Submission to the Clean Air for all Victorians: Victoria's Air Quality Statement

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Healthy planet, healthy people.

Doctors for the Environment Australia (DEA) is an independent, self-funded, non-government organisation of medical doctors and students in all Australian States and Territories. Our members work across all specialties in community, hospital and private practices. We work to prevent and address the health risks - local, national and global - caused by damage to our natural environment. We are a public health voice in the sphere of environmental health with a primary focus on the health harms from pollution, environmental degradation, and climate change.

DEA welcomes the opportunity to contribute to strategy development by the Victorian Government to improve air quality in order to minimise health harms to all Victorians and their interstate neighbours.

Over the years, DEA has extensively advocated for improvements in air quality and air quality standards. DEA has developed position statements and policy documents[2, 3] and submitted to many National and State Inquiries[4, 5, 6, 7] on air quality, and to Inquiries into fuel standards[8, 9] as well as contributing to multiple published media articles.

There is strong (and continually growing) evidence that pollutants from combustion of fossil fuels are injurious to human health. These adverse health effects are described in the Discussion Document[10] and highlight the evidence that the pollutants of particulate matter and oxides of sulphur and nitrogen contribute significantly to respiratory and cardiovascular disease causing premature mortality; worsening asthma and chronic lung disease; increase the risk of cardiac arrhythmia, heart attack, stroke and lung cancer; and hinder lung development.[11] Thus, DEA has a strong responsibility to speak out for improvements in air quality.

In this submission, DEA will answer the questions specifically and expand on the answer to Question 7 to provide further suggestions.

Question 1: What do you think are the best value actions listed above that are likely to help improve future air quality?

Recommendation 1:

> The best value action is to reduce air pollution of the six major toxic pollutants as much as possible (at least down to international standards) across all sectors.

The links between air pollution and ill health are well established, with air pollution contributing to approximately 3,000 Australian deaths and health costs of between $11.1 and $24.3 billion annually.[12]

It is important to note that it is now considered there is no threshold below which air pollutants are safe. As a guide, we would suggest firstly strengthening ambient air quality standards to internationally accepted levels[13]. This would apply to the major industrial polluters, as well as monitoring and acting on pollution at obvious suburban hot-spots from vehicular traffic. As the Federal government has barely moved on improving vehicle emission standards and fuel quality, Victoria also has a responsibility to encourage Federal action

Question 2: How would you build on or vary these actions?

Recommendation 2:

> Timely updating and strengthening of Victorian air quality standards in keeping with current scientific and medical evidence. Ideally requirements for regular updating of the standards should be embedded in legislation. Penalties for breaches need to parallel improvement in standards.

Australia's first national air pollution standards were established in 1998, and although the particle standards were revised in 2015[14], the SO_2, NO_2 and ozone standards review process has stalled. The current law which requires states to monitor and report emissions of these pollutants against a standard does not lead to any specific enforcement. Furthermore, standards set are lax and well behind international standards. For example, childhood asthma has been shown to be triggered by SO_2 concentrations lower than the Australian standards.[15]

World Health Organization standards for SO_2 are 10 times stricter than Australia's current standards. The Australian Medical Association states that: *"Current air quality standards in Australia lag behind international standards and have failed to keep pace with scientific evidence"*.[16]

Clearly the current legislation is not adequately protecting the health of Australians and revision is long overdue.

Recently the Victorian government introduced the Environment Protection Amendment Bill 2018 which embodies a general environmental duty (GED). Under this Act, there is an expectation for everyone to take reasonably practicable steps to eliminate or minimise risks of harm to human health from environmental pollution or waste. That a breach of the GED could lead to criminal or civil penalties is a commendable advance in pollution control.

Question 3: Do you have any suggestions for further actions?

Recommendation 3:

> DEA recommends implementation of significant financial incentives for companies to switch to less polluting production techniques.

In order to achieve substantial reductions in air pollution across all sectors, we recommend the use of effective and significant financial incentives for companies to switch to less polluting production techniques, such as a Load Based Licensing system based on a polluter pays model. In this model, a polluter pays a significant fee per tonne of each pollutant released, creating a financial incentive for less polluting production. This system adds weight to business cases for updating production methods and pollution control technology, and rewarding cleaner production methods. For this model to be successful, it is essential that the fees are sufficient to not only discourage pollution but to ensure that pollution reduction is a financial incentive for success of that business. The huge health costs of toxic air pollution which are paid by the community rather than the polluter underlies the fairness of this approach.

Question 4: Are there any air quality actions you believe should be avoided? Why?

Fuel reduction burns for bush-fire mitigation is an uncertain area. There is emerging evidence landscape fire smoke, from both bushfires and hazard reduction burns, causes substantial health burden.[17] When done appropriately, short-term smoke pollution may be a small price compared with that from a major bush-fire. However, reduction burns should be based on definite need and at suitable times, and not pursued to satisfy pre-determined quotas. We recommend that the health risks of fire smoke pollution be explicitly factored into managing

fires through collaboration between health, environment, and fire management agencies.

Question 5: Are there particular areas of air quality (either pollution sources or geographic regions) you think the government should target for air quality improvement? Why?

Recommendation 5:

We recommend the development and adoption of intersectoral policies that aim to reduce motor vehicle use and increase the use of public transport and active transport as these policies have important health co-benefits in addition to lowering urban air pollution concentration.

Transport is the major contributor to poor quality air in urban areas.[18] At a minimum, Victoria needs to advocate for more stringent emissions standards[19] to minimise the harm caused by vehicular emissions. However, we see this as an opportunity to pursue intersectoral policies that ensure the future health of Victorians by facilitating a range of safe and accessible transport options that reduce reliance on private motor vehicles.

The World Resources Institute states that private cars account for less than one-third of trips in cities worldwide but are responsible for 73 per cent of urban air pollution and generate three times more greenhouse gas than public transport. They suggest a '3C' model of urban growth: connected, compact, and coordinated, where transit-oriented development strategies focus on adapting urban spaces to the scale of pedestrians and cyclists.[20]

In addition to reducing air pollution, there are a range of health co-benefits associated with reducing motor vehicle use, including physical activity from walking and cycling, which can help prevent heart disease, some cancers, type 2 diabetes, and other obesity-related health risks.[21] Furthermore transport systems that prioritise active transport and rapid transit systems, along with better urban land use, enhance health equity[22] by improving access for vulnerable groups, including children, the elderly, people with disabilities, and lower wage earners.

Question 6: Are you able to provide any data or information that will help government assess the feasibility and cost-effectiveness of air quality management actions?

Recommendation 6:

Any assessment of cost-effectiveness needs to consider the considerable health costs associated with inaction.

There is existing evidence that the costs of avoiding emissions are considerably less that the estimated health costs of those emissions in Australia.[23] As an example, the estimated costs of phasing out wood heaters ($2.1/kg PM2.5) and for reducing diesel emissions (upwards of $70/kg) are considerably less than the estimated health costs ($166/kg) of those emissions.[24]

Overall, the health costs associated with the effects of air pollution in Australia are estimated to range between $11.1 billion and $24.3 billion annually solely as a result of mortality.[25] The health costs of PM_{10} emissions from road transport in Australia are estimated to range from $2billion to $7billion per year.[26, 27, 28]

But more work is required to provide locally-relevant and up-to-date cost-effective analyses that take into account uncertainties of both the cost of air quality management and costs of adverse health effects. In spite of the uncertainties inherent in assessing cost-effectiveness, DEA recommends developing Victoria-specific estimates of the health costs of air pollution as these help to direct attention to the need for pollution abatement.

Question 7: Do you have any other suggestions on how to secure a clean air future?

Recommendation 7:

Significantly reduce pollution from Victoria's power stations.

Coal-fired power stations are a major source of air pollution in Victoria. As well as causing local pollution in a regional area well away from a large population area, a study in NSW found that pollutants and particles from coal fired power stations can travel hundreds of kilometres and still form a substantial component of ambient air pollution in a large city.[29] Although environmental differences, including wind direction, in Victoria limit the emissions from the Latrobe Valley reaching Melbourne, restricting emissions in the Latrobe Valley is fundamental to providing clean air in Victoria.

A report from Environmental Justice Australia has highlighted the ways in which Victoria's air pollution licencing scheme is inadequate for coal-fired power stations when compared with other jurisdictions, including the United States, China, and the European Union.[30]

DEA in its submission to the Licence Review[31] also called on stricter standards to reduce the health burden. DEA presented material which suggested that local pollution may contribute to a slightly higher incidence of low birth weight infants in the region down-wind from the power stations. Further studies of this observation are indicated.

Pollution from these stations can be reduced by known technologies such as flue gas desulphurisation, selective catalytic reduction, fabric bag filters, and activated carbon injection. We also need to improve monitoring and public reporting of criteria pollutants, not only in cities but also in communities affected by polluting industries. The results of air quality monitoring should be made public in real time, accessible to communities in a user-friendly format and archived for future reference.

Air pollution is predicted to become worse with climate change, especially in regions of increasing drought and heat which result in increased dust, air-borne allergens and particulate matter. Exposure to air pollutants may contribute to the development of asthma in children and aggravate symptoms in those with asthma.[32] Therefore reduction of fossil-fuel use combines improved health from mitigation of climate – change with that from reduced noxious pollution. This combination of benefits (co-benefits) provides an additional incentive for action to improve air quality from fossil-fuel combustion.[33]

References

[1] https://engage.vic.gov.au/clean-air-for-all-victorians

[2] https://www.dea.org.au/wp-content/uploads/2014/05/DEA-Policy-Ambient-Air-Pollution-June-2017.pdf

[3] https://www.dea.org.au/wp-content/uploads/DEA9934_No_Time_for_Games_web_final.pdf

[4] https://www.dea.org.au/doctors-say-national-air-quality-standards-are-failing-to-protect-health/

[5] https://www.dea.org.au/wp-content/uploads/2015/04/Submission-to-the-National-Clean-Air-Agreement-04-15.pdf

[6] https://www.dea.org.au/wp-content/uploads/2017/02/NSW-Review-of-the-load-based-licensing-scheme-submission-12-16.pdf

[7] https://www.dea.org.au/wp-content/uploads/2017/02/NSW-Review-of-the-load-based-licensing-scheme-submission-12-16.pdf

[8] https://www.dea.org.au/wp-content/uploads/2017/03/Submission-on-Better-Fuel-for-Cleaner-Air_03-17.pdf

[9] https://www.dea.org.au/wp-content/uploads/2018/03/Better-fuel-for-cleaner-air-draft-regulation-impact-statement-submission-03-18.pdf

[10] https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.vic-engage.files/1515/2584/9454/Clear_Air_for_All_Victorians_-_Victorias_Air_Quality_Statement.pdf (Page 5)

[11] https://www.dea.org.au/wp-content/uploads/2014/05/DEA-Policy-Ambient-Air-Pollution-June-2017.pdf

[12] http://www.environment.gov.au/system/files/pages/dfe7ed5d-1eaf-4ff2-bfe7-dbb7ebaf21a9/files/aaq-nepm-draft-variation-impact-statement.pdf

[13] http://www.euro.who.int/en/health-topics/environment-and-health/air-quality/activities/update-of-who-global-air-quality-guidelines

[14] http://www.environment.gov.au/system/files/resources/188756ab-ed94-4a3c-9552-62763ca86a7f/files/national-clean-air-agreement.pdf

[15] https://oem.bmj.com/content/60/8/e2

[16] https://ama.com.au/sites/default/files/documents/AMA_submission_inquiry_into_health_impacts_of_air_quality_.pdf

[17] https://www.mja.com.au/journal/2018/208/7/health-burden-associated-fire-smoke-sydney-2001-2013

[18] http://www.oecd.org/env/the-cost-of-air-pollution-9789264210448-en.htm

[19] https://www.dea.org.au/wp-content/uploads/2017/03/Submission-on-Better-Fuel-for-Cleaner-Air_03-17.pdf

[20] http://www.wri.org/print/42553

[21] http://www.who.int/hia/green_economy/transport_sector_health_co-benefits_climate_change_mitigation/en/

[22] http://www.who.int/hia/green_economy/transport_sector_health_co-benefits_climate_change_mitigation/en/

[23] https://www.ncbi.nlm.nih.gov/pubmed/16375037

[24] https://www.ncbi.nlm.nih.gov/pubmed/16375037

[25] http://www.environment.gov.au/system/files/pages/dfe7ed5d-1eaf-4ff2-bfe7-dbb7ebaf21a9/files/aaq-nepm-draft-variation-impact-statement.pdf

[26] http://www.environment.gov.au/system/files/pages/dfe7ed5d-1eaf-4ff2-bfe7-dbb7ebaf21a9/files/aaq-nepm-draft-variation-impact-statement.pdf

[27] https://www.aihw.gov.au/reports/burden-of-disease/burden-of-disease-injury-australia-2003/contents/table-of-contents

[28] Access Economics. *The Health of Nations: The Value of a Statistical Life,* Report by Access Economics for Office of the Australian Safety and Compensation Council.; 2008.

[29] http://www.epa.nsw.gov.au/resources/air/clean-air-nsw-160415.pdf

[30] https://www.envirojustice.org.au/powerstations/

[31] https://www.dea.org.au/wp-content/uploads/2018/02/VIC-Brown-coal-fired-power-stations-licence-reviews-submission---02-18.pdf

[32] https://www.dea.org.au/climate-change-and-health-in-australia-fact-sheets/

[33] https://www.dea.org.au/climate-change-and-health-in-australia-fact-sheets/