Outdoor Air Quality

Policy Position Statement

Key messages:
Poor air quality is a major but poorly recognised cause of significant ill health and mortality globally and in Australia. Major sources are domestic and wild fires, energy generation, and industry and diesel vehicle emissions. In Australia, air quality monitoring and regulation needs improvement to adequately protect public health.

Key policy positions:
1. There is no known absolute safe level for inhalation of particulate matter so population exposure should be minimised.
2. The current and future levels of urban infrastructure development, and vehicular and industrial emissions in Australia demand urgent action from peak regulatory bodies to protect public health.
3. Policy makers should promote clean ambient air, and ensure regulatory and monitoring mechanisms exist to mitigate impacts on population health.

Audience:
Federal, State and Territory Governments, policymakers and program managers, PHAA members, media.

Responsibility:
PHAA Ecology and Environment Special Interest Group

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There are two inter-related components of air quality: indoor and outdoor (ambient) air quality. This policy position statement relates to outdoor (ambient) air quality.

PHAA affirms the following principles:

1. The provision of clean air is an environmental health priority that can be achieved through intersectoral collaboration between health, industry and planning ministries, guided by Commonwealth legislation and standards, and State/Territory government action.

2. Industrial and infrastructure growth needs to be undertaken with adequate planning to reduce air pollution and protect health.

3. Health risk assessments that form part of Environmental Impact Statements from development projects should fully quantify risks to population health including air pollution risks. Public and private sector organisations implementing infrastructure or industrial projects must be held accountable for health impacts of their developments on populations.

4. Understanding of environmental risks associated with air pollutants is incomplete, therefore the precautionary principle to protect human health through reduction of public exposure to particulate matter and other air pollutants should apply.

5. Implementing this policy would contribute towards the achievement of UN Sustainable Development Goals 3 – Good Health and Wellbeing and 15 – Life on land.

PHAA notes the following evidence:

6. Particular population groups may be more vulnerable to air pollution: children, pregnant women, the elderly, asthmatics and people with chronic disease.

7. Air pollutants include particulate matter (PM) of different sizes (PM10, PM2.5), ultra-fine particles, sulphur dioxide, nitrogen oxides, carbon monoxide, benzene, formaldehyde, ground level ozone, and volatile organic compounds.

8. Air pollution is well established as a key health threat in urban environments across the globe. In particular, over the last 20 years, a vast body of medical and scientific research has emerged, linking various air pollutants with health problems.

9. The literature confirms a causal association between exposures to air pollutants, particularly PM2.5 and increased all-cause mortality, and increased incidence of heart disease, stroke, lung cancer, low birth weight and type II diabetes.
10. Importantly, a steep risk in mortality from cardiac disease has been found even at low levels of exposure to some vehicular pollutants. There is an increased risk for respiratory problems, with nitrogen dioxide exacerbating asthma, and long-term exposure causing impairment of lung growth in children.

11. Even short exposures to particles sized 2.5 micrometres diameter (a few hours to weeks) can trigger cardiovascular deaths and illness, while longer-term exposure (over a few years) may greatly increase the risk for cardiovascular mortality and reduce life expectancy among highly exposed groups.

12. A European study of long-term exposure to air pollution and lung cancer found a statistically significant association between risk for lung cancer and particulate matter (PM10 and PM2.5), which increases linearly with concentration.

13. Based on the existing research, especially for non-smokers’ lung cancer and bladder cancer, diesel emissions have been classified as carcinogenic by the World Health Organization.

14. The existing paradigm for management of air pollution focuses on ‘ambient’ air measured away from any point source or busy road. Urban monitoring stations are often located in a park. Some pollutants, especially NO\textsubscript{2}, are much higher along busy roads where many people are exposed but this is not reflected in pollution monitoring. Health burdens from living close to busy roads have been well documented in multiple settings.

15. The effect of air pollution on lung development in American school children 10 to 18 years of age was evaluated in the Children’s Health Study. Permanent impairment of lung development was found in those children exposed to higher levels of environmental air pollutants including PM2.5. One avoidable source of exposure for school children is from vehicles idling outside school gates. Some jurisdictions now have anti-idling laws for areas outside schools and childcare centres that prevent this exposure.

16. The major sources of air pollution in Australia are road vehicles, coal fired electricity generation, wood fired heating, bushfires, and coal mining. Not all of these are amenable to control measures. An economic analysis of the US Clean Air Act showed that implemented air pollution control measures had benefits much greater than the cost with a benefit: cost ratio of 25:1.

17. Development of a National Clean Air Agreement with the states and territories, has been proposed by the Commonwealth, but progress has been delayed. The PHAA supports the need for rapid and effective progress to attain this agreement to improve air quality.

18. Reduction of private vehicle use through improving public and active transport, has health co-benefits, by improving physical activity levels in addition to reducing accident risk and air pollution from transport sources.

19. Australia’s current air quality standards (NEPM) for SO\textsubscript{2}, NO\textsubscript{2} and ozone were set in 1998 and are long overdue to be updated.
PHAA seeks the following actions:

20. A research agenda including the health effects of exposure to air pollutants, characterisation of the sources of air pollution, monitoring regimes, and standards for exposure close to busy roads, and economic analysis of the benefits of pollution reduction – with research disseminated to the public health, scientific and medical communities, governments, businesses and the general community.

21. Coal fired generators in Australia should have emissions licences for particles SO$_2$ and NO$_2$ in line with international best practice.

22. Ambient air pollution should be measured by state government agencies with these data provided to the public in both real time and available as downloadable historical data, such as is currently available in NSW.

23. Current Australian NEPM standards for criteria pollutants in ambient air should be reviewed at least every decade and updated to reflect current science as needed.

24. Australia should immediately adopt the Euro 6 standards for new light vehicles and Euro VI standards for new heavy vehicles and take active steps to retire highly polluting older vehicles, especially those using diesel fuel.

25. A National Environment Protection Agency should be established with responsibility for setting air quality standards and overseeing implementation by the states and territories via a National Clean Air Agreement.

26. Where air pollution is unavoidable, community harm should be reflected in a polluter pays fee system, such as the Load Based Licensing system in NSW with fees accurately reflecting the community cost of the health harm.

PHAA resolves to:

27. Advocate for the above steps to be taken based on the principles in this position statement.
References