

## Briefing Paper

# NEPM variation summary

## Background

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On 31 July 2014 the National Environmental Protection Council (NEPC) released a draft National Environment Protection Measure (Ambient Air Quality) (**NEPM (AAQ)**) variation.

A copy of the draft variation and supporting information is available at <http://www.environment.gov.au/protection/nepc/nepms/ambient-air-quality/variation-2014>

Submissions to the consultation process for the draft variation can be made to the NEPC. The closing date for submissions is **Friday, 10 October 2014**.

## Changes

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The changes proposed in the draft variation include:

- including PM<sub>2.5</sub> with the other NEPM (AAQ) air pollutants in the obligations to monitor, assess and report in accordance with the protocol in the measure.<sup>1</sup>
- amending the national environmental protection goal of the measure so that it includes an air quality outcome for PM<sub>2.5</sub>. Currently the measure refers only to the advisory reporting of data to inform a review. The new NEPM goal is to achieve the specified air quality standards for PM<sub>2.5</sub> and PM<sub>10</sub> within 0–10 years.<sup>2</sup> The timeframe for the achievement of this goal is subject to the consultation. The draft variation asserts that more stringent standards will require a longer lead time.<sup>3</sup>
- updating the requirement for performance monitoring to include a different Australian standard.<sup>4</sup>
- amending the air quality standards set out in schedule 2 of the NEPM for both PM<sub>2.5</sub> and PM<sub>10</sub> to:
  - include a one-year average standard for PM<sub>10</sub> of 20 µg/m<sup>3</sup> (there is currently only a one-day standard) (note that this is subject to consultation)

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<sup>1</sup> Clause 3.

<sup>2</sup> Clause 6.

<sup>3</sup> Clause 6 note (a) referring to consultation on the appropriate timeframe for implementation.

<sup>4</sup> Clause 13.

- vary the PM<sub>10</sub> 1 day standard from 50µg/m<sup>3</sup> to between 40 and 50µg/m<sup>3</sup> (note that this is subject to consultation)
- add a PM<sub>2.5</sub> 1 day standard of 25µg/m<sup>3</sup> and a 1 year standard of 8 µg/m<sup>3</sup>. (this is the same as the current reporting standard) (note that this is not marked as subject to consultation)
- maintain the target of not more than 5 exceedances per year for PM<sub>10</sub> and apply the same standard to PM<sub>2.5</sub>. (note that this is subject to consultation)

While 'options for an exposure-reduction framework for PM' are considered in the variation impact statement, the changes to the NEPM itself do **not** include an exposure reduction framework.

## Discussion of key information in the variation impact statement

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### The health impacts and costs

The impact statement provides a summary of the health impacts and associated health costs of air pollution. Key points include:

- 'There is strong evidence that exposure to PM has adverse effects on human health, and a lack of evidence for a concentration threshold below which health effects do not occur. This means that there are likely to be adverse health effects at the concentrations currently experienced in Australian cities, even where these are below the current standards and goals'.<sup>5</sup>
- '[M]ost monitoring and assessment to date has largely been directed towards evaluating air quality against standards and goals at specific locations. However, over the typical range of ambient PM concentrations the relationship between the concentration and the health response is, broadly speaking, linear. This means that sensitive individuals – such as asthmatics and people with respiratory or cardiovascular disease – may be affected even where an AAQ NEPM standard is not exceeded. There is therefore still a health benefit (and cost saving) to be gained from any reduction in overall population exposure'.<sup>6</sup>
- 'In 2009 the USEPA concluded that there was suggestive evidence of a causal relationship between short-term exposure to coarse particles (PM<sub>2.5–10</sub>) and cardiovascular and respiratory effects and mortality (**USEPA 2009**). Since that time, evidence of these short-term effects has increased significantly, and the WHO has stated that 'sufficient evidence exists for proposing a short-term standard for PM<sub>10</sub>, to protect against the short-term health effects of coarse particles, in addition to fine particles' (**WHO Regional Office for Europe 2013**).<sup>7</sup>
- 'The health costs of air pollution in Australia are estimated to be in the order of \$11.1 billion to \$24.3 billion annually, solely as a result of mortality (**Begg et al. 2007; Access Economics 2008**).<sup>8</sup>

### Compliance with the current standards

The variation document includes some key information regarding State compliance:

- 'PM<sub>10</sub> standards are exceeded in nearly all regions of Australia (**DSEWPC 2011**); however, such exceedances can occur as a result of uncontrollable natural events'.<sup>9</sup>
- 'Victoria and SA appear to have a higher frequency of exceedances than the other jurisdictions'.<sup>10</sup>
- For the advisory annual mean PM<sub>2.5</sub> standard (8 µg/m<sup>3</sup>) there have been some exceedances of the standard in most jurisdictions. With the exception of NT, the overall average annual mean PM<sub>2.5</sub> concentration in 2012 was below the advisory reporting standard of 8 µg/m<sup>3</sup> in the AAQ NEPM.<sup>11</sup>

<sup>5</sup> Variation Impact Statement p21.

<sup>6</sup> Variation Impact Statement p29 (footnotes omitted).

<sup>7</sup> Variation Impact Statement p11.

<sup>8</sup> Variation Impact Statement p13.

<sup>9</sup> Variation Impact Statement p21.

<sup>10</sup> Variation Impact Statement p43.

<sup>11</sup> Variation Impact Statement p43.

- For the advisory 24-hour mean PM<sub>2.5</sub> standard (25µg/m<sup>3</sup>, with an assumption of no allowed exceedances) there have been exceedances of this standard at most of the monitoring sites and several jurisdictions have exceedances at all sites and in most years.<sup>12</sup>
- In all jurisdictions emissions of PM<sub>10</sub> and PM<sub>2.5</sub> have been projected to increase between 2011 and 2036, based on, for example, Australian Bureau of Statistics population and industry forecasts. However, the projections vary considerably from jurisdiction to jurisdiction. For example, in NSW, Queensland (QLD) and Western Australia (WA) there is a projected increase in PM<sub>10</sub> emissions of around 65%, whereas in VIC and South Australia (SA) it is around 10%. The projected increase in PM<sub>2.5</sub> emissions ranges from 8% in VIC to around 65% in WA.<sup>13</sup>
- ‘The existing AAQ NEPM has been an important catalyst for change in air quality management in Australia; however, to leave it in its current form would be to risk losing some of the progress made and miss the opportunity to prepare in good time for the projected increases in emissions.’<sup>14</sup>

## Exposure Reduction Framework

The impact statement also discusses the option of creating an exposure reduction framework. ‘The introduction of an exposure-reduction framework into the AAQ NEPM has been considered as a “co-option”. It is assumed that progress towards reducing exposure would be framed in terms of the monitored PM<sub>2.5</sub> concentration.’<sup>15</sup> This would include the option of either nominating a 10% reduction target; or not adopting any numerical target ‘but an implicit aim of continual improvement and/or no deterioration of air quality’.<sup>16</sup>

The reduction target would relate to ambient air concentrations rather than emissions volume. For example between 2015 and 2025 for the target to be achieved the annual average PM<sub>2.5</sub> concentration would decrease from 8µg/m<sup>3</sup> to 7.2µg/m<sup>3</sup>.

The impact statement finds that:

Meeting a target of a 10% reduction in the annual mean PM<sub>2.5</sub> concentration between 2015 and 2025 is unlikely to be feasible in practice. The issues and inconsistencies associated with the measurement of PM<sub>2.5</sub>, coupled with the need to detect relatively small changes in concentrations, mean that checking progress towards any target would also be very challenging.

A more practical approach would involve the development of an exposure index based on monitoring to track population exposure for major urban areas (for example, using a three-year rolling average PM<sub>2.5</sub> concentration, as in Europe). This would provide the first step towards characterising exposure based on the existing monitoring network. There would be no impacts on industry in development of this initiative as it would only seek to enhance existing monitoring data.<sup>17</sup>

The emission reduction mechanism or analogous means of achieving continual improvement beyond the numeric standards is **not** included in the draft variation itself.

## The operation of the NEPM

The impact statement recognises a number of shortcomings of the current NEPM model. Notably the statement recognises that ‘reporting against the AAQ NEPM standards is not strictly enforceable’<sup>18</sup> and ‘There is [sic] no sanctions associated with noncompliance with the standards and goals in Australia, whereas there is [sic] in other countries and regions.’<sup>19</sup> Under the current NEPM arrangements ‘PM standards will remain non-binding (i.e. compliance will not be mandatory). This is arguably one of the main drawbacks of the AAQ NEPM in its current form.’<sup>20</sup>

Environmental Justice Australia (Envirojustice) agrees with this analysis and as set out in our report [Clearing the Air - Why Australia urgently needs effective national air pollution laws](#) this is one of the key deficiencies of the current arrangement.

<sup>12</sup> Variation Impact Statement p43.

<sup>13</sup> Variation Impact Statement p39.

<sup>14</sup> Variation Impact Statement p58.

<sup>15</sup> Change to Variation Impact Statement p63.

<sup>16</sup> Ibid.

<sup>17</sup> Variation Impact Statement p91.

<sup>18</sup> Variation Impact Statement p57.

<sup>19</sup> Variation Impact Statement p xii.

<sup>20</sup> Variation Impact Statement p 59.

In relation to Commonwealth regulation of ambient air quality the impact statement makes the following comments:

Establishing national emission standards through Commonwealth regulation would result in a nationally consistent approach to air quality management. However, the impact statements for the original AAQ NEPM and the revision for PM2.5 argued against the development of Commonwealth legislation to achieve the desired air quality outcomes. One of the main reasons for this was that the Commonwealth has no constitutional powers in relation to air quality. It was also suggested that the Commonwealth would be unlikely to pursue a unilateral approach given the existing cooperative approach in relation to environmental issues; unilateral Commonwealth action could have alienated state and territory environment agencies with responsibility for air quality management. The Commonwealth was also not well placed to assume a hands-on role in data collection, analysis and reporting of air quality data, and would have had to invest significant resources to duplicate systems that were already in place at the state and territory level... Commonwealth legislation is not considered to be a feasible approach and has not been included in the impact analysis.<sup>21</sup>

This statement relies on an outdated and outmoded view of the role of the Commonwealth and the value of the NEPM process. It is a reflection of Commonwealth and State governments' reluctance to make the regulatory improvements needed to protect Australian communities from air pollution. Environmental Justice Australia has proposed national air pollution laws to ensure that there are nationally consistent standards and clearly enforceable mechanisms to ensure air quality improvements. While the Australian Constitution does not contain an explicit head of power for air quality, there is no doubt that the Commonwealth has sufficient constitutional powers via its other heads of power to substantially regulate the sources of air pollution and improve ambient air quality. As outlined in the *Clearing the Air* report, national laws would provide a broad framework that included the recognition of concurrently operating state and territory laws that would continue to play an important part in regulating and improving ambient air quality. There would be no duplication of systems at State and Territory level. In addition, rather than this being a unilateral Commonwealth approach, buy-in of the States and Territories would be critical to its success.

## Environmental Justice Australia's view on the NEPM variation

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If you are making a submission to the NEPM variation you do not need to confine yourself to the narrow issues raised in the variation document. Envirojustice will be raising broader concerns about the failure of the AAQ NEPM process in order to compel Commonwealth and State governments to consider causes of air pollution regulatory failures and begin to transition to effective air pollution laws.

Envirojustice's report [Clearing the Air - Why Australia urgently needs effective national air pollution laws](#) outlines a number of the problems and failings of our national/state approach to air pollution regulation. In particular, the NEPM approach is no longer adequate for the air pollution problems that Australia faces. While the long overdue improvements to the AAQ NEPM that came out of the 2011 review should be implemented as a priority, the Commonwealth and States should begin the process to move towards a new system of national laws that effectively regulates air pollution for the health of *all* Australians and the environment.

In summary Envirojustice's views are:

- The NEPM should be updated immediately (2014) to implement the recommendations from the 2011 AAQ NEPM review, in particular a standard for PM<sub>2.5</sub>.
- An effective exposure reduction framework should be implemented immediately (not the weak framework that is proposed in the NEPM variation document).
- The Commonwealth should recognise the failure of the NEPM approach to protect the health of Australian communities and immediately begin to develop a National Air Pollution Prevention Act – Commonwealth legislation that establishes an effective framework for air pollution laws that all States and Territories must comply with. See our [Clearing the Air](#) report for more details.

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<sup>21</sup> Variation Impact Statement p 57-58.

# About Environmental Justice Australia

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Environmental Justice Australia (formerly the Environment Defenders Office, Victoria) is a not-for-profit public interest legal practice. Funded by donations and independent of government and corporate funding, our legal team combines a passion for justice with technical expertise and a practical understanding of the legal system to protect the environment.

We act as advisers and legal representatives to the environment movement, pursuing court cases to protect our shared environment. We work with community-based environment groups, regional and state environmental organisations, and larger environmental NGOs. We provide strategic and legal support to their campaigns to address climate change, protect nature and defend the rights of communities to a healthy environment.

While we seek to give the community a powerful voice in court, we also recognise that court cases alone will not be enough. That's why we campaign to improve our legal system. We defend existing, hard-won environmental protections from attack. We also pursue new and innovative solutions to fill the gaps and fix the failures in our legal system to clear a path for a more just and sustainable world.

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