

**REVIEW OF THE NATIONAL ENVIRONMENT PROTECTION
(AMBIENT AIR QUALITY) MEASURE
AIR QUALITY STANDARDS DISCUSSION PAPER**

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The headings below have been extracted from the discussion paper. **Chapter 5: Issues to be considered in evaluation of NEPM standards** (page 140 of *AAQNEPM Review Air Quality Standards Discussion Paper*) provides further discussion on these questions.

ISSUES TO BE CONSIDERED

Q1. Is there sufficient new health evidence to support a revised standard and if so, for which pollutants?

Yes, there is sufficient evidence to create a new standard for PM_{2.5}, using the current recommendations of daily PM_{2.5} < 25 µ/m³ and the annual daily average < 8 µ/m³. The other existing standards appear appropriate.

Q2. Does the current approach, which allows for a number of exceedences of the standard, meet the requirement for adequate protection or are there alternative methods that could provide more consistency in the level of health protection associated with complying with the NEPM standards?

It is useful to set a maximum number of exceedences (eg 5 per year) as a guideline, but it is more important to explore the reason for each exceedence. This is especially important for particle pollution, where the response needs to be very different if the exceedences are from home wood heaters compared with exceedences arising from vegetation burn-offs or forestry fires or dust storms. Hence, it is equally important to request the reporting authorities to include data about the likely explanation for each exceedence.

Q3. Should changes be made to the reporting protocols that would lead to a greater transparency and better understanding of the causes of exceedences in jurisdictions, the potential risk to population health, and management approaches being undertaken to address these exceedences?

For pollutants with no threshold safe value, such as PM10 & PM2.5, it would also be beneficial to have similar explanations provided for high levels which fall within the NEPM standard (perhaps those which are above 50% of the maximum permitted value).

Q4. Any other issues you wish to raise?

We wish to commend the authors of this most comprehensive report. It provides an up-to-date and detailed review of the published literature involving the major air pollutants and their effects on human health. The report highlights the importance of particle pollution.

The Australian Lung Foundation agrees with the many references in the Discussion Paper that people with lung disease are more susceptible to the short-term effects of air pollution, especially particle pollution. It is estimated that 1 in 5 Australians have a lung disorder. The common disorders include asthma, chronic bronchitis and emphysema, but there are many more. The high prevalence of lung disease increases the importance of having a national strategy to reduce the exposure to ambient air pollutants. The NEPM standards assist residents to ensure they have access to clean air.

Another important consideration is that there is no safe threshold for some pollutants, such as small particle pollution (measured as PM2.5), in the same way that there is no safe threshold level for exposure to tobacco smoke or to asbestos dust, all of which are known to cause serious lung disease. The report includes reference to some studies which have looked at the long term effects, over many years, of exposure to particle pollution. Small but statistically significant associations have been found in large population studies between premature death from heart disease or lung cancer and a long term exposure to particle pollution (after correction for confounders such as tobacco smoking). These are important studies because they suggest that all residents exposed to particle pollution are potentially at risk of illness and not just those with lung disease. This makes it more important to reduce particle levels to the lowest levels which can be achieved in modern urban and rural Australia.

The Australian Lung Foundation receives many requests from residents in many different parts of Australia for action about local wood smoke pollution. It has played an active role in reducing the wood smoke pollution in Launceston and it has helped in other regions with high

particle pollution, including Armidale NSW & Tuggeranong ACT. These regions share similarities as populations based in cold inland valleys with temperature inversions in the winter which trap pollutants close to the ground. These air sheds, and many others, may need additional local measures to achieve safe air quality, especially in the winters.

The paper acknowledges the high cost of particle pollution to human health in Australia, in terms of mortality, morbidity and also the economic cost. It follows that more resources could be directed to reducing particle pollution. It would be useful to recommend that PM2.5 be monitored in all cities and towns of Australia, perhaps with populations of at least 10,000 people. It would also be useful if residents could access current PM2.5 levels in their local regions, particular in areas known to have temperature inversion layers or wood smoke. This information is already available in Launceston and some other cities in Tasmania but it is not yet available in similarly affected regions like Armidale and Tuggeranong.