

# EPA Victoria submission to Senate inquiry into the impacts on health of air quality in Australia



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Authorised by EPA Victoria, 200 Victoria Street, Carlton

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# EPA Victoria submission to Senate inquiry into the impacts on health of air quality in Australia

## Introduction

EPA carries out its roles and responsibilities under the *Environment Protection Act (1970)* and is responsible for managing Victoria's outdoor air quality.

EPA Victoria recognises that we cannot achieve our vision of 'a healthy environment that supports a liveable and prosperous Victoria' on our own.

EPA supports the development of a National Plan for Clean Air that will set revised standards for common pollutants and an exposure reduction framework.

Melbourne's air quality is generally good, but local air quality issues are still an issue of concern to the community in Victoria.

## EPA's vision and objectives

The Environment Protection Authority (EPA) Victoria was established in 1971 under the auspices of the *Environment Protection Act 1970*. Our role is to be an effective environmental regulator and an influential authority on environmental impacts. EPA is committed to protecting Victoria's environment to meet the needs of current and future generations.

In 2011, EPA released a 5-year plan<sup>1</sup> which contains our vision for 'A healthy environment that supports a liveable and prosperous Victoria.'

The vision reflects our desired state for the environment, the community and the economy.

EPA is working to achieve:

- Clean Air
- Healthy Water
- Safe Land; and
- Minimal Disturbance from Noise and Odour

## EPA's role

EPA Victoria is responsible for managing Victoria's outdoor air quality and has measured air quality every day since 1979. Whilst Melbourne's air quality is generally good, local air quality issues are still an issue of concern to the community in Victoria. EPA uses its range of legislative tools to deal with these issues, however, some sources are outside EPA's regulatory control and therefore difficult to reduce.

EPA monitors general air quality against national air quality standards set for common air pollutants. EPA supports the important work currently occurring at the national level to deliver new standards and an exposure reduction framework as part of a National Plan for Clean Air.

EPA is currently working on a project with CSIRO to look at trends in Victoria's air quality over the next few decades<sup>2</sup>. This work found that particles and ozone will continue to be pollutants of concern in Victoria in 2030. Also, given the expected growth in Melbourne's population and changing demographics (more people aged 65 and over), exposure to air pollution will continue to be an issue that needs to be addressed.

## EPA submission

This submission from EPA responds to the Terms of Reference by covering the following topics:

- Source of air pollution in Victoria, with a specific focus on particles,
- Health impacts from air pollution and the populations most at risk, and
- Current regulatory framework including national, state and local.

<sup>1</sup> EPA Publication 1403

<sup>2</sup> EPA Publication 1485. A final report is forthcoming.

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## Sources of air pollution in Victoria

Particle measurements made by EPA from 1996 to 2011 and averaged annually shows there is no clear trend in particles (PM10) or (PM2.5) in Melbourne.

Particle sources in Victoria include motor vehicles, wind-blown dust, bushfires, planned burns, wood heaters, sea salt, industry, and particles that form in the air during chemical reactions ("secondary particles").

A study undertaken by CSIRO and EPA looking at future air quality in Victoria has found that key pollutants of concern in the future are expected to be fine particles (PM2.5) and ozone (O3).

## Victoria's general air quality

Outdoor air quality in Victoria has been monitored by EPA since 1979. These measurements clearly show that our air quality has improved over this time. Compared with similar cities in other developed countries, Melbourne's air quality is relatively good.

We saw significant improvement in air quality in the eighties and nineties, largely due to the introduction of emission controls on cars and industry complying with EPA standards. Since the nineties, improvements have been less dramatic, but carbon monoxide (CO) and nitrogen dioxide (NO<sub>2</sub>) have continued to decrease mainly due to motor vehicle exhausts becoming cleaner. Since 2002 raised dust, bushfire and planned burn impacts during dry weather have resulted in frequent breaches of air quality standards.

Over the last 15 years, pollutants from motor vehicle exhausts have continued to reduce, despite the significant increases in the number of vehicles on our roads. The phasing out of lead from petrol has been successful in reducing lead from the atmosphere.

We still experience occasional days of poor air quality in summer (due to ozone, which forms in the air when other pollutants combine together on warm summer days) and winter (due to particles, largely from domestic wood heating).

Particles result from all types of combustion. They are emitted from industrial processes, motor vehicles, domestic fuel burning, planned burns and industrial and domestic incineration. Mechanical disturbance of the earth (quarrying & mining) can also release particles into the air. Dust particles can also be lifted into the air as cars and trucks travel on roads, especially unpaved roads. Natural sources of particles include bushfires, windblown dust and salt spray from the oceans. Particles can also form in the air during chemical reactions ("secondary particles").

## Particle sources with regional impact

Different sources of common air pollutants and their contributions in Victoria and Port Phillip Region<sup>3</sup> are shown in Figures 1 and 2: data is taken from the EPA 2006 Air Emissions Inventory<sup>4</sup>.

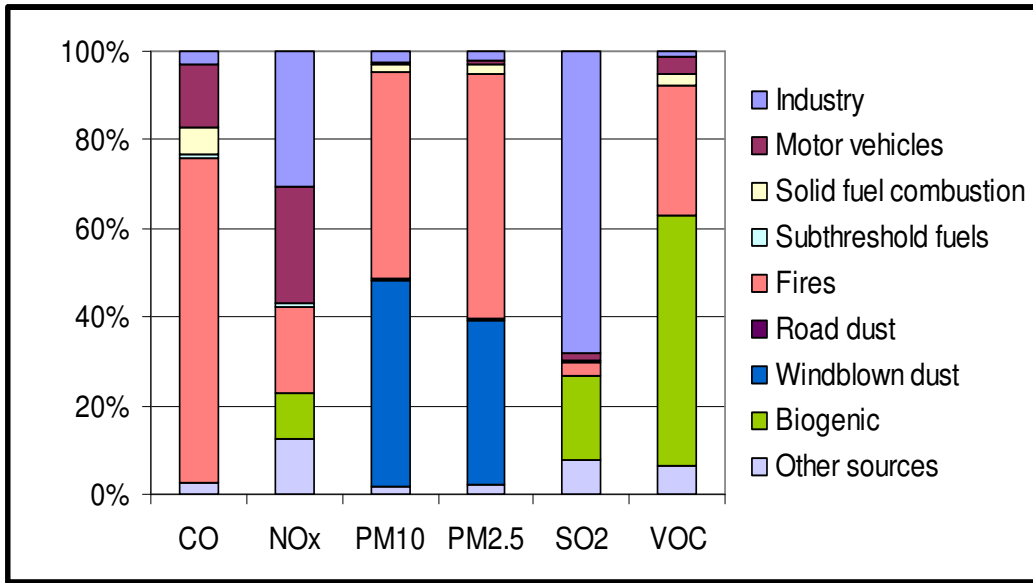
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<sup>3</sup> The Port Phillip Region includes Melbourne Metropolitan and Greater Geelong

<sup>4</sup> Sourced from EPA's 2006 Air Emissions Inventory - unpublished. The latest air emissions inventory prepared by EPA for Victoria and the Port Phillip Control Region is for 2006. The inventory is updated every five years to align with the census as this data is used to provide activity data for many of the emission sources. The next full update will be for the year 2011 and will be finalised in 2014.

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**Figure 1: Sources of air pollution in Victoria (from 2006 Air Emissions Inventory)**

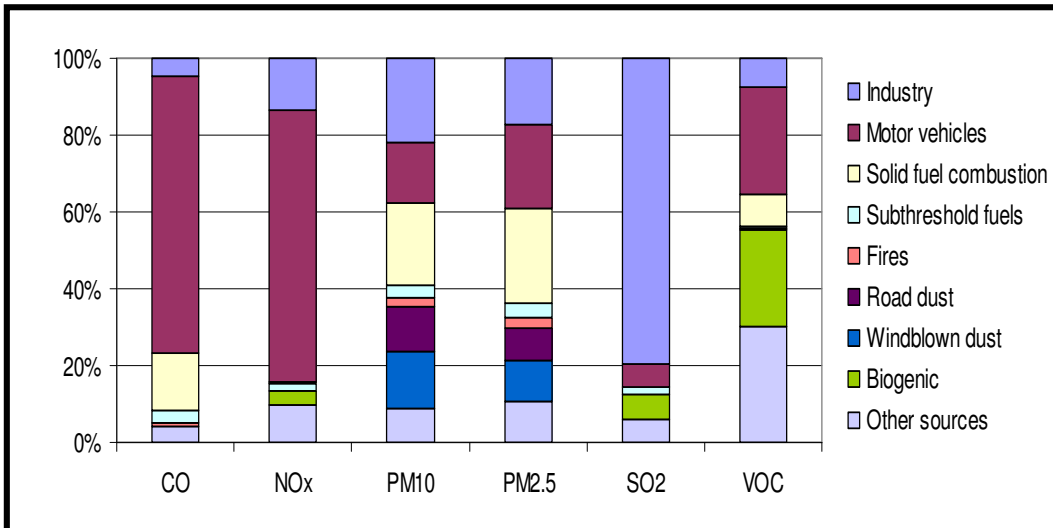


In 2006, the major sources of particles in Victoria were windblown dust and fires.

## Particle sources with metropolitan impact

Major sources of particles (PM<sub>2.5</sub> and PM<sub>10</sub>) in the Port Phillip Region in 2006 were solid fuel combustion, motor vehicles and industry.

**Figure 2: Sources of air pollution in the Port Phillip Region (from 2006 Air Emissions Inventory)**



Particle levels in Melbourne show strong peaks during bushfires, dust storms, planned burns and winter smog days. Figures 3 and 4 show measurements made from 1996 to 2011 for PM<sub>10</sub> and PM<sub>2.5</sub> respectively in Melbourne<sup>5</sup>. The blue line represents all data and the orange line represents the data with major fire and dust events removed, which corresponds with mainly urban sources.

Figure 3 shows higher levels during years affected by major fires and dust storms and that there is no clear trend in PM<sub>10</sub> in Melbourne. When PM<sub>10</sub> particles have come mainly from urban sources (orange line), there are higher levels during dry years (1997-1998, 2003-2009), and lower levels during wet years, which clearly shows how year-to-year weather variations can affect air quality.

<sup>5</sup> Although EPA Victoria is concerned with managing air quality everywhere in Victoria, data are presented here only from Melbourne, where there are comprehensive measurements at multiple sites. Results are shown as an average of sites that have operated continuously over this time.

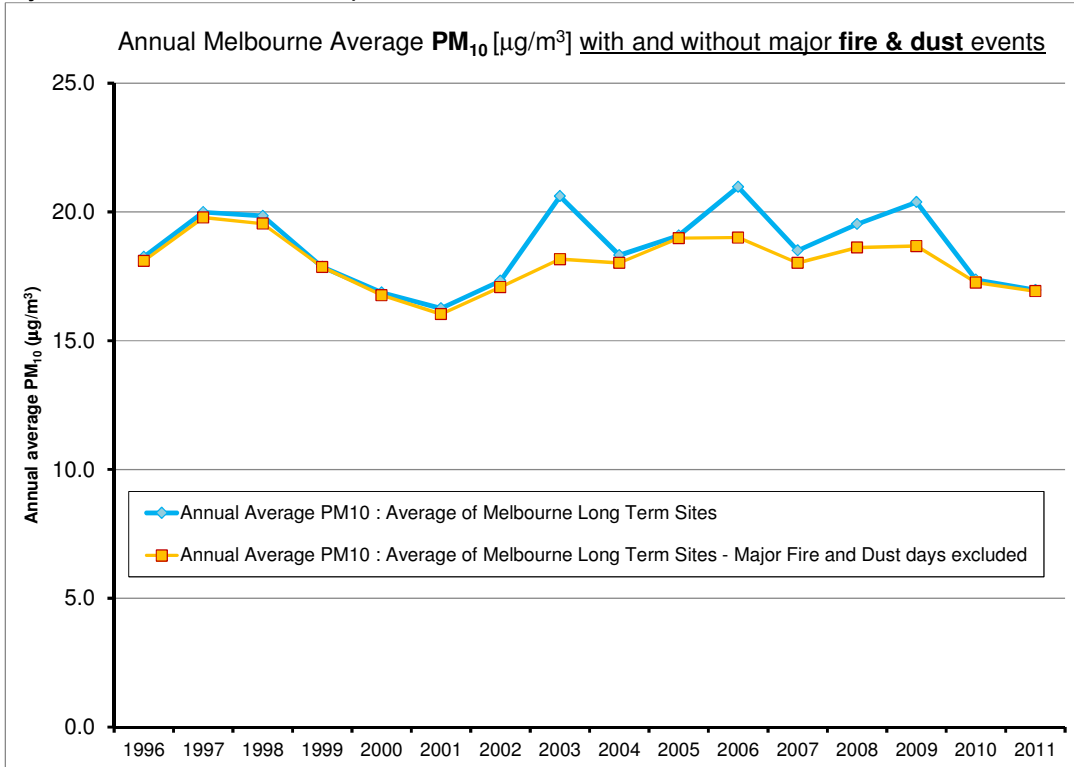
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Figure 4 shows major events can have a significant impact on PM<sub>2.5</sub> particle levels, especially in 2006 during which Melbourne experienced severe bushfire smoke, pushing levels above the annual air quality standard.

Major bushfires affected PM<sub>2.5</sub> levels in 2003, 2006, 2007 and 2009, with a smaller impact from the King Island fires in 2001. Note that 2008 was also affected, but in this case it was autumn planned burns rather than bushfires, which caused widespread smoke over Melbourne.

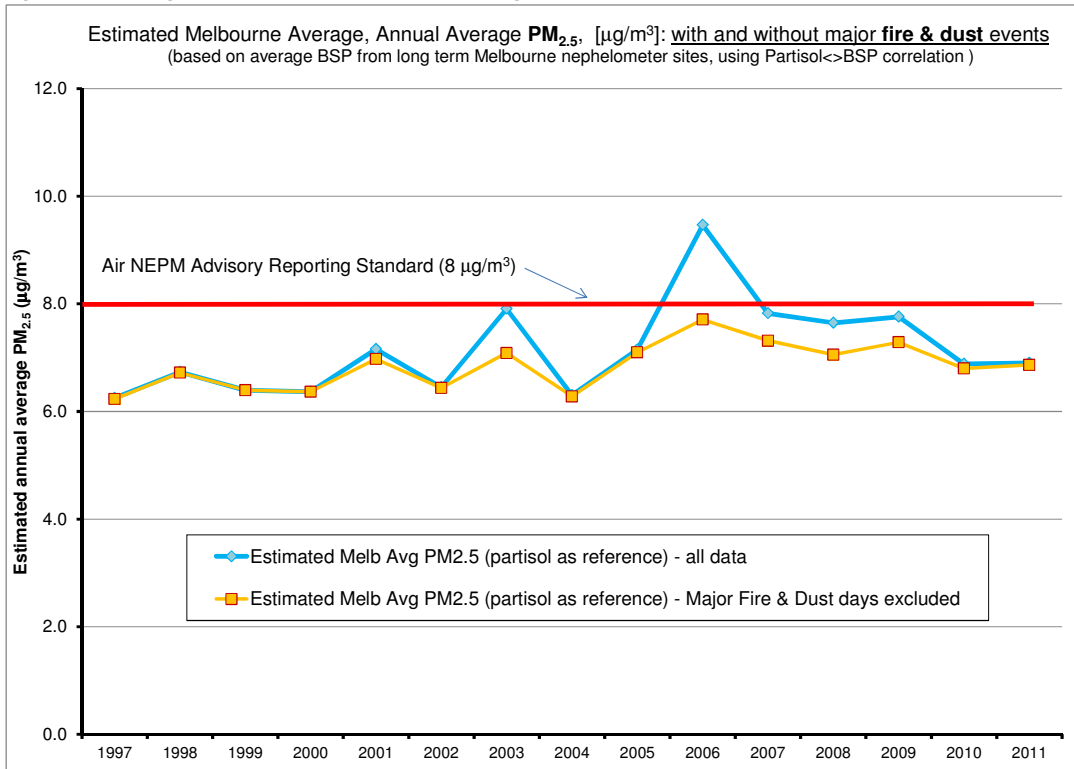
When fires and dust events are excluded, the remaining data suggest perhaps a weak upward trend (orange line in figure 4), but this is not statistically significant. More data will be required to determine if there are significant trends in urban-sourced PM<sub>2.5</sub>.

**Figure 3: Particles smaller than 10 microns – average of long term Melbourne sites (based on temperature adjusted TEOM measurements).**



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**Figure 4: Particles smaller than 2.5 microns – average of long term Melbourne sites (estimated using light scattering measurements calibrated to gravimetric reference method).**



## Victoria's future air quality

EPA is currently working on a project with CSIRO to look at trends in Victoria's air quality over the next few decades<sup>6</sup>. A computer model was used to predict air quality impacts in the future. The project used the EPA Victoria 2006 emissions inventory as a baseline year to input into the computer model. A medium impact (most likely future) scenario was developed (including an emissions inventory) for 2030 as an input into the computer model. This scenario was developed by carefully examining trends in population, industry and transport. The final report will be released shortly.

With regard to particles as  $PM_{2.5}$  the study found that:

'we expect:

- significantly reduced particle emissions from diesel engines, but this is somewhat offset by growth from domestic, commercial and industrial activity. Note that wood heaters are a significant source of particles in Melbourne, but this source is not expected to grow as the effects of population growth are likely to be offset by the reduced popularity of wood heaters in future<sup>7</sup>.
- Emissions of particles from industry are expected to grow slightly through long term economic growth. Most particles from industry are emitted from tall stacks or away from residential areas, however some emissions occur close to where people live. Some of these emissions are from small to medium sized industries that are too numerous to manage through EPA licenses.
- Some emissions come from dust on roads (both sealed and unsealed).'

<sup>6</sup> Future air quality in Victoria – interim report, EPA Publication 1485, EPA Victoria, September 2012

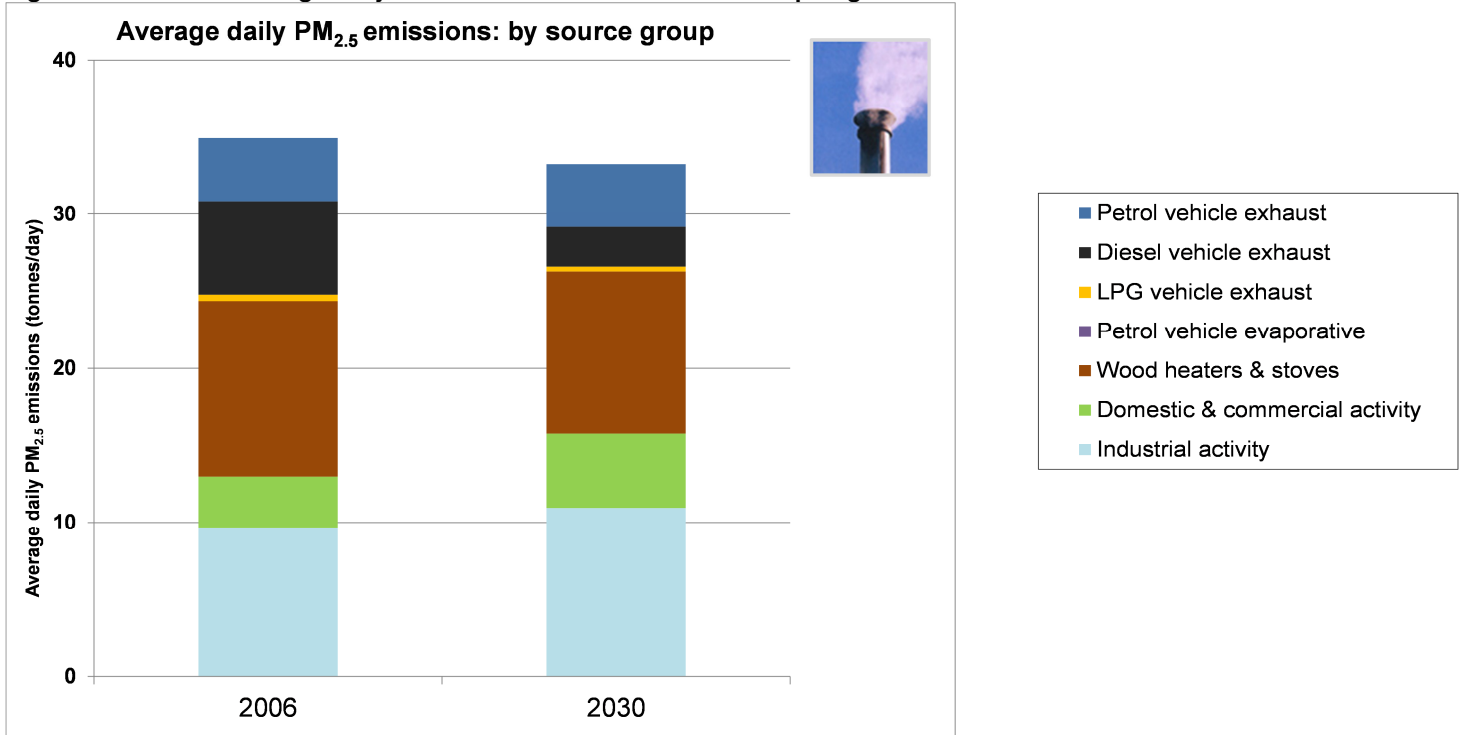
<sup>7</sup> ABS (2006). "Australian Social Trends, 2006 - Environmental Impact of household energy use." Australian Bureau of Statistics.

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Figure 5 compares the 2006 emissions of PM<sub>2.5</sub> with projected emissions for 2030 (most likely future scenario). Particle emissions are grouped using the following categories:

<b>Petrol vehicle exhaust:</b>	Tailpipe emissions from road-based petrol vehicles
<b>Diesel vehicle exhaust:</b>	Tailpipe emissions from road-based diesel vehicles
<b>LPG vehicle exhaust:</b>	Tailpipe emissions from road-based LPG (liquefied petroleum gas) vehicles
<b>Petrol vehicle evaporative:</b>	Leakage of fuel vapours from fuel tanks and the fuel supply system of petrol vehicles
<b>Wood heaters &amp; stoves:</b>	Emissions from burning of wood (for heating and cooking)
<b>Domestic &amp; commercial activity:</b>	Emissions from all other domestic and commercial activity
<b>Industrial activity:</b>	Emissions from large industries

**Figure 5: Estimated average daily emissions of PM<sub>2.5</sub> in the Port Phillip Region – 2006 vs. 2030.**



## Health impacts from air pollution and the populations most at risk

Air pollution is harmful to humans and other forms of life.

Very small particles can travel into the respiratory tract and into our lungs causing a range of health problems especially for the elderly, young children and those with existing lung or heart disease.

The key objective of air quality management is to protect the life, health and well-beings of both humans and other forms of life including the ecosystem and biodiversity.

Air pollutants can be directly harmful to humans. Children, the elderly and people with pre-existing health problems are especially susceptible to adverse effects from air pollution.

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Some common air pollutants that are known to directly affect human health are particles, ozone, nitrogen dioxide, carbon monoxide and sulphur dioxide.

Particles can aggravate existing lung and heart diseases, leading to increased hospital admissions and emergency room visits, and sometimes premature death. Airborne particles have also been associated with decreases in lung function, worsening of asthma and alteration in the body's defence and lung clearance mechanisms. Sensitive members of the population include the elderly, children and people with existing lung or heart disease. The two most common measures of particles are PM<sub>10</sub> (particles smaller than 0.010 mm) and PM<sub>2.5</sub> (particles smaller than 0.0025 mm).

National standards are moving towards recognising that with many pollutants, there is no 'safe' concentration for sensitive people, especially with particles.

Indoor air pollution and in-vehicle air pollution are also sources of exposure to air pollution that can contribute to poor health outcomes<sup>8</sup>.

## Current Regulatory Framework

Air Quality standards are developed nationally through National Environment Protection Measures for Ambient Air Quality (AAQ), Air Toxics and Diesel Exhaust and motor vehicle and fuel standards.

A National Plan for Clean Air is being developed to respond to a review of the NEPM (AAQ) and will focus on common pollutants.

EPA Victoria is responsible for managing air quality in Victoria. This is done under the Environment Protection Act 1970 and through monitoring air quality, implementation of State Environment Protection Policies, Waste Management Policies, regulations, works approvals and licensing, and compliance and enforcement activities.

Local government has a role in air quality, for example through good planning practices to minimise impacts from sources, issuing permits and taking enforcement action.

### National approaches

#### NEPM (AAQ)

The NEPM (AAQ) establishes population wide air quality standards as indicated by six common pollutants to which most Australians are exposed: (carbon monoxide, ozone, sulfur dioxide, nitrogen dioxide, lead and particles). Under the NEPM (AAQ), all Australians have the same level of air quality protection. In 2003 the NEPM was varied to add an advisory reporting standard for PM<sub>2.5</sub>. NEPM (AAQ) does not include indoor air quality. NEPM(AAQ) provides the air quality standards that are incorporated into Victoria's air quality standards.

A review of NEPM(AAQ) commenced in 2005.

#### NEPM (Air Toxics)

Air pollutants that are less common but very toxic to human health are commonly referred to as air toxics, and include, benzene, formaldehyde, polycyclic aromatic hydrocarbons (PAHs) and heavy metals.

The National Environment Protection (Air Toxics) Measure (Air Toxics NEPM) was developed (in 2004) to provide a nationally consistent framework for the monitoring and reporting of air toxics and to provide information that will enable the establishment of national air quality standards in the future following a review of the NEPM. The NEPM also enables jurisdictions to assess air quality in a consistent manner.

The Air Toxics NEPM has monitoring investigation levels for each of the air toxics: benzene, formaldehyde, benzo(a)pyrene as a marker for polycyclic aromatic hydrocarbons (PAHs), toluene and xylenes. EPA has measured air toxics at various sites since the commencement of the Air Toxics NEPM. Since 2003, air toxics monitoring has not measured levels exceeding the monitoring investigation levels (air quality objectives) in the NEPM.

<sup>8</sup> <http://www.epa.gov/iaq/pubs/insidestory.html#Intro1>



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## Diesel NEPM

The National Environment Protection (Diesel Vehicle Emissions) Measure (Diesel NEPM) provides guidance for developing programs to minimise the deterioration in exhaust emissions performance, or improve exhaust emissions performance, from diesel vehicles while they are in service.

## National motor vehicle and fuel standards

Air quality in Victoria has improved over the last 30 years. National vehicle emission standards for new vehicles (set in the Australian Design Rules) and national fuel quality standards (set by the Commonwealth via the Fuel Quality Standards Act 2000) have contributed to this improvement.

## NPCA

In 2011 the Council of Australian Governments (COAG) identified air quality as a Priority Issue of National Significance and agreed that the COAG Standing Council on Environment and Water would develop a NPCA to improve air quality, and community health and well being, to be delivered to COAG by the end of 2014. The NPCA will encompass the response to the review of the NEPM (AAQ). A public statement on the development of the NPCA can be found at:

<http://www.scew.gov.au/publications/pubs/air/national-plan-for-clean-air-public-statement.pdf>.

The NPCA, will:

- recommend revised air quality standards for common pollutants that will aim to ensure individuals will be protected to a uniform minimum standard,
- include regulatory and non-regulatory proposals supported by economic analysis and
- include an exposure reduction approach which will take into account health effects at low levels. This will shift the emphasis of policy responses from reducing pollution to reducing the risk of harm from pollution. It will also shift the emphasis from providing an absolute level of protection to also finding the economically optimum point for intervention. The exposure reduction framework will provide efficiency outcomes by maximising health benefits across a population.

Delivery of the NPCA is a key component of the review of Victoria's air quality standards and will provide an economic analysis of relevant interventions and a methodology for continuous improvement (through the exposure reduction framework).

## State standards, monitoring and regulations

EPA Victoria is responsible for managing Victoria's air quality. EPA carries out its roles and responsibilities under the *Environment Protection Act (1970)* and EPA's 5 year plan.

EPA's role in air quality involves a number of activities:

- monitoring air quality (see further detail below)
- regulating scheduled industrial premises through works approvals and licensing<sup>9</sup>, in accordance with the requirements of SEPP (AQM), which include meeting ground level concentration criteria, best practice management and continuous improvement providing guidance to other decision makers, for example to local councils through statutory planning permit referrals in relation to appropriate separation distances between industry and sensitive uses
- using a variety of tools to work with stakeholders on local issues (see case studies below)
- contributing to the development of national standards (for example supporting the introduction of more stringent motor vehicle emission standards)
- contributing to and driving maintenance and improvement of Victorian standards, for example making and enforcing against regulations to reduce emissions (for example the Environment Protection (Vehicle Emissions) Regulations 2003).

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<sup>9</sup> In accordance with the *Environment Protection (Scheduled Premises and Exemptions) Regulations 2007*

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## Legislative framework and standards

The legislative framework for air quality management in Victoria is set out below.

### **Environment Protection Act 1970 ('the Act')**

The Act establishes the powers, duties and functions of EPA. These include the administration of the Act and any regulations and orders made pursuant to it, recommending State environment protection policies (SEPPs) and industrial waste management policies (WMPs) to the Governor in Council, issuing works approvals, licences, permits, pollution abatement notices and implementing National Environment Protection Measures (NEPMs).

### **State Environment Protection Policies**

The State Environment Protection Policy (SEPP) for Ambient Air Quality (SEPP AAQ) sets air quality objectives and goals for the whole State of Victoria. The SEPP adopts the requirements of the NEPM(AAQ), and also includes a separate objective for visibility reducing particles.

Victoria's State Environment Protection Policy for Air Quality Management (SEPP AQM) establishes the framework for managing emissions into the air environment in Victoria from all sources. The aims of the SEPP AQM are to:

- meet the air quality objectives outlined in the SEPP AAQ;
- drive continuous improvement; and
- achieve the cleanest air possible.

The management framework and attainment program for protection of air quality contained in SEPP (AQM) address not only ambient (or regional) air quality, but also addresses the management of particular sources (for example, industry, motor vehicles and open burning) and local air quality impacts, including air toxics, odorous pollutants, greenhouse gases and ozone depleting substances.

### **Protocols for Environment Management (PEM)**

Protocols for Environment Management (PEMs) are incorporated documents under SEPP(AQM). Three PEMs have been created to support the interpretation of SEPP AQM and set out statutory requirements of the management of emission to the air environment.

The PEMs that are currently incorporated under SEPP AQM comprises:

- Greenhouse Gas Emissions and Energy Efficiency in Industry;
- Minimum Control Requirements for Stationary Sources; and
- Mining and Extractive Industries

### **Waste Management Policies**

Industrial waste management policies (IWMPs) were among the measures introduced into the EP Act by the *Environment Protection (Industrial Waste) Act 1985* to improve the management of industrial wastes. In 2002, the EP Act was amended to broaden this scope to waste management policies (WMPs) that may also deal with municipal wastes.

There are two waste management policies that relate to air quality:

- Waste management policy(solid fuel heating)
- Industrial waste management policy (Protection of the ozone layer)

### **Waste Management Policy - Solid Fuel Heating**

The burning of wood (solid fuel) for home heating is a significant source of air pollution in Victoria in the winter months. The Solid Fuel Heating WMP aims to improve air quality and protect the environment, human health and amenity by reducing emissions from solid fuel heating. It requires that all solid fuel heaters manufactured and sold in Victoria be certified to comply with the Australian Standard (AS/NZS 4013).

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## Industrial Waste Management Policy - Protection of the Ozone Layer

This policy aims to prevent depletion of stratospheric ozone by minimising the release into the atmosphere of ozone-depleting substances such as CFCs, halons, hydrochlorofluorocarbons and methyl bromide.

## Regulations

### Environment Protection (Vehicle Emissions) Regulations

Transport related emissions are largely controlled at a national level through vehicle and fuel standards. However, some of these are given effect at a state level.

Victoria's Environment Protection (Vehicle Emissions) Regulations 2003 (Vehicle Emissions Regulations) are modelled on national rules that specify standards and test methods for air and noise emissions from in-service motor vehicles.

However, the regulations also define fuel quality parameters, set construction, maintenance and labelling requirements, set requirements for the sale and operation of vehicles on unleaded petrol, prescribe measurement methods for noise and vehicle emission standards and establish offences relating to modification and tampering with vehicle fuel, emission control and noise control systems. These regulations are currently under review.

Part of the implementation of the Diesel NEPM is enacted through the Vehicle Emissions Regulations.

Victoria is currently reviewing these regulations.

### Environment Protection (Scheduled Premises) Regulations

EPA licences are required for all scheduled premises – as defined by the Environment Protection (Scheduled Premises and Exemptions) Regulations 2007 – unless the premises are exempted in the Regulations.

The Regulations say which industrial or commercial activities require an EPA works approval before they are built or modified, and then licensed by EPA to operate. Premises which have the potential for significant environmental impact (including discharges to air) are subject to works approvals (for construction or modification of facilities or processes) and/or licences (for operating conditions, discharge limits, monitoring and reporting requirements).

## Monitoring

EPA monitors air quality to ensure that Victorians' health and wellbeing are maintained. Monitoring provides information on the concentration of pollutants in the air. This:

- enables assessment of air quality relative to objectives
- informs the development of air quality management strategies
- allows evaluation of the effectiveness of air quality management activities.

EPA undertakes monitoring at long term monitoring stations and in regional centres as part of fulfilling our obligations under the NEPM(AAQ) and to determine the trends of air quality of time. The NEPM AAQ reporting is designed to report on representative general air quality and not for localised impacted areas. Long term monitoring stations include 11 in metropolitan Melbourne, two in Geelong and one in Latrobe Valley. Air monitoring reports presenting annual air quality measurements and an assessment against the NEPM(AAQ) are available on EPA's website. Victoria's air quality in 2011 was generally good<sup>10</sup>. The major impacts on Victoria's air quality during the year were associated with urban emissions during stable atmospheric conditions.

EPA also undertakes short term local issue based monitoring in areas where there is evidence of significant risk of air quality impacts and communities are concerned about air quality and impacts on their health. These are regularly published on EPA's website and disseminated through community meetings. Examples include dust monitoring in Brooklyn<sup>11</sup> from the industrial precinct and monitoring volatile organic compounds in Dandenong South<sup>12</sup>.

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<sup>10</sup> EPA publication 1483, [Air Monitoring Report 2011 - Compliance with the National Environment Protection \(Ambient Air Quality\) Measure](#)

<sup>11</sup> EPA publication 1444

<sup>12</sup> EPA publication 1496

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## Case studies in local air quality issues

Local air pollution problems can be the result of poor planning or residential or industrial encroachment over time. EPA is dealing with a number of local issues where communities have concerns about poor air quality, such as dust, odour, diesel from motor vehicles and toxic pollutants.

For local pollution issues EPA uses a range of tools to reduce air pollution impacts including enforcing compliance with licence conditions, issuing remedial notices<sup>13</sup>, Enforceable Undertakings and issuing sanctions. EPA's Compliance and Enforcement Policy<sup>14</sup> articulates EPA's approach, method and priorities in ensuring compliance with the Act and discharging EPA's compliance and enforcement powers.

The following case studies are provided to illustrate EPA's role in local air quality issues.

### **Brooklyn Industrial Precinct**

Industry and residents have lived side by side in Melbourne's western suburbs since the 1870s. While industry practice may have improved since then, the environmental health and liveability for residents living near the Brooklyn Industrial precinct remains a concern.

There are more than 60 industries, including quarrying, former landfill, abattoirs, material recycling, tallow producers and container storage. Only some industries in Brooklyn are licensed by EPA. But they all must comply with the *Environment Protection Act (1970)*. From January 2010 to June 2012 EPA has issued 35 notices relating to dust mitigation in the precinct.

EPA, local councils, industry and residents are working together to:

- identify opportunities for improving the environmental performance of industries
- provide better information and education to industry and residents
- address issues where environmental standards or requirements aren't met.

EPA began a dust (particle) monitoring program in late October 2009 to measure levels of small particles in air coming from the precinct. Air quality worsened during the third year of air quality monitoring (28 days exceeding the PM10 objective) compared to the previous year (16 days exceeding the PM10 objective), however air quality in the local area is still better than the first year of monitoring (38 days exceeding the PM10 objective).

The worsening in Brooklyn's air quality during the past year is linked to an increase in the number of dry days with northerly winds. An ongoing statistical analysis measures the improvements in Brooklyn's air quality due to improved dust management of local industries and roads. The analysis shows that dust management of local industries and roads improved between July 2010 and June 2011, helping to reduce average PM10 levels by approximately 20 per cent. This improvement has been maintained, however no further gains have been measured since then.

### **Landfills**

Current and closed landfills cause concern for Victorian communities.

The Clayton and Dingley area has seven landfills licensed by EPA Victoria. EPA has been working hard to address the issues by inspecting sites and working with operators to ensure issues causing off-site odour are fixed and ensuring operators are complying with their operating requirements. Some of the sites require significant investment in order to comply.

Offsite odour from the Hallam Road landfill has been a longstanding issue for the community and EPA. In August 2012, EPA convened its first restorative justice conference that allowed community members to voice how the offensive odour from the landfill has affected them and gave them the opportunity to input into the contents of an [enforceable undertaking](#) (EU).

On 21 September 2012 SITA and EPA signed an EU that requires SITA to, among other things:

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<sup>13</sup> EPA publication 1418.1

<sup>14</sup> EPA publication 1388

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- fund an independent review of possible health effects associated with putrescible landfill emissions and further air monitoring at a cost of \$40,000, in response to community concerns raised at the August 2 restorative justice conference
- contribute \$100,000 to a local environmental project to be determined in consultation with the community, the EPA and the local council; and
- improve management of all future landfill cells.

The company estimates it will cost about \$800,000 to comply with the undertaking.

## **Morwell East**

A short term 12 month air monitoring program was undertaken in Morwell East during Feb 2012-Feb 2013 to measure local impacts of air pollutants (SO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>) including coal dust ( PM<sub>10</sub> and PM<sub>2.5</sub>) from the Yallourn & Hazelwood power stations. The data validation and analysis is currently being undertaken. Preliminary results and data analysis indicates the levels measured are below the corresponding air quality objectives and reporting standard. Note results need to be validated before they will published in April.

## **Local Government approaches**

Air quality is also controlled at local government level through planning permits (such as prevention of open burning) and enforcement of nuisance provisions (for smaller industry). Community exposure to air pollution can be minimised by good planning practices including consideration of appropriate separation distances between industry and sensitive uses. EPA's role with local government is to purposefully consult, collaborate and build alliances that enable more effective, strategic delivery of our legislative mandate. In regards to planning EPA can help planning and responsible authorities understand environmental risks associated with certain planning and development decisions. EPA can contribute to planning system reviews, strategic and precinct structure planning, planning scheme amendments and rezoning and planning permits.

EPA will shortly release a revised guideline on *Recommended Separation Distances for Industrial Residual Air Emissions*.

The guideline provides advice on recommended separation distances between industrial land uses that emit odour or dust, and sensitive land uses. It is written for:

- planning authorities, responsible authorities, Environment Protection Authority (EPA), industry, developers and the community, to be used in the preparation and consideration of planning scheme amendments and planning permit applications
- industry, EPA and the community, to be used in the application for, and consideration of, works approvals and licences for scheduled premises.