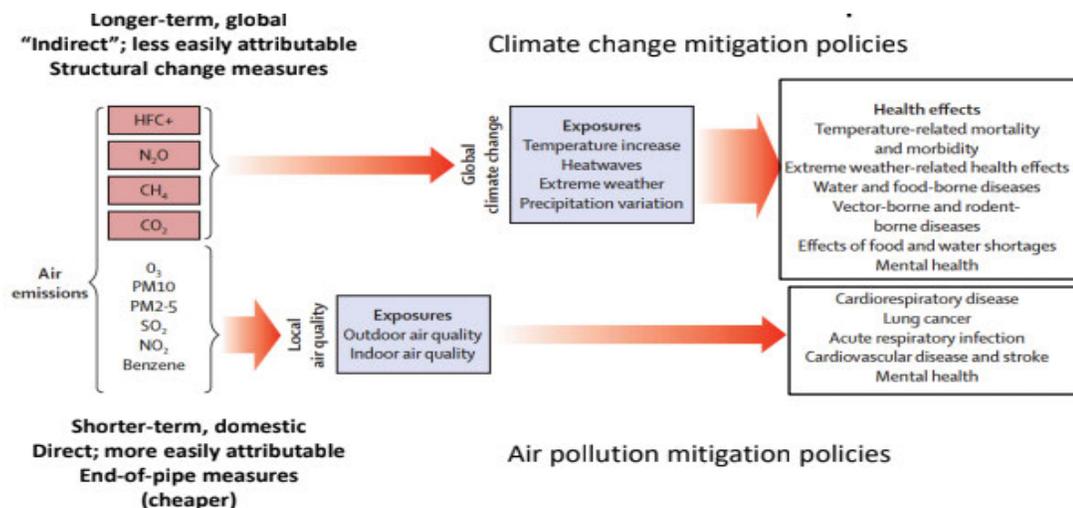


# Submission for Inquiry on impact of air pollution

## Introduction

I make this submission as a concerned citizen and recent environmental graduate from Monash University. This submission requests measures to dramatically reduce air pollution for the physical and mental wellbeing of the community. Environment Justice Australia (EJA) state that between 2,616 and 4,884 people have died prematurely because of air pollution and report a cost of up to \$24 Billion per annum.<sup>1</sup> Air pollution due to vehicle emissions was estimated to have caused 1,715 deaths in Australia in 2015, larger than the national road toll of 1,205. In Melbourne, vehicle pollution contributes 70% of urban air pollution.<sup>2</sup> The Inner West of Melbourne had increased lung disease for age group 20-30 of non-smokers.<sup>3</sup> Professor Mark Howden, ANU climate scientist states that the 2020 fires were linked to climate change and cited 430 deaths from bushfire smoke.<sup>4</sup> Other key areas of air pollution are from coal-fired power stations and wood burning. The following diagram illustrates the health impacts. My submission will address the terms of reference and provide recommendations for the committee. As an outdoor person I include my own relevant case study.

### Emissions Related Health Impacts



Source: Watts N, et al. (2015), Health and climate change: policy responses to protect public health. Lancet, Nov 2; 386(10006): 1861–914

<sup>1</sup> <https://www.envirojustice.org.au/wp-content/uploads/2021/02/VICTORIA-Clean-Air-Action-Plan-2021.pdf>

<sup>2</sup> Ibid.

<sup>3</sup> [https://www.environment.vic.gov.au/\\_\\_data/assets/pdf\\_file/0029/486506/IWAQCRGReportFINAL.pdf](https://www.environment.vic.gov.au/__data/assets/pdf_file/0029/486506/IWAQCRGReportFINAL.pdf)

<sup>4</sup> <https://climate.anu.edu.au/files/Mark%20Howden%20-%20VIC%20Climate%20Update%202021.pdf#overlay-context=news-events/events/victoria-climate-update-2021>

## Summary of Recommendations

<b>Air quality monitoring</b>	
1	Work with organisations on a standard set of procedures for poor air quality days.
2	Implement the best standards available.
3	Improve monitoring methods. Includes: Own reporting data, increase monitoring points, real time, accessible, history data, mobile monitoring, health impact incidence, alerts, improvement targets, matching penalties for breaches.
<b>Improve vehicle regulation</b>	
4	Create a congestion charge and clean air zone (s) for Melbourne.
5	Introduce anti-Idling rules for vehicles and maritime vessels.
6	Ban ICE vehicles in Victoria by 2030.
7	Introduce a fuel efficiency standard to add costs to new purchases of ICE vehicles.
8	Incentivise zero emissions vehicles and cutover bus fleet and government fleets.
9	Research replacement of heavy vehicles, trains, and shipping.
<b>Improve or decommission coal plants</b>	
10	Require scrubbers and other pollution control technology be in place at emission points to minimise pollutants.
11	De-license and work with license holders to decommission coal plants where the general environmental duty and risk to health under <i>Environment Protection Amendment Act 2018</i> is not being met.
<b>Improve regulation for wood burning in the home</b>	
12	Ban new installations of wood heaters or for cooking.
13	Implement a scrappage scheme so residents receive financial incentive to upgrade to electric alternatives.
<b>Respond to climate change</b>	
14	Clearly define greenhouse gases as pollutants in legislation.
15	Include health and climate change inaction costs into decisions for operation permits. Use a social cost of carbon (SCC) in financial assessment.

## Contact Details

Elizabeth (Wendy) Cox



# Monitor air quality well

## Case Study

### Outdoor Events

On 14<sup>th</sup> January 2020 I went to the *Kooyong Classic* tennis tournament. Bushfire smoke was heavy over Melbourne, but I was one of only a few spectators wearing a facemask. The players pictured below had to request to stop play early due to the conditions. That day was rated as the worst air quality in the world and other athletes Dalila Jakupovic and Bernard Tomic in Australian Open qualifiers were also overcome by the smoke.<sup>5</sup> Air pollution can affect the economy in tourism and risk our international reputation. Health is adversely affected for patrons of which there are large numbers.



Kooyong Classic, 14-1-2020

### Outdoor Recreation

Procedures for recreation centres such as swimming pools were lacking on air quality. Different pools in Melbourne, even operated by the same municipality were both open and shut on the same day. I was permitted to swim outdoors on a day of very poor air quality even though the lifeguard had a particulate mask on. This should not occur as my health was at risk and I even qualify for COVID 1b vaccine.



Oakleigh Pool 6-1-2020



Oakleigh pool 7-1-2020



MARC pool 7-1-2020

<sup>5</sup> <https://www.climatecouncil.org.au/wp-content/uploads/2021/02/Game-Set-Match-Calling-Time-on-Climate-Inaction-Climate-Council-Sports-Report.pdf>

**Recommendation 1 - Work with organisations on a standard set of procedures for poor air quality days.** For example, Doctors for the Environment Australia (DEA) have cautions based upon the air pollution level for PM 2.5.

## AIR QUALITY INDEX

5 major pollutants: ground level ozone, particulates (PM 2.5, PM 10), CO<sub>2</sub>, SO<sub>2</sub> and NO<sub>2</sub>.

In Sydney's East, the Air Quality Index sat at **518**.  
 Financial Review: Jan 8 2020  
<https://www.afr.com/policy/energy-and-climate/bushfire-smoke-pushes-air-quality-beyond-hazardous-range-in-sydney-20200108-p53ppq>

AQI	Air Pollution Level	Health Implications	Cautionary Statement (for PM2.5)
0 - 50	Good	Air quality is considered satisfactory, and air pollution poses little or no risk.	None
51 - 100	Moderate	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.	Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
101-150	Unhealthy for Sensitive Groups	Members of sensitive groups may experience health effects. The general public is not likely to be affected.	Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
151-200	Unhealthy	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.	Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
201-300	Very Unhealthy	Health warnings of emergency conditions. The entire population is more likely to be affected.	Active children and adults, and people with respiratory disease, such as asthma, should avoid all outdoor exertion; everyone else, especially children, should limit outdoor exertion.
300+	Hazardous	Health alert: everyone may experience more serious health effects.	Everyone should avoid all outdoor exertion.



www.dea.org.au

In line with terms of reference:

- (a) state-wide practical, real-time, cost-effective mitigation strategies;
- (b) ensuring that Victorian air quality continues to track towards meeting or exceeding current international best practice standards and is enforced;
- (c) the impact of economic and population growth on air pollution and health outcomes;

**Recommendation 2 - Implement the best standards available**

These are:

1. WHO standards.
2. Air Quality Index DEA warnings together with Australian health professionals' ratings on acceptable limits for ambient air<sup>6</sup>.
3. European standards for vehicle emissions, Euro 6.

<sup>6</sup> <https://www.envirojustice.org.au/wp-content/uploads/2021/02/VICTORIA-Clean-Air-Action-Plan-2021.pdf>

## Issues

1. The National Pollutant Inventory (NPI) requires self-reported data by industry which cannot be independently verified.
2. The Auditor General found that the EPA coverage of air quality was inadequate outside of Port Phillip and Latrobe Valley Regions and not updated for its 2001 *Ambient Air Quality NEPM Monitoring Plan Victoria* (Monitoring Plan).<sup>7</sup>

### Recommendation 3 - Improve monitoring methods and enforcement

This will support response to incidents, informing the public, enabling audit and enforcement.

Improvements recommended:

1. Rather than self-reported NPI data, the EPA should rely on its own inventory database and monitors near industrial complexes, and coal power stations where the pollution sources occur.
2. Increasing air quality monitor points to be placed on major roads, major works in progress and industrial areas and in line with population growth areas and rezoning.
3. Making real time measurement of air quality, accessible to the public, downloadable, more frequent, and with history available.
4. Issuing alerts to EPA and subscribers upon dangerous levels. This would assist protecting the vulnerable in the community. For example, the EPA already has an alert system for water quality in the Port Phillip Bay.
5. Measuring incidence of health impacts in hospitals, GP clinics where such data is collected matched against areas of pollution sources. Unexpected increases should alert the EPA and health department.
6. Setting up air quality improvement targets with license holders and measure improvement.
7. Matching penalties to incidents and ongoing breaches.
8. Investigating mobile monitoring:
  - (a) Google trial in London and Copenhagen that go down to street level for substances black carbon, ultrafine particulate matter PM 0.1 and NOx.<sup>8</sup>
  - (b) Fixed and mobile air quality sensors by delivery company DPD in London and Paris.<sup>9</sup>
  - (c) E- drones.<sup>10</sup>

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<sup>7</sup> <https://www.audit.vic.gov.au/sites/default/files/2018-03/20180308-Improving-Air-Quality.pdf>

<sup>8</sup> <https://insights.sustainability.google/labs/airquality>

<sup>9</sup> <https://green.dpd.co.uk/>

<sup>10</sup> <https://www.sciencedirect.com/science/article/pii/S2405844020300979>

## Improve vehicle regulation

Petrol and diesel cars and trucks need to get out of urban areas and be reduced in numbers especially at peak times.

The UK has implemented congestion charges and clean air zones<sup>11</sup> in major cities such as London, Bath and Birmingham.<sup>12</sup> The monies gained were then used to fund public transport for greater benefit to the community.

**Recommendation 4 - Create a congestion charge and clean air zone (s) for Melbourne.**

**Recommendation 5 - Introduce anti-Idling rules:**

*(a) Vehicles are issued large fines upon breaches. Example, New York with a first time fine up to \$15,000 USD.<sup>13</sup>*

*(b) Ban diesel maritime vessels in port from idling. Offer, electric power instead.*

**Recommendation 6 - Ban ICE vehicles in Victoria by 2030.** This will be in line with overseas trends by countries and manufacturers.

**Recommendation 7 - Introduce a fuel efficiency standard to add costs to new purchases of ICE vehicles.**

**Recommendation 8 - Incentivise zero emissions vehicles and cutover bus fleet and government fleets.**

**Recommendation 9 - Research replacement of heavy vehicles, trains, and shipping.**

## Improve or decommission coal power plants

Air pollution from coal power plants caused 800 early deaths, 850 low birth weight babies and 14,000 asthma attacks in youth.<sup>14</sup>

**Recommendation 10 - Require scrubbers and other pollution control technology be in place at emission points to minimise pollutants.**

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<sup>11</sup> <https://www.clientearth.org//latest/latest-updates/news/cleaner-air-coming-to-a-uk-city-near-you>

<sup>12</sup> Fuller, G. (2018). *The Invisible Killer The Rising Global Threat of Air Pollution – and How We Can Fight Back*. London, UK: Melville House

<sup>13</sup> [https://minerva-access.unimelb.edu.au/bitstream/handle/11343/221057/CAULRR06\\_SubmissionFuelQualityStandardsAct2000\\_Mar2017.pdf?sequence=2&isAllowed=y](https://minerva-access.unimelb.edu.au/bitstream/handle/11343/221057/CAULRR06_SubmissionFuelQualityStandardsAct2000_Mar2017.pdf?sequence=2&isAllowed=y)

<sup>14</sup> <https://www.greenpeace.org.au/wp/wp-content/uploads/2020/08/GPAP-Lethal-Power-full-report.pdf>

**Recommendation 11 - De-license and work with license holders to decommission coal plants where the general environmental duty and risk to health under *Environment Protection Amendment Act 2018* is not being met.**

## **Improve regulation for wood burning in the home**

In NSW, wood smoke up to 2030 accounted for \$8 billion in health costs.<sup>15</sup>

**Recommendation 12 - Ban new installations of wood heaters or for cooking.**

**Recommendation 13 - Implement a scrappage scheme so residents receive financial incentive to upgrade to electric alternatives.**

**Note: Gas appliances as alternatives are to be disallowed due to global warming and gas leakage within homes.**

## **Respond to climate change**

CO<sub>2</sub> and methane are pollutants that affect greenhouse gas emissions. The costs of inaction on climate change are more than \$19 billion by 2030, \$211 billion by 2050, and \$4 trillion by 2100.<sup>16</sup> As a result Australia suffers the consequence of more drought and catastrophic bushfires that in turn adversely affect the health of the community. The by-products of fossil fuel vehicles and bushfire smoke are fine particles PM 2.5 that can get into the bloodstream and exacerbate asthma, lung disease and cancer leading to premature deaths. Bushfire smoke in Sydney caused 100 ambulance callouts a day with many days rated as hazardous.<sup>17</sup> Extreme weather events such as the bushfires are predicted to get more common so it makes sense to mitigate what we can now and prepare for expected hazardous conditions. Increased droughts are also increasing making more dust in the air that can be inhaled.<sup>18</sup>

Section 17 of the *Climate Change Act 2017 (CC Act)* under clause (3b) requires that both long and short term economic, environmental, health and other social potential impacts be considered.

**Recommendation 14 - Clearly define greenhouse gases as pollutants in legislation.**

**Recommendation 15 – Include health and climate change inaction costs into decisions for operation permits. Use a social cost of carbon (SCC) in financial assessment such as the US has done.<sup>19</sup>**

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<sup>15</sup>[https://www.aph.gov.au/Parliamentary\\_Business/Committees/Senate/Community\\_Affairs/Completed\\_inquiries/2010-13/airquality/report/index](https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Community_Affairs/Completed_inquiries/2010-13/airquality/report/index)

<sup>16</sup> <https://www.climatecouncil.org.au/wp-content/uploads/2019/05/costs-of-climate-change-report-v3.pdf>

<sup>17</sup> Manning, P. (2020). *body count: how climate change is killing us*. Sydney, NSW: Simon and Schuster

<sup>18</sup> <https://climate.anu.edu.au/files/Mark%20Howden%20-%20VIC%20Climate%20Update%202021.pdf#overlay-context=news-events/events/victoria-climate-update-2021>

<sup>19</sup> <https://www.scientificamerican.com/article/cost-of-carbon-pollution-pegged-at-51-a-ton/#:~:text=Ultimately%2C%20the%20Biden%20administration%20used,a%20ton%20in%202020%2C%20respectively>