Submission to Review of National Pollutant Inventory (NPI)

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Contact:
CAHA Executive Director
Fiona Armstrong
Fiona.armstrong@caha.org.au
Phone 0438 900 005
www.caha.org.au

About the Climate and Health Alliance

The Climate and Health Alliance (CAHA) is a national alliance of organisations and people in the health sector working together to raise awareness about the health risks of climate change and the health benefits of reducing greenhouse gas emissions.

CAHA's members recognise that health care stakeholders have a particular responsibility to the community in advocating for public policy that will promote and protect human health. Membership of the Climate and Health Alliance includes a broad cross section of the health sector with 27 organisational members, representing hundreds of thousands of health care professionals from a range of disciplines, health care service providers, institutions, academics, researchers, and health consumers. The Climate and Health Alliance, as its name suggests, is concerned with the health threats from climate change, and the Alliance works to raise awareness of those risks and advocate for effective societal responses, including public policies, to reduce risks to health.

The Climate and Health Alliance has produced a significant number of reports and publications to assist policymakers and inform health stakeholders and the wider community about the impacts of climate change and health, the priorities and concerns of health stakeholders, and climate solutions that maximise health and wellbeing outcomes. These include the National Strategy on Climate, Health and Well-being for Australia in 2017; a Report from the National Consultation regarding the National Strategy in 2017; the preceding Discussion Paper in 2016; the joint report Healthy Investments (with Doctors for the Environment) in 2016; the seminal report Coal and Health in the Hunter: Lessons from One Valley for the World in 2015; the multi-stakeholder Joint Position Statement and Background Paper on Health and Energy Choices in 2014; the joint report 'Our Uncashed Dividend' (with The Climate Institute) in 2012 on the health benefits of reducing greenhouse gas emissions; and a Briefing Paper on the Health Implication of Energy Policy.

CAHA produced a film on the risks to health and climate from coal and gas, The Human Cost of Power in 2013; and has conducted many innovative and ground breaking public events, including the Healthcare Environmental Sustainability Forum (with Western Health and Institute for Hospital Engineers Australia) in 2017; the Our Climate Our Health Seminar in 2015, featuring an innovative thought experiment: Imagining 2030 as a healthy low carbon world; a Public Seminar on Protecting Health from Climate Change in 2014 (jointly hosted with University of NSW); a national Roundtable on the Health Implications of Energy Policy; and the national Forum on Climate and Health: Research, Policy and Advocacy in 2013. CAHA also contributes to many conferences, community dialogues, and forums, both nationally and internationally on these issues.

For more information about the membership and governance of the Climate and Health Alliance, please see Appendix A. For further information see www.caha.org.au

Overview / Introduction

CAHA thanks the NPI Review Steering Committee for the opportunity to contribute to the review of the National Pollutant Inventory.

We believe that this review is occurring at a strategically pivotal moment. Following on from the community mobilization about unconventional gas, across most states and territories, and then the prominence of PFAS issues in the national media, it is apparent that the community now expects vastly higher standards in relation to regulation and monitoring of exposure to environmental pollutants. Those organisations entrusted with data collection and policing roles need to be seen to be protecting the community and doing so in a very transparent and accessible way. State and federal environment protection bodies need to be working together and sharing information.

The Victorian EPA is currently assessing actual levels of over a hundred pollutants. These assessments, along with similar work by other EPAs, should be nationally coordinated and made available on the NPI website.

There are well validated reasons for concern in relation to the NPI, with assessments revealing emissions estimates provided by the Inventory are not accurate, and in relation to important public health pollution sources, the Inventory does not fulfil its legislated goals (Cooper, 2017).

Bearing in mind the potential harm that can be caused by pollutants released into the air, water or land, we believe that the NPI should be based on ensuring that pollutants do the minimal damage possible (preferably zero damage) to:

1. Human health
2. The natural environment
3. Ecosystems, on which it must be recognized human health and even survival are completely dependent.

Listed below are a number of priority issues CAHA urges the NPI review to consider in relation to improving the performance of the National Pollutant Inventory, in particular improving accuracy of reporting by industry and the need for strengthened compliance and enforcement measures.

Key issues

1. **Inadequacy of data and long-term monitoring**

CAHA agrees with the statement in the 2016 State of the Environment Report Overview which identified ‘inadequacy of data and long-term monitoring’ as one of the ‘key challenges to the effective management of the Australian environment’ (SoE Authors, 2016 cited in the Discussion paper p.11).

A review of the data set on Australian coal mining and associated pollutant emissions reported through the National Pollutant Inventory (NPI) (Weng et al, 2012, p. 80) reveals significant shortcomings.

Protection of human health and the natural environment must be a key objective pollutant monitoring in Australia. However the dramatic growth of the unconventional gas industry and utilisation of technologies such as underground coal gasification which have resulted in serious contamination and long-term threats to health demonstrates that serious health risks are not anticipated, prevented, nor monitored or managed in a timely way by current processes.

Recommendation:
The NPI should provide a coordinated, comprehensive and effective Australia-wide system of registering and monitoring pollutants and making the information readily and easily available to the community. It should have the capacity to respond rapidly to new pollutants and new situations where people and/or the environment are exposed to pollutants.

Recommendation:
Short and long-term monitoring of toxic pollutants associated with the mining and production of coal, gas and oil due to their potential to harm human health and the environment is urgently required. The development of regulations to establish agencies and processes to undertake this monitoring is essential.

2. Appropriateness of environmental outcomes

One of the NPI's desired environmental outcome is the maintenance and improvement of ambient air quality. The NPI in its current format has failed to achieve this outcome. In fact, ambient air pollution has increased in many Australian communities during the last 20 years (SoE, 2016 cited in the Discussion Paper p.11).

The NPI review is intended to assess the extent to which the NPI "informs, empowers and enables policy and regulatory actions and behaviours that contribute to the achievement of the desired outcomes."

NPI data and state government pollution control are currently disconnected. State governments don't use NPI data to ensure compliance with licence conditions, relying instead on occasional stack monitoring results.

State Governments don't determine pollution limits or pollution fees according to the NPI, or initiate compliance action when the NPI identifies polluters whose emissions appear to have significantly increased.

Other concerns:

State Governments have failed to respond when the NPI has highlighted a significant increase in toxic emissions.

The 2018 NPI report showed that increases in pollution from open cut coal mines have occurred without any penalty.

For example:

- Coarse particle (PM10) emissions from the Mount Owen open cut coal mine increased 17% to 3.3 million kilogram – however no additional pollution controls were required;
- Fine particle pollution (PM2.5) from the five power stations in NSW increased by 39% to a total of 755,000kg;
- PM2.5 emissions from Vales Point power station increased by 179%, and PM2.5 from Bayswater power station jumped by 69%;
- Despite an EPA review of their licences and compliance history, none of the state's power stations had their licence requirements strengthened;
- None have been required to implement additional pollution controls.

Recommendation: To achieve its purpose, the NPI must be utilised by environmental regulators to effectively control pollution. To address this, CAHA recommends the NPI be utilised by all environmental regulators (state and Commonwealth) in their efforts to control pollution.

Although implicitly addressed through the desired outcomes of National Environment Protection Agency relating to hazardous wastes and sustainable use of resources, land environmental quality is not explicitly referenced in the NPI. It is however commonly referenced in other countries' Pollutant Release and Transfer Registers (PRTRs).

Recommendation: CAHA proposes that the NPI's should revise its objectives to include influencing the reduction of emissions of environmentally harmful substances by various industries, which is a key goal of other countries' (PRTRs) cited in Box 1, p.12.).

3. The pollutant substance list is inadequate and needs review and expansion

CAHA notes that the NPI was first developed in the 1990s, and started with 93 pollutants, on the understanding that the inventory would expand over time. In 2018, there are still only 93 pollutants being monitored. By comparison, the United States' Toxics Release Inventory contains 594 toxic substances.

Specific concerns: A number of sources of pollution injurious to human health are not required to be reported under current NPI requirements. These include coal stockpiles, coal mines owned and operated by power stations and coal trains with uncovered wagons.

The risks to health from pollutants related to coal production are outlined in detail in the CAHA report *Coal and Health in the Hunter: Lessons from One Valley for the World,* available here http://www.caha.org.au/hunter_coal.

Such sources in proximity to urban and rural settlements present health risks to exposed communities, including children in schools and childcare centres close to rail lines, which should be monitored and managed.

CAHA's *Coal and Health in the Hunter* report reveals there is a cost to NSW of $600 million per annum from health damages bill associated with PM 2.5 associated with coal fired power stations in the Hunter region. Air pollution from coal sources affecting the towns of Singleton and Muswellbrook is responsible for health damages worth $65.3 million each year. The national costs are far higher.

Recommendation: On the question of reviewing the substance list by a Technical Advisory Panel (TAP), CAHA strongly agrees with the suggestion (Discussion paper p.31) that the substance list should consider including substances with potential for environmental, and human health harm such as Per and Poly-fluoroalkyl **(PFAS)**.

Careful attention to the toxic effects of **unconventional gas drilling** (including "fracking"), processing and transportation, should also be a priority.

Recommendation: The impact of increasing temperatures on substance toxicity (e.g. VOCs) and chemical interactions due to the **increasing impacts of climate change** should be considered in substance list expert review. Likewise, increasing salinity, due to reduced rainfall and increased extractions, may enhance the bioavailability of toxins such as methylmercury in lake and riverine systems.

4. **Reporting on emission reduction techniques should be mandatory**

CAHA notes that information on the emission reduction techniques (cleaner production or pollution control equipment) used at a facility is provided voluntarily by some reporters (in 2015–16, 58 per cent of facilities voluntarily submitted emission reduction technique information. Discussion paper p.18).

Recommendation: The provision of information regarding toxic emissions reduction techniques should be compulsory and standardised across reporters to produce more authoritative and therefore useful data. In regard to weighing the value of this usefulness against the cost to industry of supplying the data, and the cost to administrators of verifying the data, as nearly 60% supplied this data voluntarily, it seems the cost to most industry is negligible, and that it should therefore be mandatory.

5. **CAHA reiterates calls for strong national air pollution standards and a national environmental protection authority**

To date, state governments have failed to control air pollution. Pollutant concentrations exceed the national ambient air pollution standards frequently in some communities, without meaningful consequence for polluters. For example, 34 air pollution alerts (exceedances) were issued in July 2018 in the Hunter Valley alone.

Despite these breaches, the coal mines responsible for this pollution were not compelled to implement best practice pollution controls.
Fine particle concentrations in communities near power stations exceed the national standards, but the generators are not required to install readily available technologies that would reduce the sulfur dioxide emissions that form secondary particle pollution.

To effectively control air pollution in Australia, we need a national pollution authority, with powers to enforce penalties for breaches of standards and non-compliance.

Recommendation: The development and enactment of comprehensive Environmental Protection laws with a focus on threats to human health, and the establishment of a National Environmental Protection Agency.

6. **Accuracy of reporting by industry needs to be improved, and better compliance and enforcement measures are needed.**

As reported by Environmental Justice Australia (EJA), the NPI data is often wrong, and is not corrected (Environmental Justice Australia, 2018). The 2016-17 data, for instance, included several obvious errors.

These included:

- Bayswater Power Station reported emitting 73.5kg of mercury in 2017 while Eraring, Australia's biggest power station, emitted just 1.3kg of mercury. there is a possibility for errors in these reports or one of these power stations is utilising a pollution control measure that should be mandatory for the other (Environmental Justice Australia, 2018).
- In the last two NPI reports (2015-16 and 2016-17), the operators of the Yallourn power station reported fine particle (PM2.5) emissions more than 50% lower than any year in the preceding decade. This is not credible, as the power station has not installed any new equipment to control pollution. Yallourn still doesn't have bag filters, decades after this basic pollution control was fitted to power stations around the world (Environmental Justice Australia, 2018).
- A coal tar plant over-stated their benzene emissions by a factor of ten. Concerned residents and an investigative journalist drew attention to the error. Until then, the 47 tonnes of benzene emitted in a residential area had not generated any attention by state or local government regulators (Environmental Justice Australia, 2018).

A rigorous audit of the NPI data reported during the last decade would likely reveal scores of similar errors.

Reporting errors are not remedied. Even when NPI staff are advised of an obvious error or omission in the dataset, errors can remain uncorrected for years.

Recommendation:
The Department of Environment and Energy should implement processes for more accurate reporting by industry of their emissions; and institute improved compliance and enforcement measures, including penalty for non-compliance.

4. The NPI–User Interface needs better functionality to allow users to easily compare pollution according to year and facility

The purpose of the NPI was to inform and empower communities to compel polluters to reduce their toxic impacts. However, the NPI website allows very limited functionality and that purpose is prevented by an inadequate interface.

It is not possible, for instance, to compare the toxic emissions from a power station year by year. Instead, it is necessary to download the data for each year, then import multiple csv files into Excel to make this comparison.

To compare all Australia's coal-fired power stations, coal mines or other major polluters over several years, it's necessary to download hundreds of separate search results, then meticulously craft them into an integrated spreadsheet.

This requires skill and patience and presents an entirely unnecessary and preventable obstacle.

When community members can easily compare polluters' reports year by year, and quickly access the full details of emission control measures implemented, polluters will begin to be held to account.

Recommendation: That the NPI user interface be updated with a more user-friendly interface. A programmer with modest skill levels could quickly create this.

Thank you for the opportunity to contribute to this review.

References

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3. Environmental Justice Australia. (2018). *Will Australia's main source of pollution info be weakened?*. Available at: https://www.envirojustice.org.au/projects/will-the-npi-be-strengthened-or-weakened/ [Accessed 17 Aug. 2018].

4. Cooper, N., Green, D. and Meissner, K.J., 2017. The Australian National Pollutant Inventory Fails to Fulfil Its Legislated Goals. *International journal of environmental research and public health*, *14*(5), p.478.

APPENDIX

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