waste streams. Waste-to-energy projects may be situated in communities already contending with high levels of pollution and disproportionate health impacts.

Pesticides and agricultural chemicals

15. Use of pesticides and agricultural chemicals in production systems is pervasive in Australia and globally. Harm and threats to the environment and human health from this source are well-known.[8] Both risks from this source and problems of their regulation have been considered in Australia.[9] Growth of use and harms over time is associated with intensification of agriculture and greater technological production systems. Pesticide and agricultural chemical use may be both a source of toxic pollution and a cumulative toxic problem.

3 Strengths and weaknesses of Australian environmental laws concerning toxics

16. Law and administration of toxic waste and pollution is shared across national and sub-national jurisdictions in Australia. States have the leading role in environmental protection law concerning pollution, waste, and land contamination.

17. A key weakness in Australian national laws is an absence of a broad-based and binding legal mechanism to set and implement pollution and waste controls at the national level, including requirements for prevention and reduction of pollution and waste. The existing approach represents a standard-setting mechanism that is bureaucratic and discretionary, dependent on convoluted intergovernmental arrangements, absent the requirement to reflect best available science or to act based on emerging international action.[10]

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[6] See for example Towie 'Burning issue: are waste-to-energy plants a good idea?' Guardian Australia, 28 February 2019, https://www.theguardian.com/environment/2019/feb/28/burning-issue-are-waste-to-energy-plants-a-good-idea

[7] See for example Cole-Hunter et al 'The health impacts of waste-to-energy emissions: a systematic review of the literature' (2020) 15 *Environmental Research Letters* 12, https://iopscience.iop.org/article/10.1088/1748-9326/abae9f

[8] See for example McBratney and Maggi 'Two thirds of farmland at risk of pesticide pollution' University of Sydney, 30 March 2021, https://www.sydney.edu.au/news-opinion/news/2021/03/30/two-thirds-of-farmland-at-risk-of-pesticide-pollution.html and 'Pathak et al 'Current status on pesticide effects on environment, human health and its eco-friendly management as bio-remediation: a comprehensive review' (2022) 13 Frontiers in Microbiology, https://www.frontiersin.org/articles/10.3389/fmicb.2022.962619/full

[9] See footnote 19 below

[10] See Environmental Justice Australia, *Clearing the Air: Why Australia Urgently Needs National Air Pollution Laws* (2014); Scope of coverage of national measures regulating toxics remains constrained, for example in failure to regulate mercury, PVCs and POPs under air pollution standards and failure to set national water pollution or contamination standards. By comparison with analogous US laws (such as the Clean Air Act or Clean Water Act) regulatory coverage is limited and fails to establish binding measures for reduction of pollution and waste.

18. Exceptions amounting to direct national regulation include pollution arising from sea dumping[11] or the mining, processing or use of nuclear materials.[12] Pollution and waste significantly impacting listed threatened species, Ramsar site, World Heritage areas or certain other matters may be regulated indirectly under national environmental law.[13] Federal regulation extends to agricultural chemicals and pesticides. This scheme and its administration is highly permissive and poorly scrutinized.[14] Poor regulation of pesticides and agricultural chemicals is well established with little positive government response. Australia is among countries most at risk of pesticide pollution.[15]

19. Taking Victorian law as a State comparison, recent legislative reform to pollution and waste regulation represents improvement in legal standard-setting, albeit accompanied by ambivalence in administration. Administration of Victorian environmental protection (pollution and waste) law was reviewed in 2016,[16] leading to overhaul in 2017. A centrepiece of the resultant *Environment Protection Act 2017* is an enforceable 'general environmental duty' imposed on any person engaging in an activity giving rise to risk of harm from pollution or waste to human health or the environment.[17] The GED is qualified by an obligation to 'minimize' any such risks 'so far as reasonably practicable'. Effectively, the test is one of proportionality and assessment against the relevant 'state of knowledge'.[18] For the regulator and for duty-holders, the GED poses challenges in application and regulatory standard-setting at the level of 'activity', industrial sector and/or in relation to specific affected human populations and environmental sectors. Levels of compliance with the GED are unknown.

20. Assessment and decision-making by the regulator (Victorian Environment Protection Authority) under both regulatory licensing and the GED at large is opaque and of unknown quality.[19]

4 Cumulative Harms

21. Proliferation of sources of toxic pollution and waste inherently involves cumulative harms and impacts. Cumulative harms arise within and across the various sources of pollution and waste. Cumulative effects are spatial and temporal.[20]

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[11] *Environment Protection (Sea Dumping) Act 1981* (Cth)
[12] *Environment Protection and Biodiversity Conservation Act 1999* (Cth), s 21
[13] Ibid, Part 3
[14] See for example Radcliffe et al Pesticide Use in Australia (Australian Academy of Technological Sciences and Engineering, 2002), https://www.atse.org.au/wp-content/uploads/2019/01/pesticide-use-australia.pdf
[15] Tang et al 'Risks of pesticide pollution at the global scale' (2021) 14 *Nature Geoscience* 206, https://www.nature.com/articles/s41561-021-00712-5
[16] Armatyge et al *Independent Inquiry into the Environment Protection Authority: Final Report* (2016), http://www.epa-inquiry.vic.gov.au/epa-inquiry-report
[17] *Environment Protection Act 2017* (Vic), s 25
[18] Ibid ss 6(2)(c); see generally Lindsay et al 'Conceptualising and activating knowledge in environmental protection law' (2023, forthcoming) *Melbourne University Law Review*, https://law.unimelb.edu.au/__data/assets/pdf_file/0003/4624014/Lindsay,-Marsh-and-Nelson-462-Advance.pdf
[19] See for example, the 2017 legislation provides legal tools for improved management of toxics, such as by way of requiring accounting for cumulative harms and in using 'state of knowledge' as a regulatory device. Third-party enforcement provisions also extend the potential effect and operation of the law, by removing legal barriers to civil society and citizens to bring enforcement proceedings. Key practical barriers remain including limited scope of regulator (State) monitoring and assessment activity, poor resourcing to civil society and community organisations to act as 'co-regulators' (which the legislation anticipates), and apparent lack of overarching strategy on the part of the regulator and State to manage and reduce toxic pollution and waste.
[20] See for example Nelson 'The latent potential of cumulative effects concepts in national and international environmental impact assessment regimes' (2022)12 Transnational Environmental Law 1 150

22. Victorian environmental law recognises the concept of cumulative harm.[21] This legal innovation is relatively isolated in Australian law and is untested in Victoria. It is potentially a powerful contributor to the law regulating toxic pollution and waste. It is not accompanied by regulatory or administrative tools or guidance for integrating the concept into practice, for example in assessments informing decisions on licences under the Act or construction of the quasi-regulatory 'state of knowledge' of duty-holders.[22]

5 Coal Ash Contamination

5.1 Background of coal in Australia

23. Australia has one of the oldest and least efficient fleets of coal-fired power stations in the world[23] and is highly dependent on coal for domestic use and international export. Australia's power stations release more than a million tonnes of toxic pollution into the air each year, affecting not just communities that live near the power stations, but also those further away, such as Sydney.

24. Coal naturally contains toxic chemicals and heavy metals which are concentrated in the ash when burned. Consequently, ash is much more toxic than raw coal and contains concentrated versions of mercury, lead, selenium, cadmium, radium, and other fine particle pollution.[24] Coal ash is stored in landfill cells that are either unlined or inadequately lined, with many already causing groundwater contamination and other environmental issues.[25]

5.2 The Example of Lake Macquarie and NSW

25. Lake Macquarie, NSW is home to two operational coal fired power stations – Eraring Power Station (**Eraring**) and Vales Point Power Station (**Vales Point**). Coal ash from these sites is disposed of in unlined ash dams adjacent to power generation sites within 500m of residential areas. Leachate from the ash dams seeps into groundwater and surface water connected to Lake Macquarie.[26] The following examples evidence toxic contamination of the environment arising from the ash dams and power station operations:

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[21] *Environment Protection Act 2017* (Vic), subs 4(2)
[22] See Lindsay et al 'Conceptualising and activating knowledge in environmental protection law' (2023) 46 *Melbourne University Law Review* 2, https://law.unimelb.edu.au/__data/assets/pdf_file/0003/4624014/Lindsay,-Marsh-and-Nelson-462-Advance.pdf
[23] Andrew Stock, 'Australia's Electricity Sector: Ageing, inefficient and unprepared' (Research Report, Climate Council, 2014)
[24] Environmental Justice Australia and Friends of Latrobe Water, 'When the Ash Settles' (Report, 15 November 2021) 5
[25] For more information on coal ash, rehabilitation of mines and mine legacy we refer you to our submission on behalf of Latrobe Valley community groups of today's date.
[26] See community submissions made to the NSW Parliamentary Inquiry into the 'Costs for remediation of sites containing coal ash repositories', available at: <https://www.parliament.nsw.gov.au/committees/inquiries/Pages/inquiry-details.aspx?pk=2556#tab-submissions> in particular, we note submissions by Doctors for the Environment Australia (**Attachment 5**), Lake Macquarie Sustainable Neighbourhood Alliance (**Attachment 6**) and Environmental Justice Australia (**Attachment 7**); Hunter Community Environment Centre, 'Out of the Ashes I: Water pollution and Lake Macquarie's aging coal-fired power stations', February 2019, pp 23-37 (**Attachment 4**).

a. a January 2023 report for Vales Point identifies migration of contaminated groundwater from the ash dam to a private lot owned by a florist and to surrounding areas.[27] This indicates that toxins are migrating offsite and directly impacting private businesses and the community.
b. in September 2022 there was a major fish kill in Lake Macquarie killing thousands of fish and rays.[28] It is suspected to be caused by operations at Vales Point. The investigation is ongoing.[29]
c. an environmental site assessment for Vales Point[30] concluded the concentrations of metals identified in soil, sediment, surface water and groundwater at the site was likely to represent a potential risk to human health and/or the environment[31] and arsenic, nickel and selenium were more than the adopted screening vales in groundwater monitoring well located near the ash dam.[32]
d. selenium concentrations found by the Hunter Community Environment Centre at the Eraring ash dam overflow point are 55 times higher than the level recommended to protect wildlife.[33] The NSW Government has issued precautionary advice for the consumption of seafood from Lake Macquarie, following the detection of PFAS and cadmium above health screening criteria, posing a risk for fishers and their families.[34]
e. when ash in ash dams dries it can become airborne, which is a serious contamination risk for residents. This has occurred on at least three separate occasions at Eraring.[35]

26. Contamination from unlined ash dams located near Lithgow, NSW derives from the privately owned and operational Mount Piper Power Station (**Mount Piper**) ash dam and the historic Wallerawang Power Station ash dam (Kerosene Vale Ash Repository). Known contamination issues include:

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[27] Licence Variation Notice No. 1626577 for Environment Protection Licence No. 761 as it relates to Vales Point Power Station, available at: < https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=761&id=761&option=licence&searchrange=licence&range=POEO%20licence&prp=no&status=Issued>
[28] Newcastle Herald, 17 September 2022, 'Fish kill at Mannering Park in Lake Macquarie caused by Vales Point Power Station, residents Sue and Kelvin Wynn and Darran Budden allege, as NSW EPA steps up investigation', available at: < https://www.newcastleherald.com.au/story/7903946/fish-deaths-in-lake-macquarie-estimated-at-15000-as-power-station-stands-accused/>.
[29] NSW Environment Protection Authority, 25 October 2022, Mannering Park, Lake Macquarie, fish kills, available at: < https://www.epa.nsw.gov.au/working-together/community-engagement/updates-on-issues/mannering-park-lake-macquarie-fish-kills>.
[30] ERM– Environmental Resource Management P/L, 2014, Project Symphony – Vales Point Power Station Stage 2 Environmental Site Assessment Final. We note that this document is not publicly available however the Hunter Community Environment Centre was able to access it as part of the documents called for by the Inquiry into the Costs for the Remediation of sites containing coal ash repositories under NSW Parliamentary Standing Order 52. The document is available for inspection at NSW Parliament.
[31] Winn, Paul, Lynch, Johanna, and Woods, Georgina, Hunter Community Environment Centre, Out of the Ashes II: NSW water pollution and our aging coal-fired power stations, 14 October 2020, p 37 (**Attachment 3**).
[32] Ibid, pp 49-53.
[33] Winn, Paul, Lynch, Johanna, and Woods, Georgina, Hunter Community Environment Centre, Out of the Ashes I: Water Pollution and Lake Macquarie's ageing coal-fired power stations, Hunter Community Environment Centre, 2019, p 3 (**Attachment 4**).
[34] NSW Environment Protection Authority, 14 July 2021, Lake Macquarie: Guidelines for the consumption of giant mud crab and blue swimmer crab, available at: < https://www.epa.nsw.gov.au/your-environment/contaminated-land/pfas-investigation-program/pfas-investigation-sites/lake-macquarie>.
[35] NSW Legislative Council, Report 4: 'Costs for remediation of sites containing coal ash repositories', March 2021, 2.44, p 16 (**Attachment 2**).

a. At Mount Piper, EnergyAustralia trucks dry ash to the open cut mine adjacent to the power station, and into the ash dump.[36] Investigations into groundwater quality at the ash dump shows the presence of heavy metals including nickel, boron, and chloride.[37] EnergyAustralia has publicly admitted that the Mount Piper ash dam is contaminating groundwater with heavy metals.[38]
b. Kerosene Vale Ash Repository is declared as significantly contaminated land.[39] Soils, groundwater and surface water, including creeks that form tributaries of the Coxs River which leads into Sydney's main drinking water supply, have been contaminated with substances such as boron, cadmium, chromium, copper, iron, mercury, lead, asbestos. The EPA has identified that the nature and extent of the contamination and its risks to the environment and human health require further investigation.[40]

27. In Lithgow, current and legacy contamination issues and ongoing toxic pollution will potentially be added to with its recent addition to one of four designated precincts chosen by the NSW Government to incinerate waste.[41] This has raised concerns with many members of the community, including Traditional Owners.[42]

28. Collectively, these examples demonstrate broad-scale impacts of coal ash pollution and contaminant levels on the environment and communities who live near coal-fired power stations. As noted in submissions to the NSW Parliamentary Inquiry into the 'Costs for remediation of sites containing coal ash repositories and the Committee of Inquiry's recommendation that NSW Health undertake epidemiological assessment of the health of residents near coal ash dams,[43] these impacts present significant health concerns for communities that must be further investigated. Notably, the NSW Government did not commit to this recommendation, and it is unknown what alternative study types, if any, NSW Health has proposed to address community health concerns.[44]

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[36] EnergyAustralia NSW, Mt Piper Ash Placement Project: Lamberts North Annual Environmental Management Report, September 2016 – August 2017, p 17.
[37] Ibid p 31.
[38] Lithgow Mercury, 29 October 2020, 'New report finds coal ash management strategies are failing to stop pollution spreading', available at: https://www.lithgowmercury.com.au/story/6978380/energyaustralia-comments-following-report-that-finds-mt-piper-ash-dump-is-contaminating-groundwater/
[39] *Contaminated Land Management Act 1997* s 11.
[40] NSW Environment Protection Authority, Declaration Number 20211113, available at: https://app.epa.nsw.gov.au/resources/clm/docs/html/n20211113.htm
[41] NSW Government September 2021, Energy from Waste Infrastructure Plan, available at: https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/waste/21p3261-energy-from-waste-infrastructure-plan.pdf
[42] 9 News, May 2022, 'Community's noses out of joint over waste incineration plan', available at: https://9now.nine.com.au/a-current-affair/lithgow-community-calls-out-waste-incineration-plan/24fd86d5-a174-4374-9a8e-f6f0af9ad876
[43] NSW Legislative Council, Report 4: 'Costs for remediation of sites containing coal ash repositories' (March 2021), Recommendation 6 and pp 24-29.
[44] NSW Government, NSW Government Response: Inquiry into costs for the remediation of sites containing coal ash repositories, September 2021, p 4 (**Attachment 9**).

Attachments:

1. Environmental Justice Australia, ‘Unearthing Australia’s toxic coal ash legacy’ (Report, 1 July 2019)
2. NSW Legislative Council, Report 4: ‘Costs for remediation of sites containing coal ash repositories’ (March 2021)
3. Winn, Paul, Lynch, Johanna, and Woods, Georgina, Hunter Community Environment Centre, Out of the Ashes II: NSW water pollution and our aging coal-fired power stations, 14 October 2020
4. Winn, Paul, Lynch, Johanna, and Woods, Georgina, Hunter Community Environment Centre, ‘Out of the Ashes I: Water pollution and Lake Macquarie’s aging coal-fired power stations’, February 2019

   Submissions from the NSW Parliamentary Inquiry into the ‘Costs for remediation of sites containing coal ash repositories’ (2019-2021):

5. Doctors for the Environment Australia, Submission to the NSW Legislative Council into the costs for remediation of sites containing coal ash repositories, February 2020
6. Lake Macquarie Sustainable Neighbourhood Alliance, Submission to NSW Parliament Legislative Council Public Works Committee Inquiry into the costs for remediation of sites containing coal ash repositories, February 2020
7. Environmental Justice Australia, Submission in response to NSW Public Works Committee Inquiry into the costs for remediation of sites containing coal ash repositories, February 2020
8. Environmental Justice Australia: Clearing the Air: Why Australia Urgently Needs National Air Pollution Laws (2014)
9. NSW Government, NSW Government Response: Inquiry into costs for the remediation of sites containing coal ash repositories, 17 September 2021