2026

THE LEGISLATIVE ASSEMBLY FOR THE

AUSTRALIAN CAPITAL TERRITORY

ELEVENTH ASSEMBLY

NATIONAL ENVIRONMENT PROTECTION COUNCIL

ANNUAL REPORTS 2022-2023

Presented by
Suzanne Orr MLA
Minister for Climate Change, Environment, Energy and Water
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2022–2023

Annual Report 2022–23

Executive Officer
NEPC Business Services
GPO Box 3090
Canberra ACT 2601

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Overview

ABOUT THE NATIONAL ENVIRONMENT PROTECTION COUNCIL

The *National Environment Protection Council Act 1994* (Cth) (the NEPC Act) formally establishes the National Environment Protection Council (the Council) as a body to determine national environment protection measures. Each state and territory has mirror legislation to support this establishment. The Council consists of environment ministers from all jurisdictions, including the Commonwealth.

The objects of the NEPC Act are to ensure that, through the establishment and operation of the Council:

- people enjoy the benefit of equivalent protection from air, water or soil pollution and from noise, wherever they live in Australia
- decisions of the business community are not distorted, and markets are not fragmented, by variations between participating jurisdictions in relation to the adoption or implementation of major environment protection measures.

The Council has two primary functions under the NEPC Act:

1. to make National Environment Protection Measures
2. to assess and report on the implementation and effectiveness of National Environment Protection Measures in participating jurisdictions.

National Environment Protection Measures (NEPMs) are a set of legislative instruments designed to assist in protecting or managing particular aspects of the environment, in a uniform and consistent way across all jurisdictions.

The Council received operational, administrative and corporate support from the NEPC Secretariat within the Australian Government Department of Climate Change, Energy, the Environment and Water (the Department), transitioning from the Australian Government Department of Agriculture, Water and the Environment.

THE NATIONAL ENVIRONMENT PROTECTION COUNCIL COMMITTEE

The National Environment Protection Council (NEPC) Committee is also established under the NEPC Act. The Committee consists of a NEPC Executive Officer, and a nominee of each member of the Council. This is usually the head of the environment agencies within each jurisdiction. The Council delegates most of its responsibilities to the NEPC Committee. In addition, the NEPC Committee is responsible for:

- assisting and advising the Council in the performance of its functions
- supporting the Council in implementing the NEPC Act
- overseeing the management of the Council's budget.

THE NATIONAL ENVIRONMENT PROTECTION COUNCIL EXECUTIVE OFFICER

The NEPC Act requires the appointment of a NEPC Executive Officer by the Council, for a period not exceeding five years. The role of the Executive Officer is to provide assistance and support to the Council and the Committee.

For the 2022–2023 reporting year Ms Jackie Raynor was the NEPC Executive Officer with support provided by David Jeffrey as Acting NEPC Executive Officer.

GOVERNANCE STRUCTURE OF THE COUNCIL AND INTER-JURISDICTIONAL RELATIONSHIPS

As membership of the Council consists of all Australian environment ministers, the Meetings of Environment Ministers are held in conjunction with meetings of the Council and the Environment Minister's Meeting is the primary multi-jurisdictional forum at which national environmental issues are considered. The following streamlined approach to multi-jurisdictional environmental work has been agreed by Environment Ministers:

- Environment Ministers Meetings occur on an ad hoc basis and run concurrently with meetings of the National Environment Protection Council as required. Agendas are focused on issues requiring multi-jurisdictional collaboration or decision.
- Meetings of the heads of jurisdictional environment agencies (Senior Officials Group) are held on a regular basis – at least annually, and concurrently with NEPC Committee meetings.
- Ongoing communication occurs between the Senior Officials/NEPC Committee groups and the Heads of Environmental Protection Agencies network. Where relevant, the Heads of Environment Protection Agencies may be asked to take a role in progressing agenda items for the Senior Officials/NEPC Committee groups.
- New Zealand and the Australian Local Government Association are represented by invitation to Environment Ministers Meetings when relevant subject matter is to be discussed.

ABOUT NATIONAL ENVIRONMENT PROTECTION MEASURES

The NEPC Act recognises the importance of communities and business in protecting Australia's environment, and that national outcomes are best achieved through regionally tailored approaches.

National Environment Protection Measures (NEPMs), created under the NEPC Act, provide an agreed nationally consistent framework of goals, standards, guidelines and protocols for protecting and managing particular aspects of the environment, including air, water, noise, site contamination, hazardous waste and recycling. A NEPM is a Commonwealth legislative instrument. Once a NEPM is made or varied, its implementation is the prerogative of each jurisdiction. Regulation is just one of a suite of implementation tools a jurisdiction may use.

National Environment Protection Measures provide a single national framework to address one or more environmental issues, with the flexibility for local implementation to vary between jurisdictions. This provides certainty and consistency for business and the community in the management of these environmental issues, while reducing the need for regulation.

There are seven National Environment Protection Measures:

Air Toxics—sets out a nationally consistent approach to collection of data on toxic air pollutants (such as benzene) to deliver a comprehensive information base from which standards can be developed to manage these air pollutants to protect human health.

Ambient Air Quality—establishes a nationally consistent framework for monitoring and reporting on air quality, including the presence of six pollutants – carbon monoxide, lead, particulates, nitrogen dioxide, sulfur dioxide and ozone.

Assessment of Site Contamination—provides a nationally consistent approach to the assessment of site contamination to ensure sound environmental management practices by regulators, site assessors, environmental auditors, landowners, developers and industry. It provides authoritative guidance to practitioners in this field.

Diesel Vehicle Emissions—supports reducing pollution from diesel vehicles. Several jurisdictions operate a suite of programs to reduce exhaust emissions from diesel vehicles.

Movement of Controlled Waste—operates to minimise potential environmental and human health impacts related to the movement of certain waste materials, by ensuring that waste to be moved between states and territories is properly identified, transported and handled in ways consistent with environmentally-sound management practices.

National Pollutant Inventory—provides a framework for collection and dissemination of information to improve ambient air and water quality, minimise environmental impacts associated with hazardous wastes and improve the sustainable use of resources.

Used Packaging Materials—operates to minimise environmental impacts of packaging materials, through design (optimising packaging to use resources more efficiently), recycling (efficiently collecting and recycling packaging) and product stewardship (demonstrating commitment by stakeholders).

GOVERNANCE

Financial management, work health and safety matters, fraud compliance and risk management are all covered by both the Commonwealth and the Department's policies and procedures. These are reported against in the Department's annual report.

No freedom of information requests were received during the reporting year.

PROCUREMENT, CONSULTANCIES AND FINANCIAL PERFORMANCE

All such activities are undertaken in accordance with relevant Commonwealth requirements, including legislation, policies and procedures. The NEPC Secretariat strives to ensure the core principle of value for money in all the NEPC procurement activities.

Detailed financial matters are contained in the financial statements within the Department's 2022–23 annual reports which can be found here: Department of Climate Change, Energy, the Environment and Water Annual Report 2022–23 (https://www.transparency.gov.au/publications/climate-change-energy-the-environment-and-water/department-of-climate-change-energy-the-environment-and-water/department-of-climate-change-energy-the-environment-and-water-annual-report-2022-23).

NEPC report on the implementation of the

National Environment Protection (Air Toxics) Measure

National Environment Protection (Air Toxics) Measure

PART 1—GENERAL INFORMATION

NEPM details

Title: National Environment Protection (Air Toxics) Measure.

Made by Council: 3 December 2004.

Commencement date: 20 December 2004 (advertised in *Commonwealth of Australia Special Gazette* No. S 52904, 20 December 2004).

Amendment Date: 16 October 2011.

NEPM goal (or purpose)

The goal of the National Environment Protection (Air Toxics) Measure is set out in clause 5 of the measure:

> *The national environment protection goal of this Measure is to improve the information base regarding ambient air toxics within the Australian environment in order to facilitate the development of standards following a Review of the Measure within eight years of its making.*

Desired environmental outcomes

The desired environmental outcome of the National Environment Protection (Air Toxics) Measure is set out in clause 6 of the measure:

> *The desired environmental outcome of this Measure is to facilitate management of air toxics in ambient air that will allow for the equivalent protection of human health and well-being, by:*
>
> 1. *providing for the generation of comparable, reliable information on the levels of toxic air pollutants ('air toxics') at sites where significantly elevated concentrations of one or more of these air toxics are likely to occur ('Stage 1 sites') and where the potential for significant population exposure to air toxics exists ('Stage 2 sites').*
> 2. *establishing a consistent approach to the identification of such sites for use by jurisdictions.*
> 3. *establishing a consistent frame of reference ('monitoring investigation levels') for use by jurisdictions in assessing the likely significance of levels of air toxics measured at Stage 2 sites.*
> 4. *adopting a nationally consistent approach to monitoring air toxics at a range of locations (e.g. near major industrial sites, major roads, areas affected by wood smoke).*

Evaluation criteria

The effectiveness of the National Environment Protection (Air Toxics) Measure has been assessed by each jurisdiction against the evaluation criteria at schedule 4 of the NEPM: National Environment Protection (Air Toxics) Measure | nepc (https://www.nepc.gov.au/nepms/air-toxics).

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

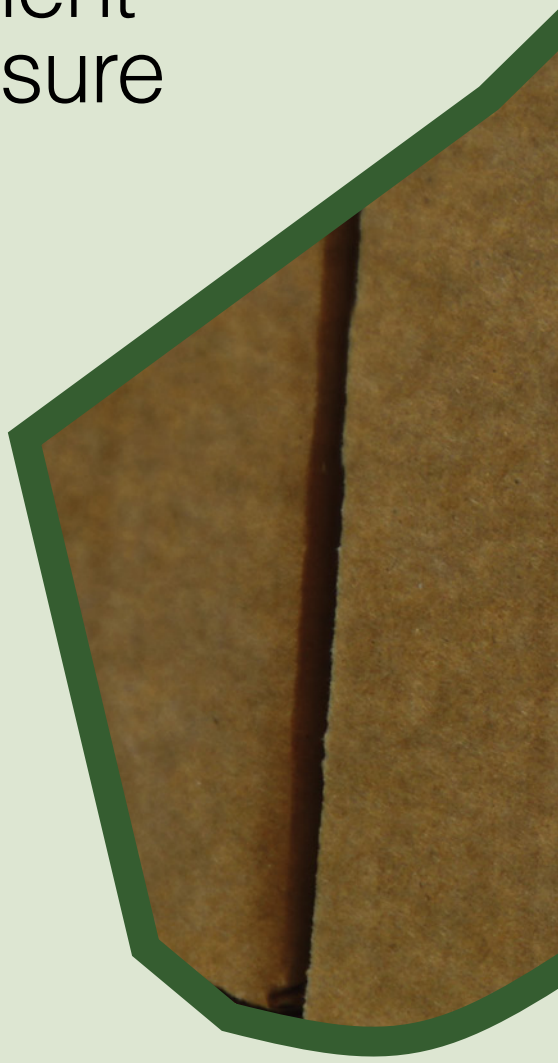
The Air Toxics NEPM is implemented via a range of legislative, regulatory and administrative frameworks within each jurisdiction, and has a calendar year reporting requirement (2022). The NEPM continues to provide a nationally consistent framework for monitoring and reporting ambient levels of specified air toxics across diverse monitoring sites. Because monitoring to date has shown air toxics in Australia to be well below monitoring investigation levels, no jurisdiction engaged in any specific strategies or actions to manage them during the reporting year. While it was noted that roadsides and industrial areas are most likely to experience issues relating to air toxics, there were no new monitoring sites identified for stage 1 or stage 2 sites during the reporting period. For implementation activities refer to jurisdictional reports as provided in Appendix 1.

PART 3—REPORTING ON IMPLEMENTATION BY JURISDICTIONS

The annexes to this report are in Appendix 1:

NEPC report on the implementation of the

National Environment Protection (Ambient Air Quality) Measure



National Environment Protection (Ambient Air Quality) Measure

PART 1—GENERAL INFORMATION

NEPM details

Title: National Environment Protection (Ambient Air Quality) Measure.

Made by Council: 26 June 1998.

Commencement Date: 8 July 1998 (advertised in *Commonwealth of Australia Gazette* No. GN 27, 8 July 1998, p. 2211).

Amendment Dates: 2 June 2003, 3 February 2016, 18 May 2021.

NEPM goal (or purpose)

The goal of the National Environment Protection (Ambient Air Quality) Measure is set out in clause 6 of the Measure as follows:

a) for carbon monoxide, nitrogen dioxide, photochemical oxidants (as ozone), lead and particles (as PM_{10} and $PM_{2.5}$)—to achieve the national environment protection standards specified in table 1 of Schedule 2;

b) for sulfur dioxide—to achieve the national environment protection standards specified in table 1 of Schedule 2, and from 1 January 2025 to achieve the national environment protection standard specified in table 1A of Schedule 2;

c) for particles as $PM_{2.5}$ from 1 January 2025—to seek to achieve the further reductions in maximum concentrations specified in table 2 of Schedule 2.

Note: The goal for particles as $PM_{2.5}$ from 1 January 2025 will provide a framework for continuous improvement and facilitate a review of the $PM_{2.5}$ standard.

Desired environmental outcomes

The desired environmental outcome of the National Environment Protection (Ambient Air Quality) Measure is set out in clause 5 of the Measure as follows:

> *The desired environmental outcome of this Measure is ambient air quality that minimises the risk of adverse health impacts from exposure to air pollution.*

Evaluation criteria

The effectiveness of the National Environment Protection (Ambient Air Quality) Measure has been assessed by jurisdictions against the evaluation criteria outlined at clause 17 in the NEPM: National Environment Protection (Ambient Air Quality) Measure | nepc (https://www.nepc.gov.au/nepms/ambient-air-quality).

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The Ambient Air Quality NEPM is implemented via a range of legislative, regulatory, and administrative frameworks within each jurisdiction, and has a calendar year reporting requirement (2022). The strengthened standards for ozone, nitrogen dioxide and sulfur dioxide put in place in 2021 are providing a positive goal for improvement across jurisdictions.

The NEPM continues to be valuable in the management and assessment of air quality in Australia, and monitoring results show that NEPM standards are mostly being met, and that Australia's air quality is good. Jurisdictions showed improvements in air quality from the previous year, and where exceedances were detected, they were typically being associated with wood burning heaters/stoves, bushfires, burn offs or windblown dust. Monitoring on Ozone in metropolitan areas also showed improvement, however instrument outages remain an issue in the gathering of data across many jurisdictions.

For detail on implementation activities refer to jurisdictional reports as provided in Appendix 2.

PART 3—REPORTING ON IMPLEMENTATION BY JURISDICTIONS

The annexes to this report are in Appendix 2:

NEPC report on the implementation of the

National Environment Protection (Assessment of Site Contamination) Measure

National Environment Protection (Assessment of Site Contamination) Measure

PART 1—GENERAL INFORMATION

NEPM details

Title: National Environment Protection (Assessment of Site Contamination) Measure.

Made by Council: 10 December 1999.

Commencement date: 22 December 1999 (advertised in *Commonwealth of Australia Gazette* No. GN 51, 22 December 1999, p. 4246).

Amendment date: 16 May 2013.

NEPM goal (or purpose)

The goal of the National Environment Protection (Assessment of Site Contamination) Measure is set out in clause 5(1) of the Measure as follows:

> *The purpose of the Measure is to establish a nationally consistent approach to the assessment of site contamination to ensure sound environmental management practices by the community which includes regulators, site assessors, environmental auditors, landowners, developers and industry.*

Desired environmental outcomes

The desired environmental outcome of the National Environment Protection (Assessment of Site Contamination) Measure is set out in clause 5(2) of the Measure as follows:

> *The desired environmental outcome for this Measure is to provide adequate protection of human health and the environment, where site contamination has occurred, through the development of an efficient and effective national approach to the assessment of site contamination.*

Evaluation criteria

The effectiveness of the National Environment Protection (Assessment of Site Contamination) Measure has been assessed by each jurisdiction in line with the reporting requirements outlined at clause 9 of the NEPM: National Environment Protection (Assessment of Site Contamination) Measure | nepc (https://www.nepc.gov.au/nepms/assessment-site-contamination).

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The NEPM continues to provide a consistent, science based, national methodology to guide professional practitioners in assessing site contamination. It is widely used across Australia by industry, site owners, and governments.

Jurisdictions noted it would be helpful for the NEPM to include updated technical guidance and standards, as well as emerging chemicals. Some jurisdictions noted the limited number of derived ecological investigation levels (EILs) adopted into the NEPM continues to present challenges. Jurisdictions have also raised that the incorporation of updated scientific knowledge and monitoring by appropriate qualified experts may require strengthening, noting the need to update the techniques for laboratory analysis of toxicants in air, soil, and water. Several of the reports acknowledge how this aligns with the objective to protect human and environmental health, with the next review of the NEPM noted as an opportunity to consider these issues. Further, jurisdictions noted that this review would provide an opportunity to develop additional investigation levels for contaminants such as per- and poly- fluoroalkyl substances, persistent organic pollutants, environmentally mobile chemicals and endocrine disrupting chemicals.

For detailed implementation activities, please refer to jurisdictional reports as provided in Appendix 3.

PART 3—REPORTING ON IMPLEMENTATION BY JURISDICTIONS

The annexes to this report are in Appendix 3:

NEPC report on the implementation of the

National Environment Protection (Diesel Vehicle Emissions) Measure

National Environment Protection (Diesel Vehicles Emissions) Measure

PART 1—GENERAL INFORMATION

NEPM details

Title: National Environment Protection (Diesel Vehicle Emissions) Measure.

Made by Council: 29 June 2001.

Commencement date: 18 July 2001 (advertised in *Commonwealth of Australia Gazette* No. GN 28, 18 July 2001, p. 2014).

Amendment Date: 5 June 2009

NEPM goal (or purpose)

The goal of the National Environment Protection (Diesel Vehicle Emissions) Measure is set out in clause 10 of the Measure as follows:

> *The goal of this Measure is to reduce exhaust emissions from diesel vehicles, by facilitating compliance with in-service emissions standards for diesel vehicles.*

Desired environmental outcomes

The desired environmental outcome of the National Environment Protection (Diesel Vehicle Emissions) Measure is set out in clause 11 of the Measure as follows:

> *The desired environmental outcome of this Measure is to reduce pollution from in-service diesel vehicles.*

Evaluation criteria

The effectiveness of the National Environment Protection (Diesel Vehicle Emissions) Measure has been assessed against the evaluation criteria outlined in the NEPM: National Environment Protection (Diesel Vehicle Emissions) Measure | nepc (https://www.nepc.gov.au/nepms/diesel-vehicle-emissions).

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The Diesel Vehicle Emissions NEPM is implemented via a range of legislative, regulatory and administrative frameworks within each jurisdiction. The ACT and NT jurisdictions report that the NEPM is not applicable due to other legislative instruments in place. QLD reported that while the quantity of diesel engines on road increased, the number of 'smoky' vehicles decreased, showing the effectiveness of this measure in moving towards more modern and efficient engines. Jurisdictions largely rely on on-road observation, emission readings and registration data to track compliance with the measure. The data shows that jurisdictions remain in line with the goal of the NEPM, and it continues to be a useful part of the broader framework for managing vehicle emissions and general air quality.

National initiatives continue to contribute to progress toward the goal of the NEPM. A cost benefit analysis of the Non-Road Diesel Engine project was completed and as a result technical advice was sought to provide a more in-depth impact analysis of effectiveness of the NEPM. A full copy of this report can be found at https://www.dcceew.gov.au/sites/default/files/documents/nrde-cost-benefit-analysis-final%20report.pdf.

For details of individual programs and initiatives, please refer to jurisdictional reports as listed in Appendix 4.

PART 3—REPORTING ON IMPLEMENTATION BY JURISDICTIONS

The annexes to this report are in Appendix 4:

NEPC report on the implementation of the

National Environment Protection (Movement of Controlled Waste between States and Territories) Measure

National Environment Protection (Movement of Controlled Waste between States and Territories) Measure

PART 1—GENERAL INFORMATION

NEPM details

Title: National Environment Protection Council (Movement of Controlled Waste between States and Territories) Measure.

Made by Council: 26 June 1998.

Commencement date: 8 July 1998 (advertised in the *Commonwealth of Australia Gazette* No. GN 27, 8 July 1998, p. 2212).

Amendment Dates: 15 October 2004, 4 November 2010, 21 November 2012

NEPM goal (or purpose)

The desired Goal for the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure is set out in clause 11 of the Measure as follows:

> *The National environment protection goal of this Measure is to assist in achieving the desired environmental outcomes set out in clause 12 by providing a basis for ensuring that controlled wastes which are to be moved between states and territories are properly identified, transported, and otherwise handled in ways consistent with environmentally sound practices for the management of such wastes.*

Desired environmental outcomes

The desired environmental outcome for the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure is set out in clause 12 of the Measure as follows:

> *The desired environmental outcomes of this Measure are to minimise the potential for adverse impacts associated with the movement of controlled waste on the environment and human health.*

Evaluation criteria

The effectiveness of the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure has been assessed against the evaluation criteria outlined in the NEPM: National Environment Protection (Movement of Controlled Waste between States and Territories) Measure | nepc (https://www.nepc.gov.au/nepms/movement-controlled-waste).

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Jurisdictions reported that the NEPM continues to provide an effective means of tracking the interstate movement of controlled waste between states and territories.

The NEPM also continues to be an effective tool in minimising the potential for adverse impacts associated with the movement of controlled waste on human health and the environment. Jurisdictions noted the continued need for consistency of tracking programs between states and territories, and many emphasised the importance of establishing a national electronic waste tracking program. There remains a high level of communication and cooperation between jurisdictions for this NEPM.

For details of individual programs and initiatives, please refer to jurisdictional reports as listed in Appendix 5. The collated national data is available on request from the NEPC Secretariat: nepc@dcceew.gov.au.

PART 3—REPORTING ON IMPLEMENTATION BY JURISDICTIONS

The annexes to this report are in Appendix 5:

NEPC report on the implementation of the

National Environment Protection (National Pollutant Inventory) Measure

National Environment Protection (National Pollutant Inventory) Measure

PART 1—GENERAL INFORMATION

NEPM details

Title: National Environment Protection (National Pollutant Inventory) Measure.

Made by Council: 27 February 1998.

Commencement date: Clauses 1 and 2 of the Measure commenced on the date of Gazettal 4 March 1998 (advertised in *Commonwealth of Australia Gazette* No. S 89, 4 March 1998, p.1) with the remaining provisions of the Measure commencing on 1 July 1998.

Amendment Dates: 15 August 2007, 26 November 2008

NEPM goal (or purpose)

The environment protection goals are established by clause 6 of this Measure as follows:

> *The national environment protection goals established by this Measure are to:*
>
> *a) collect a broad base of information on emissions and transfers of substances on the reporting list, and*
>
> *b) disseminate the information collected to all sectors of the community in a useful, accessible and understandable form.*

In summary, the National Pollutant Inventory (NPI) NEPM provides the framework for the development and establishment of the NPI which is an internet database designed to provide publicly available information on the types and amounts of certain chemicals being emitted to the air, land and water.

Desired environmental outcomes

The desired environmental outcomes, as set out in clause 5 of the Measure, are:

a) the maintenance and improvement of:

(i) ambient air quality; and

(ii) ambient marine, estuarine and fresh water quality;

b) the minimisation of environmental impacts associated with hazardous wastes; and

c) an improvement in the sustainable use of resources.

Evaluation criteria

The effectiveness of the National Environment Protection (National Pollutant Inventory) Measure has been assessed against the evaluation criteria outlined in the NEPM: National Environment Protection (National Pollutant Inventory) Measure | nepc (https://www.nepc.gov.au/nepms/national-pollutant-inventory).

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Jurisdictions report that the NEPM continues to provide a valuable resource for national environment protection, noting particular use in the detailed air emissions inventory. Some jurisdictions noted that they would like to expand their capacity for audits and data modelling but emphasised the continued importance of the national NPI dataset.

Website and Public Awareness

The use of the NPI database by non-government organisations and the media, often focusing on specific industry sectors or facilities, continues to increase. The number of page views increased by 519,000 in the previous year with a total of 1,200,000 views with an 88% engagement rate. Of the 1,513 times users chose to give anonymous feedback on the helpfulness of an NPI web page, 69% said it was helpful.

On-line reporting and Industry facilitated reporting

From 1 July 2022 the NPI webpages went live in the new location: National Pollutant Inventory – DCCEEW (https://www.dcceew.gov.au/environment/protection/npi). This followed 23 years of operating in the dedicated domain www.npi.gov.au.The new hosting arrangement has enabled the Commonwealth to provide a more cost effective, modern, reliable and accessible experience for stakeholders.

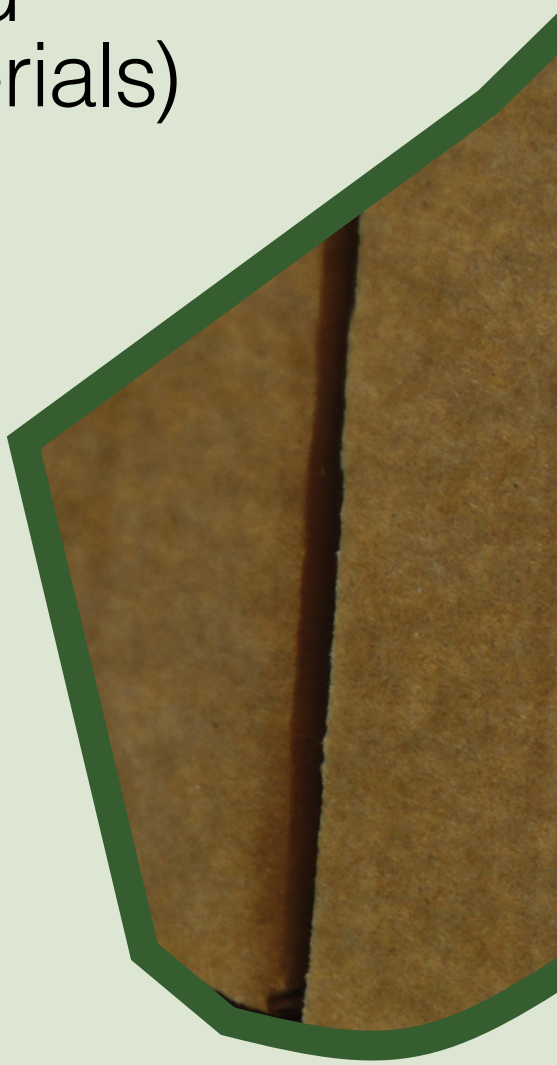
There were 4,429 reports made from industry, with 161 new reports and one new sector beginning reports. Jurisdictions noted that while some issues persist, recent industry training had reduced the quantity of reported difficulties with new calculation tools and Excel macros errors.

PART 3—REPORTING ON IMPLEMENTATION BY JURISDICTIONS

The annexes to this report are in Appendix 6:

NEPC report on the implementation of the

National Environment Protection (Used Packaging Materials) Measure



National Environment Protection (Used Packaging Materials) Measure

PART 1—GENERAL INFORMATION

NEPM details

Title: National Environment Protection (Used Packaging Materials) Measure.

Commencement date: 15 July 2005.

Amendment Date: 16 September 2011

NEPM goal (or purpose)

The environment protection goal is established by clause 6 of this Measure as follows:

> *The goal of the Measure is to reduce environmental degradation arising from the disposal of used packaging and conserve virgin materials through the encouragement of re-use and recycling of used packaging materials by supporting and complementing the voluntary strategies in the National Packaging Covenant.*

Desired environmental outcomes

The desired environmental outcomes from the combination of the Australian Packaging Covenant and the Measure are to minimise the overall environmental impacts of packaging by pursuing the Covenant performance goals:

1. **Design:** optimise packaging to use resources efficiently and reduce environmental impact without compromising product quality and safety.
2. **Recycling:** efficiently collect and recycle packaging.
3. **Product Stewardship:** demonstrate commitment by all signatories.

Evaluation criteria

The effectiveness of the National Environment Protection (Used Packaging Materials) Measure has been assessed against the evaluation criteria outlined in the NEPM: National Environment Protection (Used Packaging Materials) Measure | nepc (https://www.nepc.gov.au/nepms/used-packaging).

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The Used Packaging Materials (UPM) NEPM is implemented via a range of legislative, regulatory and administrative frameworks within each jurisdiction. During the previous reporting period an independent review of the NEPM and Australian Packaging Covenant was undertaken to evaluate the effectiveness of Australia's co-regulatory framework for packaging. This was the first comprehensive statutory review of the co-regulatory framework since it was first established in 1999. The review was published in September 2021 and the Australian Government provided a response in December 2022.

In June 2023, environment ministers agreed that Australia will mandate obligations for packaging design as part of a new packaging regulatory scheme.

The full response along with detailed approaches to each recommendation can be found at https://www.dcceew.gov.au/sites/default/files/documents/australian-govt-response-independent-review-co-regulatory-arrangement-upm-nepm.pdf.

As of 30 June 2023, there were 2,170[1] signatories to the Australian Packaging Covenant. This was an increase of 75 signatories (3.6 per cent) from the previous reporting period. Of these signatories, 2,043 had obligations to submit an action plan (of which 1,932 or 94.5 per cent were compliant) and an annual report (of which 1,948 or 95.3 per cent were compliant).

1 Discrepancy in totals can be due to jurisdictional reporting intervals. Please refer to APCO website (https://apco.org.au/) for updated information on signatories.

Table 1: Covenant signatories on 30 June 2023 as reported by states and territories.

ACT	0
NT	0
NSW	874
QLD	161
SA	115
TAS	19
VIC	848
WA	140
TOTAL	**2037**[2]

Kerbside recycling

Local government authorities have continued to collect data on the composition of kerbside recycling waste streams. The amount and type of data collected in each jurisdiction varies and, therefore, no direct comparison between jurisdictions can be made.

Complaints, investigations and prosecutions

During the reporting period two jurisdictions had investigations and complaints against businesses. NSW noted that while no complaints were received relating to specific businesses, APCO referred 85 former Covenant signatures that had their membership revoked due to not meeting membership requirements. Individual jurisdictions continue to work with brand owners to encourage engagement.

The NEPM sets out the information jurisdictions are required to report on. This information has been provided by jurisdictions in their individual reports listed in Appendix 7.

2 Discrepancy in totals can be due to jurisdictional reporting intervals. Please refer to APCO website (https://apco.org.au/) for updated information on signatories.

PART 3—REPORTING ON IMPLEMENTATION BY JURISDICTIONS

The annexes to this report are in Appendix 7.

APPENDIX 1:

Jurisdictional reports on the implementation and effectiveness of the Air Toxics National Environment Protection Measure

Commonwealth

Report to the NEPC on the implementation of the National Environment Protection (Air Toxics) Measure from the Commonwealth, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The National Environment Protection (Air Toxics) Measure (Air Toxics NEPM) provides a nationally consistent framework for monitoring and reporting specified air toxics. It stipulates methods and criteria for monitoring ambient concentrations of air toxics in areas close to sites where those air toxics are known to be emitted. The Air Toxics NEPM was put in place to improve the information base regarding ambient air toxics within the Australian environment, with the aim of facilitating the development of standards. State and territory agencies are responsible for monitoring and reporting data. The Commonwealth implements the Air Toxics NEPM administratively and is not required to undertake direct monitoring and reporting of specified air toxics.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Following inter-jurisdictional consultations reviewing the need for the Air Toxics NEPM in 2018 and 2019, it was agreed that the Air Toxics NEPM fulfils a useful role but would benefit from further work. The National Clean Air Agreement (NCAA) 2021–23 work plan included a project to further review the current state of air toxics in Australia and options for management. Any potential changes to this NEPM would need to consider outcomes from the review of the *National Environment Protection Council Act 1994* and the Conran Review.

The 2021–23 NCAA work plan also included projects which aimed to reduce emissions of air toxics including the review of aromatics levels in petrol and a project to share information to reduce pollution from wood heaters.

Petrol contains numerous aromatics known or suspected to cause cancer, including benzene, xylene, toluene and polycyclic aromatic hydrocarbons, all of which are specified in the Air Toxics NEPM. Reducing levels of aromatics in petrol will enable Australia to adopt more stringent noxious emission standards for light vehicles, increase Australians' access to cleaner vehicles and improve health outcomes.

Similarly, the uptake of less polluting wood heaters and their responsible use will reduce the release of toxic volatile organic compounds from domestic wood heaters. Through the NCAA, an inter-jurisdictional wood heater Community of Practice was established, where jurisdictions met regularly to collaborate and share information on best practice management of wood heaters, including community education programs on the use of wood heaters and compliance with wood heater emissions and efficiency standards.

New South Wales

Report to the National Environment Protection Council (NEPC) on the implementation of the National Environment Protection (Air Toxics) Measure for New South Wales by the Hon. Penny Sharpe MP, Minister for Climate Change, Minister for Energy, Minister for the Environment and Minister for Heritage, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The implementation of the National Environment Protection (Air Toxics) Measure (NEPM) in New South Wales is coordinated by the Environment Protection Authority and the Department of Planning and Environment. Under Part 3, Clause 8 of the NEPM, the identification of Stage 1 and Stage 2 sites for monitoring of air toxics was required within 12 months of NEPM commencement in 2004. New South Wales completed the desktop analysis and reported the results in the implementation report for the reporting year ended 30 June 2005.

Under Part 3, Clause 9 of the NEPM, monitoring of air toxics is required at Stage 2 sites (i.e. sites prioritised for monitoring based on the potential for significant population exposure). NSW conducted ambient monitoring for the five NEPM air toxics at two Stage 2 sites in the Sydney metropolitan area using a 1-day-in-6 cycle for a full year from October 2008 to October 2009 and reported the results in the implementation report for the reporting year ended 30 June 2010.

The *Protection of the Environment Operations Act 1997,* the Protection of the Environment Operations

(Clean Air) Regulation 2022 and the Protection of the Environment Operations (General) Regulation 2022, provide the regulatory framework for action to address air emissions including managing air toxics in New South Wales.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Overview

New South Wales previously achieved the NEPM goal to estimate human exposure to the five NEPM air toxics using a consistent national framework, by conducting ambient monitoring at two Stage 2 monitoring sites in the Sydney metropolitan area in 2008 and 2009. The monitoring demonstrated that the five NEPM air toxics were well below the NEPM monitoring investigation levels that would trigger the NEPM requirement for ongoing ambient air toxics monitoring and no further monitoring has been required.

Reporting of monitoring of air toxics

New South Wales data collection commenced in October 2008 and concluded in October 2009.

The Turrella site collected data on formaldehyde and acetaldehyde; 19 polycyclic aromatic hydrocarbons including benzo(*a*)pyrene; and 41 volatile organic compounds including benzene, toluene and xylenes.

The Rozelle site collected data on formaldehyde and acetaldehyde; and 41 volatile organic compounds including benzene, toluene and xylenes.

NEPM-compliant sampling and analysis methods were used.

Tables 1 to 5 of the NSW implementation report for the reporting year ended 30 June 2010, reproduced below, summarise the monitoring results for the five air toxics – benzene, benzo(*a*)pyrene as a marker for polycyclic aromatic hydrocarbons, formaldehyde, toluene and xylenes.

The results clearly showed levels of air toxics were below the monitoring investigation levels. There were no occasions on which any of the air toxics monitored exceeded the monitoring investigation levels at any location. The most significant results were for benzo(a)pyrene, with levels of approximately 65% of the NEPM monitoring investigation level.

The 2013 Air Emissions Inventory for the Greater Metropolitan Region of NSW (www.epa.nsw.gov.au/your-environment/air/air-emissions-inventory) shows that emissions of all five NEPM Air Toxics in the Sydney region reduced relative to 2008 by:

- 13% for benzene
- 3% for toluene
- 6% for xylene
- 23% for formaldehyde, and
- 10% for total polycyclic aromatic hydrocarbons.

Since 2013 air toxic emissions from motor vehicles, a major source of all five compounds, are estimated to have continued to decrease. These emission estimates indicate that ambient air toxic levels would be expected to have decreased since the 2008–09 monitoring.

PART 3—NSW AIR TOXICS MONITORING RESULTS 2008–2009

Tables 1–5: Monitoring results for benzene, benzo(*a*)pyrene as a marker for polycyclic aromatic hydrocarbons, formaldehyde, toluene and xylenes 2008–2009. Reproduced from the NSW Report to the NEPC on the implementation of the National Environment Protection (Air Toxics) Measure, for the reporting year ended 30 June 2010: NEPC Annual Report 2009-2010 (https://webarchive.nla.gov.au/awa/20141215134000/http://www.scew.gov.au/resource/ephc-archive-nepc-annual-report-2009-10).

Table 1: Monitoring Results – Benzene

	Rozelle	Turrella
Air Toxic	Benzene	Benzene
Monitoring method	USEPA TO-15	USEPA TO-15
Period of monitoring	2/10/08 to 8/10/09	2/10/08 to 29/9/09
Number of valid results	32	36
Maximum 24-hour average concentration	0.90 ppb	2.00 ppb
Annual average concentration (as arithmetic mean)	0.26 ppb	0.38 ppb
Arithmetic Standard Deviation of 24-hour average concentrations	0.17 ppb	0.34 ppb
Number of times monitoring investigation level exceeded*	0	0

* Must be evaluated as "not demonstrated" if no monitoring or assessment has taken place

Table 2: Monitoring Results – Benzo(*a*)pyrene as a marker for Polycyclic Aromatic Hydrocarbons

	Turrella
Air Toxic	Benzo(*a*)pyrene
Monitoring method	USEPA TO-13
Period of monitoring	2/10/08 to 27/9/09
Number of valid results	16
Maximum 24-hour average concentration	0.40 ng/m^3
Annual average concentration (as arithmetic mean)	0.21 ng/m^3
Arithmetic Standard Deviation of 24-hour average concentrations	0.10 ng/m^3
Number of times monitoring investigation level exceeded*	0

* Must be evaluated as "not demonstrated" if no monitoring or assessment has taken place

Table 3: Monitoring Results – Formaldehyde

	Rozelle	Turrella
Air Toxic	Formaldehyde	Formaldehyde
Monitoring method	USEPA TO-11	USEPA TO-11
Period of monitoring	2/10/08 to 27/9/09	2/10/08 to 27/9/09
Number of valid results	50	53
Maximum 24-hour average concentration	3.2 ppb	4.4 ppb
Annual average concentration (as arithmetic mean)	1.6 ppb	1.6 ppb
Arithmetic Standard Deviation of 24-hour average concentrations	0.65 ppb	0.66 ppb
Number of times monitoring investigation level exceeded*	0	0

* Must be evaluated as "not demonstrated" if no monitoring or assessment has taken place

Table 4: Monitoring Results – Toluene

	Rozelle	Turrella
Air Toxic	Toluene	Toluene
Monitoring method	USEPA TO-15	USEPA TO-15
Period of monitoring	2/10/08 to 8/10/09	2/10/08 to 29/9/09
Number of valid results	54	53
Maximum 24-hour average concentration	3.8 ppb	6.4 ppb
Annual average concentration (as arithmetic mean)	0.9 ppb	1.8 ppb
Arithmetic Standard Deviation of 24-hour average concentrations	0.69 ppb	1.35 ppb
Number of times monitoring investigation level exceeded*	0	0

* Must be evaluated as "not demonstrated" if no monitoring or assessment has taken place

Table 5: Monitoring Results – Xylenes (as total of ortho, meta and para isomers)

	Rozelle	Turrella
Air Toxic	Xylenes	Xylenes
Monitoring method	USEPA TO-15	USEPA TO-15
Period of monitoring	2/10/08 to 8/10/09	2/10/08 to 29/9/09
Number of valid results	26	30
Maximum 24-hour average concentration	2.60 ppb	4.90 ppb
Annual average concentration (as arithmetic mean)	0.73 ppb	1.2 ppb
Arithmetic Standard Deviation of 24-hour average concentrations	0.53 ppb	0.95 ppb
Number of times monitoring investigation level exceeded*	0	0

* Must be evaluated as "not demonstrated" if no monitoring or assessment has taken place

Victoria

Report to the NEPC on the implementation of the National Environment Protection (Air Toxics) Measure for Victoria by the Hon. Lily D'Ambrosio, Minister for the State Electricity Commission, Climate Action, Energy and Resources and *the Hon Ingrid Stitt, Minister for the Environment, Early Childhood Education and Pre-prep, for the reporting year ended 30 June 2023.*

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The air toxics NEPM in Victoria is implemented by the Environment Protection Regulations 2021 and EPA's Guideline for assessing and minimising air pollution (https://www.epa.vic.gov.au/about-epa/publications/1961).

The regulations came into force on 1 July 2021, as subordinate legislation to the *Environment Protection Act 2017* which applied from the same date. The Guideline was published in February 2022 and provides a framework to assess and control risks associated with air pollution. It is a technical guideline for air pollution practitioners and specialists with a role managing pollution discharges to air.

With the introduction of the Act, environment protection law shifted to a prevention-based approach. Central to this approach is the general environment duty. This is a shared responsibility to prevent harm to the environment and means all Victorians must each take reasonable steps to stop harm, and do so before damage is done.

There were no implementation issues during the 2022–23 reporting year.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Since 2003, no air toxics monitoring done in Victoria has measured levels exceeding the monitoring investigation levels (air quality objectives) in the NEPM.

Identification of Sites

During 2022, no suitable sites were identified as being potential stage 1 and stage 2 sites for air toxics monitoring in Victoria.

Reporting of Monitoring of Air Toxics

During 2022, no monitoring was conducted for air toxics.

Reporting on Assessment and Action if any planned or taken to manage air toxics

As noted above, there has been no monitoring in Victoria that has measured levels of air toxics exceeding the monitoring investigation levels. Therefore, there has been no additional action taken to manage air toxics beyond existing programs.

Queensland

Report to the NEPC on the implementation of the National Environment Protection (Air Toxics) Measure for Queensland by Hon. Leanne Linard MP, Minister for the Environment and the Great Barrier Reef and Minister for Science and Innovation, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- In Queensland, the Air Toxics NEPM (AT NEPM) is implemented under the *Environmental Protection Act 1994* (EP Act), the Environmental Protection Regulation 2019, and the Environmental Protection (Air) Policy 2019, with the NEPM monitoring investigation levels incorporated as air quality objectives.
- In the 2022 calendar year reporting period, the Department of Environment, Science and Innovation (DESI) continued to monitor benzene, toluene, xylenes and formaldehyde using open-path Differential Optical Absorption Spectroscopy (DOAS) instrumentation in Gladstone.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The AT NEPM has resulted in the evaluation of emission sources posing the greatest potential for significant population exposure to air toxics (concluded to be motor vehicles and industrial facilities), and locations where significant population exposure to elevated ambient concentrations of air toxics are most likely to occur.

The Queensland Government has a long-running program monitoring levels of benzene, toluene, xylenes and formaldehyde using an alternative DOAS technique at its Springwood ambient air quality monitoring network site in South East Queensland (1999 to 2020) and in central Gladstone (2009 to present). Although the DOAS monitoring methodology is not in accordance with the protocols set out in the AT NEPM and the monitoring sites are not identified as Stage 2 sites, the data collected improves DESI's knowledge of ambient concentrations of most toxic air pollutants listed in Schedule 1 of the AT NEPM.

Monitoring of air toxics is also carried out on occasions as part of specific studies into localised air quality to address community concerns. In such situations, the AT NEPM monitoring investigation levels provide a defensible benchmark for assessing measured concentrations. However, no specific localised air quality studies involving the measurement of air toxics were conducted in the 2022–23 reporting period.

Identification of Sites

The Stage 1 and Stage 2 sites analysis identified roadside and industrial locations as having the greatest potential for significant population exposure to air toxics.

Reporting of Monitoring of Air Toxics

During 2022, ambient monitoring of benzene, toluene, xylenes and formaldehyde using DOAS instrumentation continued in Gladstone.

Monitoring results from the Gladstone monitoring site for the 2022 calendar year are provided in Table 1 below. These results indicate that levels of air toxics were well below the AT NEPM monitoring investigation levels.

Table 1: Monitoring Results

	Central Gladstone			
Air Toxic	Benzene	Toluene	Xylenes	Formaldehyde
Monitoring method	DOAS	DOAS	DOAS	DOAS
Period of monitoring	01/01/2022 to 31/12/2022	01/01/2022 to 31/12/2022	01/01/2022 to 31/12/2022	01/01/2022 to 31/12/2022
Number of valid results	322	305	351	308
Maximum 24-hour average concentration	0.0011 ppm	0.0053 ppm	0.0090 ppm	0.0042 ppm
Annual average concentration (as arithmetic mean)	0.0007 ppm	0.0012 ppm	0.0038 ppm	0.0030 ppm
Arithmetic Standard Deviation of 24-hour average concentrations	0.0002 ppm	0.0004 ppm	0.0013 ppm	0.0004 ppm
Number of times monitoring investigation level exceeded	0	0	0	0

Reporting on Assessment and Action if any planned or taken to manage air toxics

From the monitoring results for the 2022 calendar year reporting period, together with past results, there is no evidence that the AT NEPM monitoring investigation levels would be exceeded in ambient air in Queensland. No specific management actions to reduce air toxics concentrations have been implemented.

Repeat Identification of Stage 1 and Stage 2 Sites

As monitoring to date has shown compliance with the monitoring investigation levels, no repeat identification of Stage 1 and Stage 2 sites is currently planned.

Western Australia

Report to the NEPC on the implementation of the National Environment Protection (Air Toxics) Measure for Western Australia by the Department of Water and Environmental Regulation for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In Western Australia, the National Environment Protection (Air Toxics) Measure (NEPM) is implemented by the Department of Water and Environmental Regulation under the *National Environment Protection Council (Western Australia) Act 1996* and the *Environmental Protection Act 1986*.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The NEPM has been effective in highlighting the need to investigate air toxics concentrations and providing monitoring investigation levels against which the results can be compared. The monitoring investigation levels provide a nationally consistent benchmark for assessing and comparing the concentrations of ambient air toxics from diverse monitoring sites and are an effective tool to inform government policy and programs on appropriate abatement actions.

Monitoring for air toxics in Western Australia has primarily been undertaken as part of specific studies. This has meant there are often several objectives to be satisfied when developing and implementing the monitoring programs. Therefore, the NEPM monitoring protocol has not always been followed. However, the monitoring results from these studies are invaluable when assessing ambient air toxic concentrations across Western Australia.

An updated emissions inventory for the Perth metropolitan region has been published and is available at www.der.wa.gov.au/our-work/programs/460-perth-air-emissions-study-2011-2012. The inventory includes air toxics and provides additional information for identifying and prioritising air toxics sources in this area.

Reporting of Monitoring of Air Toxics

The results of NEPM-compliant monitoring, as well as the additional complementary air quality studies in 2007–08 and 2009, indicated that air toxics levels in Perth are low compared to international standards and below NEPM-monitoring investigation levels. These studies have been summarised and published in the *Background Air Quality Monitoring in Kwinana 2005–10* technical report, which is available on the DWER website at www.wa.gov.au/government/publications/background-air-quality-monitoring-kwinana-2005-10. No additional NEPM-compliant monitoring has been undertaken during the past 12 months.

Reporting on Assessment and Action if any planned or taken to manage air toxics

Past monitoring has indicated that levels of air toxics are below monitoring investigation levels and no further action is currently planned.

Repeat Identification of Stage 1 and Stage 2 Sites

No repeat identification of Stage 1 and Stage 2 sites is currently planned. The initial desktop analysis identified 13 Stage 1 sites for formaldehyde, of which three also met the ranking criteria for polycyclic aromatic hydrocarbons. No Stage 1 sites were identified for benzene, toluene or xylene. Two priority criteria (traffic volume and wood heater density) were used to identify two Stage 2 sites. The results of the air toxics monitoring at these two Stage 2 sites showed that the annual average concentrations for formaldehyde and benzo[*a*]pyrene were below NEPM monitoring investigation levels. As these two sites are representative of the Stage 1 sites initially identified, repeat identification of Stage 1 and Stage 2 sites is not needed at this time.

South Australia

Report to the NEPC on the implementation of the National Environment Protection (Air Toxics) Measure for South Australia by the Hon. Susan Close, Minister for Climate, Environment and Water, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The NEPM operates as an Environment Protection Policy under the *Environment Protection Act 1993*.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

As monitoring in other jurisdictions has shown, air toxics in Australia are well below monitoring investigation levels. South Australia has not engaged in any specific monitoring of air toxics during the reporting period.

Tasmania

Report to the NEPC on the implementation of the National Environment Protection (Air Toxics) Measure for Tasmania by Hon. Nick Duigan Minister for Parks and Environment for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- In Tasmania the enabling legislation for the National Environment Protection (Air Toxics) Measure (Air Toxics NEPM) process is the *Environmental Management and Pollution Control Act 1994* (EMPCA). The process is implemented primarily through the Tasmanian Environment Protection Authority (EPA).
- National Environment Protection Measures are adopted as state policies under the *State Policies and Projects Act 1993*, and the Air Toxics NEPM is put into effect under the Environment Protection Policy (Air Quality) 2004 (Air Policy) and the Tasmanian Air Quality Strategy 2006.
- Tasmania has undertaken extensive preliminary screening monitoring of air toxics in Tasmania between 2008 and 2011. Due to budgetary constraints air toxics monitoring was discontinued in 2011. No air toxics monitoring was undertaken in Tasmania during the reporting year ending 30 June 2023.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The monitoring conducted to date has improved the information base available in relation to ambient concentrations of air toxics in Tasmania.

Identification of Sites

In 2005, 14 Stage 2 sites were identified in a Desktop Analysis conducted in accordance with the Air Toxics NEPM Desktop Analysis protocol.

Monitoring was conducted at nine of these sites in the period 2008 to 2011. Some of the sites monitored were considered representative of other identified sites, in terms of land use (e.g. residential), proximity to traffic and geography. This has allowed an indicative evaluation of some unmonitored sites.

Monitoring was also undertaken at selected sites to determine concentrations of air toxics in areas affected by:

1. domestic woodsmoke emissions;
2. motor vehicle emissions, in Hobart; and
3. industrial emissions.

The results of the last air toxics monitoring program undertaken by EPA Tasmania during the 2011 calendar year were reported in the 2011-2012 annual implementation report (https://www.nepc.gov.au/sites/default/files/2022-09/nepc-annual-report-2011-12.pdf).

Reporting on Assessment and Action if any planned or taken to manage air toxics

There is no evidence to indicate that Air Toxics NEPM Monitoring Investigation Levels (MIL) would be exceeded at any of the sites monitored in Tasmania in previous years. No action to specifically reduce concentrations of air toxics has been taken.

Repeat Identification of Stage 1 and Stage 2 Sites

The NEPM sets out a two-stage process for selecting sites for monitoring. This involves firstly a desktop assessment to identify Stage 1 sites; that is, sites at which significantly elevated levels of one or more of the air toxics are expected to occur.

Secondly, a further desktop assessment is undertaken to identify Stage 2 sites; that is, those stage 1 sites that are judged to be a priority for monitoring on the basis of a rapid assessment of the likelihood of significant population exposure to one or more air toxic.

In 2005, 14 Stage 2 sites were identified in a Desktop Analysis conducted in accord with the Air Toxics NEPM Desktop Analysis protocol.

Repeat identification of Stage 1 and Stage 2 sites has not been conducted.

Australian Capital Territory

Report to the NEPC on the implementation of the National Environment Protection (Air Toxics) Measure for the Australian Capital Territory by Ms Rebecca Vassarotti MLA for the reporting year ended 30 June 2023

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

No implementation issues have arisen during the reporting year.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The ACT Government has previously undertaken a desktop analysis which showed that air toxics are not an issue for the ACT airshed.

Northern Territory

Report to the NEPC on the implementation of the National Environment Protection (Air Toxics) Measure for Northern Territory by the Minister for Environment, Climate Change and Water Security for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The Northern Territory (NT) Environment Protection Authority (NT EPA), supported by the Department of Environment, Parks and Water Security (DEPWS), is responsible for the implementation of the NEPM in the NT through the provisions of the *Waste Management and Pollution Control Act 1998* and the *National Environment Protection Council (Northern Territory) Act 1994*.
- The NT undertook a desktop study in 2005 to identify Stage 1 and Stage 2 sites for the purposes of meeting obligations under the NEPM. No Stage 2 sites were identified, and a long-term monitoring program has not been implemented.
- A nine-month monitoring program was completed in February 2006 to establish baseline conditions for Darwin. The results indicated that there are very low concentrations of benzene, toluene and xylenes, well below the investigation levels set by the NEPM.
- No further implementation activities were conducted in 2022.
- Reassessment of Stage 1 and Stage 2 sites may be required in the future, taking into account industrial development in the Darwin region such as the development of the Middle Arm Sustainable Development Precinct. According to NEPM guidance, reassessment was required by 2009, but the previous studies indicate that concentrations of air toxics are at very low levels, well below the monitoring investigation levels of the NEPM.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The NEPM has provided the impetus and methodology for identifying sites most at risk of air toxics in the NT. Monitoring in 2005–06 has provided baseline data for further consideration.

No sites were evaluated or selected, and no analyses were performed for NEPM reporting in 2022. Recent air toxics sampling in and around Darwin, undertaken by industries under their Environmental Protection Licences, indicate very low ambient levels of benzene, toluene and xylenes.

NT is one of the lead agencies for a project to “Improve understanding of air toxics and options for their management” which is part of the National Clean Air Agreement 2021–23 workplan.

APPENDIX 2:

Jurisdictional reports on the implementation and effectiveness of the Ambient Air Quality National Environment Protection Measure

Commonwealth

Report to the NEPC on the implementation of the National Environment Protection (Ambient Air Quality) Measure from the Commonwealth, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The National Environment Protection (Ambient Air Quality) Measure (Ambient Air Quality NEPM) establishes national standards and a national framework for monitoring and reporting on six key air pollutants to which most Australians are exposed: carbon monoxide, nitrogen dioxide, photochemical oxidants (as ozone), sulfur dioxide, lead, and particles (as $PM_{2.5}$ and PM_{10}).

States and territories are primarily responsible for managing ambient air quality in their jurisdictions. The Commonwealth implements the Ambient Air Quality NEPM administratively, and is not required to undertake direct air quality monitoring as there are no non-self-governing Commonwealth territories or Commonwealth areas with a population above the 25,000 protocol threshold.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The data collected by jurisdictions for the pollutants listed in the Ambient Air Quality NEPM remains essential for monitoring Australia's ambient air quality and is also a valuable resource for informing actions under the National Clean Air Agreement (NCAA) and its work plan.

As part of the NCAA's third workplan (2021–23), work to evaluate options for a national approach to non-road diesel engine emissions through a cost-benefit and associated impact analysis is nearing completion. The cost-benefit analysis was released in the first quarter of 2023. Non-road diesel engine emissions are a significant unregulated source of air pollution in Australia, including of nitrogen dioxide and particles.

New South Wales

Report to the National Environment Protection Council (NEPC) on the implementation of the National Environment Protection (Ambient Air Quality) Measure for New South Wales by the Hon. Penny Sharpe MP, Minister for Climate Change, Minister for Energy, Minister for the Environment and Minister for Heritage, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The National Environment Protection (Ambient Air Quality) Measure (NEPM) (AAQ NEPM) is implemented under the *Protection of the Environment Operations Act 1997* (POEO Act), the Protection of the Environment Operations (Clean Air) Regulation 2022, the Protection of the Environment Operations (General) Regulation 2022 and the NSW Clean Air Strategy 2021–30.

The POEO Act sets the statutory framework for managing air quality in NSW. The Protection of the Environment Operations (Clean Air) Regulation 2022 provides measures to control emissions from industry, motor vehicles and fuels, domestic solid fuel heaters and open burning. The Protection of the Environment Operations (General) Regulation 2022 establishes the licensing scheme for major industrial premises and economic incentives for licensed businesses and industry to reduce pollution, including emissions to air. The Clean Air Strategy presents a cohesive set of priorities and actions to support liveable communities, healthy environments and the NSW economy, by reducing the adverse effects of air pollution on NSW communities.

In NSW, the Department of Planning and Environment (DPE) and the NSW Environment Protection Authority (EPA) work together to reduce impacts of air pollution. DPE develops policies and programs to improve compliance with NEPM goals and protect public health and operates a comprehensive air quality monitoring network and undertakes air quality forecasting to provide timely information so people can reduce their risk of exposure. The EPA develops and implements regulation, conducts compliance activities and provides expert technical advice on air quality issues. Both agencies work closely with stakeholders to inform, educate and involve stakeholders in improving air quality management.

NSW experienced improved air quality in 2022 (calendar year) compared to 2021, due primarily to cool and wet weather limiting bushfires and dust storms. While air quality varied regionally, fewer exceedance days were recorded in 2022 than in 2021 across all regions, and national standards were met for 97% to 100% of the year.

- Particulates (particulate matter (PM) 10 and $PM_{2.5}$) were the primary cause of days over national standards in 2022, but annual averages for particles at most locations were at the lowest levels seen in the past nine years. Particles as PM_{10} were above the daily national standard on one day (observed at Armidale), while particles as $PM_{2.5}$ were above the daily national standard on 16 calendar days (observed at 4 stations).
- There was one day in 2022 when a single one-hour average sulfur dioxide (SO_2) level over the national standard was recorded.

Gaseous pollutants were assessed against newer, more stringent NEPM goals and standards for 2022. For details, see: https://www.environment.nsw.gov.au/topics/air/understanding-air-qualitydata/standards-and-goals.

The NEPM goal is a driver for air quality management strategies and a benchmark against which progress in managing air quality can be assessed.

Air quality management in the Greater Metropolitan Region (GMR) and regional NSW

DPE and the EPA deliver actions that target the pollutants of most concern in NSW, namely particles in the Greater Metropolitan Region (GMR) and some regional centres, and ground-level ozone by targeting precursor emissions. These actions are designed to improve knowledge about air emissions, air quality and the impacts of air pollution, inform and engage the community and other stakeholders, and reduce air quality impacts from industry, vehicles, and commercial and domestic activities.

As at 30 June 2023, DPE operated 95 long-term monitoring stations in the NSW air quality monitoring network, which comprises several smaller networks. Air quality data and information are made publicly available on the DPE website, updated hourly. Automated text messages and emails are sent to subscribers when air quality is measured to exceed national air quality standards for gases, or national reporting levels for particles. A daily forecast is also sent to subscribers and published on the DPE website for the Sydney region. DPE also collaborates with the EPA, other agencies and science partners to deliver research to inform air policies and programs.

The following is an outline of the key mechanisms for managing air quality and the activities implemented in 2022–23. Monitoring network data are presented for the calendar year 2022.

Clean Air Strategy 2021–30

The NSW Clean Air Strategy 2021–30 presents a whole of NSW Government approach to improving air quality, reducing emissions and protecting communities. The strategy was released in February 2022 following public consultation in 2021. It presents a cohesive set of priorities and actions to support liveable communities, healthy environments and the NSW economy, by reducing the adverse effects of air pollution on NSW communities. It sets out actions under five priority areas where the biggest gains for air quality and health can be made: better preparedness for pollution events; cleaner industry; cleaner transport, engines, and fuels; healthier homes; and better places. More information on the strategy is available on the DPE website (https://www.environment.nsw.gov.au/topics/air/clean-air-strategy#:%7E:text=The%20NSW%20Clean%20Air%20Strategy,air%20pollution%20on%20human%20health).

The strategy integrates and builds on other key initiatives that tackle some of the state's biggest air pollution sources, including the Net Zero Plan, the NSW Electricity Infrastructure Roadmap, the Electric Vehicles Strategy, the Future Transport Strategy and the Hydrogen Strategy. Agencies across the NSW Government are working to deliver strategy actions. Key implementation highlights for 2022–23 include: substantial investments in renewable energy generation projects, zero emission bus programs, and electric vehicle programs and infrastructure; expansion of the NSW air quality monitoring program; improved forecasting of air pollution during bushfire events; stricter air emission standards for aging industries under the new Protection of the Environment Operations (Clean Air) Regulation 2022; update of the NSW Energy from Waste Policy Statement to ensure NSW air emissions standards meet and exceed world best practice. More information on key implementation highlights for 2022 is available at https://www.environment.nsw.gov.au/topics/air/clean-air-strategy/nsw-clean-air-strategy-2022-implementation-highlights.

Air quality monitoring

In 2022 DPE continued to run and refresh its comprehensive network of long-term air quality monitoring stations. As at 30 June 2023, the DPE's air quality monitoring network totalled 95 stations, consisting of 56 National Association of Testing Authorities (NATA) accredited stations, and 39 indicative rural monitoring stations. Forty stations were designated as AAQ NEPM stations in 2022 for the purposes of compliance assessment with the AAQ NEPM goals and standards.

The network provides detailed air quality information that is updated hourly and available on the recently established dedicated air quality website Air quality New South Wales (https://www.airquality.nsw.gov.au/). Further information about the network and current and historic data can also be found at: www.environment.nsw.gov.au/topics/air/monitoring-air-quality.

The NSW air quality monitoring plan describes how air quality monitoring in NSW ascribes to meet the objectives of the AAQ NEPM. It is available on the Environment NSW website (https://www.environment.nsw.gov.au/topics/air/monitoring-air-quality/review/nsw-air-quality-monitoring-plan).

Air emissions and health impacts research

Broken Hill Community Lead Monitoring Program

The Broken Hill community lead monitoring program continued in 2022–23. A one-day-in-six sampling schedule at four locations monitored against the NEPM standard for lead in ambient air. The averages across 2022 at the four stations ranged from 0.034 to 0.087 µg/m^3. These are well under the NEPM health standard of 0.50 µg/m^3 but are higher than the 0.02 µg/m^3 lead level measured in the GMR in 2004, which was the last year of monitoring after the phase-out of leaded petrol. Further monitoring and analysis are underway to provide a better understanding of the sources and averages expected across Broken Hill.

Sydney Air Quality Study

This multi-year study commenced in 2016 to improve understanding of air quality and the impacts of air pollution in the greater Sydney region. The study supports evidence-based air policies and programs by identifying persistent and emerging issues and highlighting opportunities to improve air quality and realise public health and economic benefits.

The first phase of the study (2017–2019) was released in November 2020, see: Sydney Air Quality Study (https://www.environment.nsw.gov.au/topics/air/research/current-research/sydney-air-quality-study).

The Sydney air quality study Stage 2 (https://www.environment.nsw.gov.au/research-and-publications/publications?sort=field_publish_event_date) published in January 2023, was carried out in collaboration with NSW Health and the NSW Environment Protection Authority. The project quantifies the contribution of major emission sources to air pollution and its potential impacts on health and the economy.

Stage 2 of the study showed that natural and human-made sources contributed 52% and 48%) respectively to the population weighted annual average $PM_{2.5}$ concentrations.

The total quantified health impacts (costs) from different sources were valued around AUD (2021) $4,000–$5,000 million annually.

The study ranked (highest to lowest) the health impact and associated cost of anthropogenic sources of air pollution: wood heaters, industry, on-road mobile (exhaust), power stations, domestic, commercial, non-road diesel and marine, and on-road mobile (non-exhaust).

Warringah Freeway Upgrade: Air Quality Monitoring

In early 2022, DPE established a research monitoring station at Cammeray Park near North Sydney.

This was commissioned on behalf of the EPA to monitor air quality around the Warringah Freeway Upgrade/ Western Harbour Tunnel over a two-year period, starting before major construction and monitoring during construction. This monitoring project includes a research monitoring station at Cammeray with hourly data reported on the special projects web page (https://www.airquality.nsw.gov.au/), and a network of ten particle sensors located along a transect from Wollstonecraft to Middle Harbour. Details of this monitoring project including quarterly data reports are available on the EPA website (https://www.epa.nsw.gov.au/Working-together/Community-engagement/updates-on-issues/Warringah-freeway-air-monitoring).

Incident air quality monitoring in 2022–2023

DPE conducted one incident monitoring campaign on behalf of the EPA during 2022–23. The project was to identify and understand trends of dust generation and emissions from a construction and demolition waste facility in Padstow, Sydney. KOALAs and a DustTrak were deployed to monitor dust concentrations.

Enhancing air quality forecasting in NSW

This program was established to progressively expand the scope of and enhance air quality forecasting capabilities in NSW. DPE issues a daily air quality forecast for the greater Sydney region, and the overall accuracy of forecasts is currently considered to be moderate. To improve the quality of the forecast, DPE has increased computer capacity allowing for more complex models to be installed and used for NSW. Through this program, DPE has employed and configured a widely used USEPA air quality forecasting model for NSW. Currently, this model is being trialled and assessed for robustness and accuracy.

Continuous improvements are being made to systems in order to expand forecasting capabilities to include regions beyond the Sydney GMR, see: https://www.environment.nsw.gov.au/topics/air/nswair-quality-statements/air-quality-special-statement-spring-summer-2019-20.

To improve the accuracy and increase the spatial resolution of the forecasting system, DPE is developing and testing new methods based on artificial neural network models and machine learning.

Industry emissions

In 2022–23, the EPA continued to implement its regulatory responsibilities, including licensing scheduled industry activities and conducting compliance and enforcement programs. The POEO Act, the Protection of the Environment Operations (Clean Air) Regulation 2022 and the Protection of the Environment Operations (General) Regulation 2022 set the framework for managing air pollution from major industries in NSW.

Load-Based Licensing

The EPA's Load-Based Licensing (LBL) scheme requires some environment protection licensees to pay part of their annual licence fees based on the load of certain air and water pollutants their activities release to the environment. By tying the fees payable to pollutant loads, the scheme aims to provide an ongoing economic incentive for licensees to improve their environmental performance beyond the levels required by regulation or licence conditions alone. In 2022–23, the EPA continued to progress a review of the LBL scheme, which aims to improve the scheme's efficiency and effectiveness.

Coal Fired Power Stations

In 2022–23 the EPA continued to regulate NSW coal fired power stations under the POEO Act, the Protection of the Environment Operations (Clean Air) Regulation 2022 and individual environment protection licenses which contain specific requirements for each facility.

Through licence variations, the EPA has progressed the investigation and installation of in-stack realtime continuous particulate monitoring systems of all four operational NSW coal fired power stations. The changes will strengthen monitoring and reporting accuracy and assist in the efficient operation of the power station boilers. The EPA's public register (https://www.epa.nsw.gov.au/licensing-and-regulation/public-registers) contains information about each individual licence.

In April 2023, the Hunter Valley's Liddell Power Station, Australia's oldest power station, ceased operations. The facility had been operating for 52 years. It is expected that it's closure will improve air quality in nearby communities, including reductions in particulate matter and sulfur dioxide.

Update of approved methods for air quality sampling and modelling documents

In 2022 the EPA released updated versions of both the *Approved methods for the sampling and analysis of air pollutants in NSW* (https://www.epa.nsw.gov.au/Your-environment/Air/industrial-emissions/sampling-analysing-air-emissions/approved-methods-sampling-analysing-air-pollutants) and Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (https://www.epa.nsw.gov.au/Your-environment/Air/industrial-emissions/Approved-methods-for-the-modelling-and-assessment-of-air-pollutants).

The Approved Methods for the Sampling and Analysis of Air Pollutants lists the methods that NSW industries and commercial premises must use to ensure they comply with NSW air quality regulations by sampling and analysing their emissions of air pollutants, while the Approved Methods for the Modelling and Assessment of Air Pollutants lists the statutory methods to be used for modelling and assessing emissions of air pollutants in NSW.

Non-road diesel and marine emissions

National Clean Air Agreement – Evaluating the potential for a national approach to non-road diesel engine emissions

Under the National Clean Air Agreement (https://www.dcceew.gov.au/environment/protection/air-quality/national-clean-air-agreement/evaluation-non-road-diesel-engine-emissions), in 2022–23 NSW DPE and the Commonwealth Department of Climate Change, Energy, the Environment and Water continued to evaluate the potential for a national approach to manage non-road diesel engine emissions in Australia.

Non-road diesel engines are used in a wide range of industries and applications, including construction, mining, manufacturing, airport services, agriculture, and marine sectors. Diesel engine exhaust contains high levels of pollutants, including fine particles ($PM_{2.5}$) and NO_x, and has been declared as carcinogenic by the World Health Organisation's International Agency for Research on Cancer (https://www.iarc.who.int/wp-content/uploads/2018/07/pr213_E.pdf). It contributes to premature deaths and health related problems, such as cardiovascular, cardiopulmonary and respiratory diseases, and lung cancer.

Unlike other countries (including the United States, the European Union, China, India, Brazil and Japan), and unlike for on-road (passenger) vehicles in Australia, there are currently no national standards or approaches to manage emissions from non-road diesel engines in Australia.

In 2022–23 DPE continued to work with the Commonwealth Department of Climate Change, Energy, the Environment and Water on a cost benefit analysis examining the impact of options to manage emissions from non-road diesel engines. The cost benefit analysis report was published in early 2023 and based on the findings, progressed to an Impact Analysis process. Public consultation of the draft Impact Analysis was undertaken from 24 May to 14 July 2023. Further information on the project can be found on the National Clean Air Agreement website.

Government Resource Efficiency Policy

In 2022–23 DPE continued to administer the NSW Government Resource Efficiency Policy (https://www.energy.nsw.gov.au/nsw-plans-and-progress/regulation-and-policy/sustainability-government/net-zero-government) (GREP). The GREP includes requirements to address non-road diesel engine emissions through government procurement and contracts.

For non-road diesel engines, government agencies must continue to comply with EU or US EPA standards when purchasing or leasing such equipment. Agencies must consider air emissions from contractor-supplied equipment in tender processes for all new buildings and infrastructure and upgrades to existing buildings and infrastructure over $10 million. The tender selection process either incorporates a weighting for air emission standards in conjunction with other environmental considerations, or a statement by contractors on how they will reduce emissions from their equipment accompanied with their equipment's air emissions data.

Locomotives

Amendments to the POEO Act to regulate railway rolling stock operations, in addition to railway infrastructure operators, came into effect in July 2019. The amendments mean that operators of rolling stock are required to hold an environment protection licence and are directly accountable for their environmental performance, including management of air emissions.

The EPA issued the new rolling stock operator licences in August 2020. The requirements in the licence are for new locomotives to meet US Tier 2 particulate matter emissions. There are no air emission limits for locomotives already operating on the rail network. The licences, however, include operating conditions and pollution studies that seek to minimise impacts on air quality through idling. In 2022–23 the EPA continued to work with the rail industry to progressively reduce locomotive air emissions.

Vehicle and fuel emissions

Regulation of motorway tunnel ventilation stacks

In July 2019 the NSW Government amended the POEO Act to include changes to the way road tunnel ventilation stacks are regulated. From March 2020 operators of motorway tunnel ventilation stacks were required to have environment protection licences. The licences place strict operating requirements on air emissions from ventilation stacks. The licences require air quality monitoring of tunnel ventilation stack emissions. Monitoring data is required to be made publicly available through tunnel operators' websites and provided to the EPA for review. In 2022–23 the EPA continued to regulate tunnel ventilation stacks under licences. The EPA undertook compliance activities such as monitoring reviews, site inspections and pollution studies to ensure ventilation stacks are operated according to licence conditions.

Smoky vehicles program

In NSW it is an offence for a vehicle to emit excessive air impurities for a continuous period of more than ten seconds. Penalty notices may be issued to the registered owners of vehicles emitting excessive air impurities. The public can also report smoky vehicles via the EPA Environment Line website or mobile phone application.

A monthly average of 124 smoky vehicle reports were received from the public (more than 1,400 public reports over 2022–23), indicating a high level of awareness in the community of the unacceptability of excessive visible emissions.

In 2022–23 the EPA issued 596 advisory letters based on public reports, of which 497 advisory letters were to diesel vehicle owners.

Vapour recovery at service stations

Vapour recovery stage 1 technology (VR1) captures displaced vapours from storage tanks when a tanker delivers fuel to a service station, while vapour recovery stage 2 technology (VR2) captures vapours displaced at the bowser when a motorist refuels.

In 2022–23 the NSW Vapour Recovery Compliance Program continued to be implemented under the Protection of the Environment Operations (Clean Air) Regulation 2022 by local councils at service stations across the Sydney, Wollongong, Newcastle and Central Coast metropolitan areas, as well as the Lower Hunter and Illawarra Regions.

Implementation of vapour recovery at these service stations is estimated to reduce emissions of volatile organic compounds (VOCs) by approximately 8,600 tonnes per year.

Summer low-volatility petrol

In 2022–23 the EPA continued to implement the summer low-volatility petrol program. To manage ozone formation in the Sydney region, regulatory requirements limit petrol volatility to 62 kilopascals (a measure of vapour pressure) over the summer period from 15 November to 15 March each year. Petrol importers and blenders must test and report to the EPA on batch volatility.

In December 2022 the Clean Air Regulation was remade, and included an extension to the summer low-volatility period. Commencing in November 2023 the summer low-volatility period will be extended from 1 November to 31 March. In 2022–23 VOC reductions are estimated at approximately 2,100 tonnes per year. When the summer low-volatility period extension commences it is estimated that there will be an additional 370 tonnes avoided VOC emissions, i.e. a total of approximately 2,470 tonnes per year.

National vehicle and fuel standards

The Commonwealth Government is responsible for fuel quality and vehicle emission standards for new on-road vehicles. These standards are being reviewed.

NSW has consistently supported harmonisation of national vehicle emission standards with Euro standards, together with tightening of fuel standards to enable adoption of control technologies to meet the tighter vehicle standards. Over 2022–23 NSW DPE continued to support early adoption of the Euro 6/VI emissions standards for diesel vehicles and enabling changes to fuel quality standards. In 2022 DPE staff represented NSW on the national Fuel Standards Consultative Committee.

Wood smoke management

Reducing wood smoke and fine particle pollution is a priority action in the NSW Clean Air Strategy 2021–30. Under the Strategy, the NSW Government is committed to further research to inform the development of future actions on wood heaters. In 2022–23 DPE commenced research to provide behavioural insights and information on wood heaters and associated impacts.

The EPA also supports local councils across NSW in managing wood smoke through periodic wood smoke reduction programs and providing community education materials for use by councils. Previous social research undertaken for the EPA identified lack of awareness of wood smoke impacts on health as the key barrier to changing people's wood heater use.

In 2022–23 the EPA continued to provide a range of educational materials for councils to raise public awareness about wood smoke impacts and the correct operation of wood heaters. The materials are available in the 'wood smoke resource kit' in English and five community languages – Arabic, Cantonese, Hindi, Mandarin and Vietnamese. The local community education campaign materials are available at www.epa.nsw.gov.au/your-environment/air/reducing-wood-smokeemissions/council-resource-kit.

DPE commenced an update of the Local Government Air Quality Toolkit in 2022–23 which will include new guidance to help councils manage neighbourhood smoke.

In 2022–23 DPE participated as a member on the Standards Australia Technical Committee – Solid Fuel Burning Appliances which commenced reviews of AS/NZS 4012, 4013 and 2918, relating to emissions standards, efficiency and installation of wood heaters.

The EPA also regulates the sale of wood heaters. All appliances must meet minimum emission and efficiency standards as set out in the Protection of the Environment (Clean Air) Regulation 2022.

Hunter region coal mines dust management

Wetter weather conditions due to the La Nina climatic conditions helped manage dust emissions from coal mines during 2022–23. Due to extended wet weather, targeted dust compliance campaigns were not conducted during the 2022–2023 spring and summer seasons. Individual regulation of coal mines continued as part of the EPA's risk based licencing inspection program.

Legislation

The Protection of the Environment Operations (Clean Air) Regulation was remade in December 2022. DPE and the EPA undertook a comprehensive review of the Regulation based on the latest environment and health research, current technologies, environmental practice and emission standards, as well as evolving community and stakeholder concerns.

A new draft Regulation was developed and the draft Regulation and associated regulatory impact statement were released for consultation from 6 May to 3 June 2022. There was significant public response to the consultation, with submissions from community, industry, environment and health groups and other stakeholders. The key changes to the Regulation are summarised on the EPA website.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Data in this section are presented for the 2022 calendar year. Data, for the full year, are reported against the AAQ NEPM standards in effect from 2021, registered on 26 May 2021.

The NSW air quality monitoring program is the largest in Australia, with a comprehensive monitoring network operated by DPE. As noted above, the NEPM network is a sub-set of the NSW air quality monitoring network operated by DPE. At 31 December 2022, the period to which the data presented applies, the NSW AAQ NEPM reporting network comprised 40 air quality monitoring stations, compared with 39 in 2021. Alexandria air quality monitoring station was commissioned and incorporated into the AAQ NEPM network in the final quarter of 2021 and is reported for the first time for the 2022 calendar year. The 40 NEPM stations comprise 19 in Sydney, one in the Central Coast, one at Lake Macquarie, three in the Illawarra, three in the Lower Hunter, four in the Upper Hunter and nine stations in regional NSW.

Summary

Detailed observed data and the compliance assessment with respect to the national air quality standards follow in the next section. Key results from the following section are summarised below:

- During 2022 the levels of ozone, nitrogen dioxide, and carbon monoxide remained within the respective national standards at all stations in the NSW AAQ NEPM network.
- The one-hour SO_2 standard was exceeded on one day, with maximum daily SO_2 average of 1.8 pphm recorded at Morisset station in Lake Macquarie on 19 October 2022. There were no days over the daily SO_2 standard in 2022.

- Levels of PM_{10} were the lowest on record for most AAQ NEPM stations during 2022. Armidale station in the Northern Tablelands was the only to exceed the daily PM_{10} standard on one day, due to woodsmoke. The station did not meet the NEPM goal due to this non-exceptional event. All AAQ NEPM stations recorded annual PM_{10} levels at 50% below the annual standard, with levels ranging from 6.7 µg/m^3 at Narrabri in the North West Slopes to 17.5 µg/m^3 at Newcastle.
- Daily average $PM_{2.5}$ levels over the national standard were observed at four stations in 2022: Armidale in the Northern Tablelands (11 days), Orange in the Central Tablelands (5 days), Gunnedah in the North West Slopes (4 days), and Wagga Wagga North in the Riverina-Murray (1 day). These were all non-exceptional event days, due mainly to domestic wood heating (except for agricultural burning at Wagga Wagga North). Annual average $PM_{2.5}$ levels remained within the national standard at all stations, with levels ranging from 2.7 µg/m^3 at Morisset station in Lake Macquarie to 7.1 µg/m^3 at Armidale station.
- Monitoring for lead as a regional pollutant ceased in NSW from January 2005 due to the extremely low concentrations of lead now found in ambient air. Some recent observations are reported such as the Sydney Particle Characterisation Study (https://www.environment.nsw.gov.au/research-and-publications/publications?sort=field_publish_event_date), which confirmed the low levels of lead in ambient air. Also, monitoring for lead in Broken Hill is currently underway.

The section below summarises the data tables, focussed on pollutants that recorded levels above the respective national standards.

Sulfur dioxide

Sulfur dioxide was monitored at 25 stations in the NSW AAQ NEPM network in 2022. All stations met the required annual data coverage (75%) to determine compliance.

- With respect to the one-hour national standard for SO_2 (0.10 ppm), there was one day over the standard (0.18 ppm) observed on 19 October 2022 at Morisset station in Lake Macquarie. The station did not meet the hourly goal for SO_2 as a result. The maximum daily average (0.018 ppm) across the network was also observed on the same day at Morisset station. The station did meet the daily goal for SO_2 as the daily SO_2 standard (0.02 ppm) was not exceeded. Morisset station is located strategically between two coal-fired power stations.
- All stations met the daily national standard and goal for SO_2.

Particles as PM_{10}

Forty stations in the NSW AAQ NEPM network monitored PM_{10} levels in 2022. Thirty-eight stations had at least 75% data availability, while two stations did not have the required data coverage to determine compliance (Alexandria in Sydney, and Gunnedah in the North West Slopes).

- *PM_{10} 24-hour standard and goal*

  Daily average PM_{10} levels over the national standard was observed only on one day in 2022, at one station (Armidale in the Northern Tablelands). This compares with 129 days in 2019, 87 days in 2020 and 18 days in 2021.

  No exceedance days were observed that were due to exceptional causes such as continental scale dust, hazard reduction burning, or bushfires. The only exceedance day observed was attributed to woodsmoke from domestic wood heating, deemed a non-exceptional cause.

  With respect to the daily PM_{10} goal, Armidale was the only station to not meet the goal. Two stations, as previously stated, did not have sufficient data coverage to determine compliance. Hence, out of the 40 AAQ NEPM stations monitoring PM_{10} during 2022, 37 stations met the daily PM_{10} goal.

- *Annual PM_{10} standard and goal*

  All stations with sufficient data to assess compliance (38) recorded annual averages below the annual PM_{10} standard of 25.0 µg/m^3, and therefore met the annual goal. The three highest annual averages were in the range 14.6 – 17.5 µg/m^3 recorded at Newcastle, Muswellbrook and Liverpool. Annual standards are reported using all measured data, including exceptional events.

Particles as $PM_{2.5}$

Thirty-nine stations in the NSW AAQ NEPM network monitored $PM_{2.5}$ levels in 2022. Thirty-seven stations met 75% data availability requirement, while two did not have sufficient data to determine compliance (Alexandria in Sydney, and Gunnedah in the North West Slopes).

- *$PM_{2.5}$ 24-hour standard and goal*

  There were 16 calendar days with daily $PM_{2.5}$ average levels observed above the national standard in 2022. This compares with 116 days in 2019, 59 days in 2020, and 23 days in 2021.

  The major cause for non-exceptional events was smoke generated by domestic wood heating, observed across three regional NSW stations: Armidale (Northern Tablelands), Orange (Central Tablelands), Gunnedah (North West Slopes). Agricultural burning was the other identified cause for one non-exceptional event day observed at Wagga Wagga North. No exceedance days were due to an exceptional cause such as bushfires or hazard reduction burning.

  With respect to the 24-hour $PM_{2.5}$ goal, four stations did not meet the goal due to non-exceptional causes (Armidale, Gunnedah, Orange, and Wagga Wagga North) and two stations (Alexandria and Gunnedah) did not have sufficient data coverage. Therefore, out of the 39 AAQ NEPM stations monitoring $PM_{2.5}$ during 2022, 34 stations met the daily $PM_{2.5}$ goal.

- *$PM_{2.5}$ annual standard and goal*

  All stations with sufficient data to assess compliance (37) recorded annual averages below the annual $PM_{2.5}$ standard (8.0 µg/m³) and therefore met the annual goal. The three highest annual averages were in the range 7.1–5.8 µg/m³ recorded at Armidale, Muswellbrook, and Penrith.

  Annual standards are reported using all measured data, including exceptional events. Most stations reported the lowest annual average for $PM_{2.5}$ for the last nine years. However, the NEPM standard for $PM_{2.5}$ annual average is scheduled to be reduced to 7 µg/m³ in 2025. The highest station readings in 2022 would not achieve this goal. As this goal cannot be reached in a year characterised by milder climatic conditions and the lowest readings for almost a decade, it suggests that meeting these updated goals from 2025 may be challenging.

Monitoring data

Data from relevant monitoring stations are presented in tabular form below to enable an evaluation of whether the AAQ NEPM standards and goals were met at each monitoring station. The standards, with accompanying definitions and explanations, appear in Schedule 2 of the NEPM. Note that to comply with the NEPM goals in effect since May 2021, no exceedances of any of the revised NEPM standards are allowed, for any averaging times.

An air quality monitoring station complies with NEPM goals for specific criteria pollutants on the criteria that at least 75% of 1-hour data are captured in each quarter of the year, and

- If the NEPM standards (i.e., either hourly, rolling 8-hour, daily (24-hour), or annual as applicable) are not exceeded for any of the criteria pollutants (sulfur dioxide, carbon monoxide, ozone and nitrogen dioxide and particles as PM_{10}, and particles as $PM_{2.5}$) and
- For ozone, the NEPM rolling 8-hour standard if exceeded, is due to an exceptional cause, where elevated levels relate directly to authorised hazard reduction burning or bushfires.
- For particles as PM_{10} and particles as $PM_{2.5}$, the NEPM 24-hour standards if exceeded, are due to exceptional causes (where elevated levels relate directly to continental windblown dust, authorised hazard reduction burning or bushfires). Additionally, if the NEPM annual standards are not exceeded, then particles are deemed to comply with the NEPM annual goal.

Hourly updated data from the total NSW air quality monitoring network are reported at www.dpie.nsw.gov.au/air-quality/current-air-quality, and www.airquality.nsw.gov.au. Current and historical data is searchable and downloadable from www.dpie.nsw.gov.au/air-quality/air-qualitydata-services/data-download-facility. The NSW Air Quality Monitoring Plan and Regional Monitoring Plans can be accessed at www.environment.nsw.gov.au/topics/air/monitoring-airquality/review/nsw-air-quality-monitoring-plan.

CO Carbon monoxide

(NEPM standard: rolling 8-hour = 9.0ppm)

Station	Number of exceedances	NEPM goal compliance
Sydney		
*Alexandria**	*0*	*Met*
Camden	0	Met
Campbelltown West	0	Met
Cook and Phillip	0	Met
Lidcombe	0	Met
Liverpool	0	Met
Macquarie Park	0	Met
Parramatta North	0	Met
Penrith	0	Met
Prospect	0	Met
Rouse Hill	0	Met
Rozelle	0	Met
Central Coast		
Wyong	0	Met
Lake Macquarie		
Morisset	0	Met
Illawarra		
Wollongong	0	Met
Lower Hunter		
Newcastle	0	Met

* Station did not meet the 75% requirement in at least one quarter. Performance against the 8-hour standard is ideally not determined (ND). The station is however assessed as having 'Met' the AAQ NEPM goal for CO, as CO levels across the network rarely exceeds the national standard.

NO_2 Nitrogen Dioxide

(NEPM standards: 1-hour = 0.080ppm, 1 year = 0.015ppm)

Station	1-hour		1-year	
	Number of exceedances	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Sydney				
Alexandria	0	Met	0.009	Met
Bargo	0	Met	0.002	Met
Bringelly	0	Met	0.003	Met
Camden	0	Met	0.003	Met
Campbelltown West	0	Met	0.007	Met
Cook and Phillip	0	Met	0.011	Met
Earlwood	0	Met	0.008	Met
Lidcombe	0	Met	0.010	Met
Liverpool	0	Met	0.008	Met
Macquarie Park	0	Met	0.003	Met
Oakdale	0	Met	0.001	Met
Parramatta North	0	Met	0.007	Met
Penrith	0	Met	0.005	Met
Prospect	0	Met	0.006	Met
Randwick	0	Met	0.006	Met
Richmond	0	Met	0.001	Met
Rouse Hill	0	Met	0.005	Met
Rozelle	0	Met	0.006	Met
St Marys	0	Met	0.004	Met
Central Coast				
Wyong	0	Met	0.002	Met
Lake Macquarie				
Morisset	0	Met	0.002	Met
Illawarra				
Albion Park South	0	Met	0.003	Met
Kembla Grange	0	Met	0.002	Met
Wollongong	0	Met	0.004	Met

Station	1-hour		1-year	
	Number of exceedances	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Lower Hunter				
Beresfield	0	Met	0.006	Met
Newcastle	0	Met	0.004	Met
Wallsend	0	Met	0.005	Met
Upper Hunter				
Merriwa	0	Met	0.003	Met
Muswellbrook	0	Met	0.007	Met
Singleton	0	Met	0.004	Met
Regional NSW				
Goulburn	0	Met	0.002	Met
Gunnedah	0	Met	0.002	Met

O_3 Ozone

(NEPM standard: rolling 8-hour = 0.065ppm)

Station	Non-exceptional exceedance days*	Total exceedance days	NEPM goal compliance
Sydney			
Alexandria	0	0	Met
Bargo	0	0	Met
Bringelly	0	0	Met
Camden	0	0	Met
Campbelltown West	0	0	Met
Cook and Phillip	0	0	Met
Earlwood	0	0	Met
Lidcombe	0	0	Met
Liverpool	0	0	Met
Macquarie Park	0	0	Met
Oakdale	0	0	Met
Parramatta North	0	0	Met
Penrith	0	0	Met

Station	Non-exceptional exceedance days*	Total exceedance days	NEPM goal compliance
Prospect	0	0	Met
Randwick	0	0	Met
Richmond	0	0	Met
Rouse Hill	0	0	Met
Rozelle	0	0	Met
St Marys	0	0	Met
Central Coast			
Wyong	0	0	Met
Lake Macquarie			
Morisset	0	0	Met
Illawarra			
Albion Park South	0	0	Met
Kembla Grange	0	0	Met
Wollongong	0	0	Met
Lower Hunter			
Beresfield	0	0	Met
Newcastle	0	0	Met
Wallsend	0	0	Met
Upper Hunter			
Merriwa	0	0	Met
Regional NSW			
Goulburn	0	0	Met
Gunnedah	0	0	Met

* This represents all assessable days which are not due to an exceptional event. An exceptional event means a fire or dust occurrence that adversely affects air quality at a particular location that causes an exceedance of the standard that is in excess of normal historical fluctuations and background levels and is directly related to bushfire, jurisdiction authorised hazard reduction burning or continental scale windblown dust.

SO_2 Sulfur dioxide

(NEPM standards: 1 hour = 0.100ppm, 1 day = 0.020ppm)

Station	1 hour		1 day	
	Number of exceedances	NEPM goal compliance	Number of exceedances	NEPM goal compliance
Sydney				
Alexandria	0	Met	0	Met
Bargo	0	Met	0	Met
Bringelly	0	Met	0	Met
Campbelltown West	0	Met	0	Met
Cook and Phillip	0	Met	0	Met
Lidcombe	0	Met	0	Met
Liverpool	0	Met	0	Met
Macquarie Park	0	Met	0	Met
Parramatta North	0	Met	0	Met
Penrith	0	Met	0	Met
Prospect	0	Met	0	Met
Randwick	0	Met	0	Met
Richmond	0	Met	0	Met
Rouse Hill	0	Met	0	Met
Rozelle	0	Met	0	Met
Illawarra				
Albion Park South	0	Met	0	Met
Wollongong	0	Met	0	Met
Central Coast				
Wyong	0	Met	0	Met
Lake Macquarie				
Morisset	1	Not met	0	Met
Lower Hunter				
Beresfield	0	Met	0	Met
Newcastle	0	Met	0	Met
Wallsend	0	Met	0	Met
Upper Hunter				
Merriwa	0	Met	0	Met
Muswellbrook	0	Met	0	Met
Singleton	0	Met	0	Met

PM_{10} Particles as PM_{10}

(NEPM standards: 1 day = 50.0 µg/m³, 1 year = 25.0 µg/m³)

Station	1 day			1 year	
	#Non-exceptional exceedance days	Total exceedance days	NEPM goal compliance	Annual average (µg/m³)	NEPM goal compliance
Sydney					
*Alexandria**	-	-	*ND*	-	*ND*
Bargo	0	0	Met	9.9	Met
Bringelly	0	0	Met	12.1	Met
Camden	0	0	Met	10.1	Met
Campbelltown West	0	0	Met	11.3	Met
Cook and Phillip	0	0	Met	9.9	Met
Earlwood	0	0	Met	12.9	Met
Lidcombe	0	0	Met	13.3	Met
Liverpool	0	0	Met	14.6	Met
Macquarie Park	0	0	Met	11.4	Met
Oakdale	0	0	Met	8.8	Met
Parramatta North	0	0	Met	14.1	Met
Penrith	0	0	Met	13.8	Met
Prospect	0	0	Met	13.4	Met
Randwick	0	0	Met	14.6	Met
Richmond	0	0	Met	10.3	Met
Rouse Hill	0	0	Met	11.8	Met
Rozelle	0	0	Met	12.9	Met
St Marys	0	0	Met	12.0	Met
Illawarra					
Albion Park South	0	0	Met	10.9	Met
Kembla Grange	0	0	Met	14.5	Met
Wollongong	0	0	Met	14.3	Met
Central Coast					
Wyong	0	0	Met	11.7	Met
Lake Macquarie					
Morisset	0	0	Met	7.9	Met

Station	1 day			1 year	
	#Non-exceptional exceedance days	Total exceedance days	NEPM goal compliance	Annual average (µg/m³)	NEPM goal compliance
Lower Hunter					
Beresfield	0	0	Met	14.3	Met
Newcastle	0	0	Met	17.5	Met
Wallsend	0	0	Met	12.7	Met
Upper Hunter					
Aberdeen	0	0	Met	12.3	Met
Merriwa	0	0	Met	11.2	Met
Muswellbrook	0	0	Met	16.6	Met
Singleton	0	0	Met	14.5	Met
Central Tablelands					
Bathurst	0	0	Met	8.8	Met
Orange	0	0	Met	8.6	Met
North West Slopes					
*Gunnedah**	-	-	ND	-	ND
Narrabri	0	0	Met	6.7	Met
Tamworth	0	0	Met	10.6	Met
Northern Tablelands					
Armidale	1	1	Not met	9.7	Met
South West Slopes					
Albury	0	0	Met	11.7	Met
Wagga Wagga North	0	0	Met	13.1	Met
Southern Tablelands					
Goulburn	0	0	Met	7.2	Met

This represents all assessable days which are not due to an exceptional event. An exceptional event means a fire or dust occurrence that adversely affects air quality at a particular location that causes an exceedance of the standard that is in excess of normal historical fluctuations and background levels and is directly related to bushfire, jurisdiction authorised hazard reduction burning or continental scale windblown dust.

* Station did not meet the 75% requirement in at least one quarter of the year and therefore performance against the 1-day and annual standards are not determined (ND).

$PM_{2.5}$ Particles as $PM_{2.5}$

(NEPM standards: 1 day = 25.0 µg/m³, 1 year = 8.0 µg/m³)

Station	1 day			1 year	
	# Non-exceptional exceedance days	Total exceedance days	NEPM goal compliance	Annual average (µg/m³)	NEPM goal compliance
Sydney					
*Alexandria**	-	-	ND	-	ND
Bargo	0	0	Met	3.7	Met
Bringelly	0	0	Met	5.1	Met
Camden	0	0	Met	4.4	Met
Campbelltown West	0	0	Met	4.6	Met
Cook and Phillip	0	0	Met	4.3	Met
Earlwood	0	0	Met	5.2	Met
Lidcombe	0	0	Met	4.7	Met
Liverpool	0	0	Met	5.5	Met
Macquarie Park	0	0	Met	4.4	Met
Oakdale	0	0	Met	3.5	Met
Parramatta North	0	0	Met	5.2	Met
Penrith	0	0	Met	5.8	Met
Prospect	0	0	Met	5.3	Met
Randwick	0	0	Met	4.9	Met
Richmond	0	0	Met	4.8	Met
Rouse Hill	0	0	Met	4.6	Met
Rozelle	0	0	Met	4.6	Met
St Marys	0	0	Met	3.9	Met
Illawarra					
Albion Park South	0	0	Met	3.8	Met
Kembla Grange	0	0	Met	4.0	Met
Wollongong	0	0	Met	4.7	Met
Central Coast					
Wyong	0	0	Met	4.0	Met

Station	1 day			1 year	
	# Non-exceptional exceedance days	Total exceedance days	NEPM goal compliance	Annual average (µg/m³)	NEPM goal compliance
Lake Macquarie					
Morisset	0	0	Met	2.7	Met
Lower Hunter					
Beresfield	0	0	Met	5.0	Met
Newcastle	0	0	Met	5.5	Met
Wallsend	0	0	Met	5.1	Met
Upper Hunter					
Merriwa	0	0	Met	3.4	Met
Muswellbrook	0	0	Met	6.2	Met
Singleton	0	0	Met	5.1	Met
Central Tablelands					
Bathurst	0	0	Met	4.1	Met
Orange	5	5	Not met	5.2	Met
North West Slopes					
*Gunnedah***	4	4	Not met	-	*ND*
Narrabri	0	0	Met	3.6	Met
Tamworth	0	0	Met	4.7	Met
Northern Tablelands					
Armidale	11	11	Not met	7.1	Met
South-west Slopes					
Albury	0	0	Met	5.6	Met
Wagga Wagga North	1	1	Not met	5.3	Met
Southern Tablelands					
Goulburn	0	0	Met	4.1	Met

This represents all assessable days which are not due to an exceptional event. An exceptional event means a fire or dust occurrence that adversely affects air quality at a particular location that causes an exceedance of the standard that is in excess of normal historical fluctuations and background levels and is directly related to bushfire, jurisdiction authorised hazard reduction burning or continental scale windblown dust.

* Station did not meet the 75% requirement in at least one quarter of the year and performance against the 1day and annual standards are therefore not determined (ND).

** Station did not meet the 75% requirement in at least one quarter. Performance against the 1-day standard was determined due to exceedances of the standard during the year. However, performance against the annual standard cannot be determined (ND) in this case, as an annual average cannot be calculated.

Victoria

Report to the NEPC on the implementation of the National Environment Protection (Ambient Air Quality) Measure for Victoria by the Hon. Lily D'Ambrosio, Minister for the State Electricity Commission, Climate Action, Energy and Resources and *the Hon Ingrid Stitt, Minister for the Environment, Early Childhood Education and Pre-prep, for the reporting year ended 30 June 2023.*

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The ambient air quality NEPM in Victoria is implemented by the Environment Protection Regulations 2021 and EPA's Guideline for assessing and minimising air pollution (https://www.epa.vic.gov.au/about-epa/publications/1961) (the Guideline).

The regulations came into force on 1 July 2021, as subordinate legislation to the *Environment Protection Act 2017* (the Act) which applied from the same date. The Guideline was published in February 2022 and provides a framework to assess and control risks associated with air pollution. It is a technical guideline for air pollution practitioners and specialists with a role managing pollution discharges to air.

With the introduction of the Act, environment protection law shifted to a prevention-based approach. Central to this approach is the general environment duty. This is a shared responsibility to prevent harm to the environment and means all Victorians must each take reasonable steps to stop harm, and do so before damage is done.

- Monitoring was performed in accordance with a modified state monitoring plan, National Environment Protection (Ambient Air Quality) Measure (NEPM) technical papers and Environment Protection Authority Victoria's National Association of Testing Authorities' accreditation.
- For particulate matter equal or less than 2.5 µm ($PM_{2.5}$) data capture was below the target of 75% at Footscray and Geelong South in quarter 1 (Q1), at Melbourne CBD in quarter 3 and quarter 4 (Q3 & Q4) and at Traralgon in quarter 4 (Q4) due to instrumentation faults. Data capture was above 75% at all other stations.
- For particulate matter equal or less than 10 µm (PM_{10}) data capture was below the target of 75% at Traralgon in quarter 4 (Q4) due to instrumentation faults. Data capture was above 75% at all other stations.
- For carbon monoxide (CO), data capture was below the target of 75% at Geelong South in quarter 2 and quarter 3 (Q2 & Q3) due to instrumentation faults. Data capture was above the target of 75% at all other stations.
- For nitrogen dioxide (NO_2), data capture was below the target of 75% at Geelong South in quarter 2 and quarter 3 (Q2 & Q3) due to instrumentation faults. Data capture was above the target of 75% at all other stations.
- For ozone (O_3), data capture was below the target of 75% at Footscray in quarter 1 and quarter 2 (Q1 & Q2) due to relocation of the monitoring station and at Geelong South in quarter 2 and quarter 3 (Q2 & Q3). Data capture was above the target of 75% at all other stations.
- For sulfur dioxide (SO_2), data capture was below the target of 75% at Altona North in quarter 1, quarter 2 and quarter (Q1, Q2 and Q3) and at Geelong South in quarters 2, 3 and 4 (Q2, Q3 and Q4) due to instrument faults. Data capture was above 75% at all other stations.
- There were no other significant implementation issues.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

In general, Victoria's air quality in 2022 was generally considered to be good due to levels of air pollution being below the air quality standards on most days. However, there were days when the air quality standards for $PM_{2.5}$ and PM_{10} were exceeded. These exceedances were primarily due to landscape fires and wood heaters for $PM_{2.5}$ and strong winds leading to raised dust for PM_{10}.

Urban sources, such as domestic wood heating, continue to be a significant contributor to the number of exceedances of the $PM_{2.5}$ standard. These generally occurred on cold, still nights, which are usually associated with increased usage of heating and meteorological conditions that limit the dispersion of smoke.

Several days of $PM_{2.5}$ exceedances were also associated with land burns. These burns are carried out to reduce fuel loads and the risk of major bushfires in summer as well as for the protection of water catchment areas. There was also an exceedance recorded for $PM_{2.5}$ recorded at the Melbourne CBD station. As a result, the standards and goal for $PM_{2.5}$ were not met. The exceedance was likely to be due to a landscape fire in May.

Wind-blown dust also contributed to several days of the PM_{10} standard to be exceeded during summer.

Data from relevant monitoring stations are presented in tabular form below to enable an evaluation of whether the NEPM standards and goal were met at each monitoring station. The standards, with accompanying definitions and explanations, appear in Schedule 2 of the NEPM. There are no allowable exceedances for any of the standards.

An exceptional event rule may apply in the event of bushfires, jurisdiction-authorised hazard reduction burning, or continental scale windblown dust, meaning that during these exceptional events, levels of fine and coarse particulate matter as well as ozone that exceed the NEPM standard will be noted as exceedances but not counted as such for compliance purposes.

The data are presented in greater detail in: Air monitoring report 2022: Compliance with the Ambient Air Quality National Environment Protection Measure | Environment Protection Authority Victoria (epa.vic.gov.au).

CO Carbon monoxide

(NEPM standard 8 hours = 9.0ppm)

Station	Number of exceedances	NEPM goal compliance
Alphington	0	Met
Footscray	0	Met*
Geelong South	0	Not Met*
Traralgon	0	Met

* Data capture less than 75%

NO_2 Nitrogen Dioxide

(NEPM standard: 1 hour = 80ppb, 1 year = 15ppb)

Station	1 Hour		1 Year	
	Number of exceedances	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Alphington	0	Met	8.63	Met
Footscray	0	Met	9.48	Met
Geelong South	0	Not Met*	4.96	Not Met*
Traralgon	0	Met	5.85	Met

* Data capture less than 75%

O_3 Ozone

(NEPM standard: 8 hours = 0.065ppm)

Station	1 Hour		
	Non-exceptional event exceedances	Exceptional event exceedances	NEPM goal compliance
Alphington	0	0	Met
Dandenong	0	0	Met
Footscray	0	0	Not Met*
Geelong South	0	0	Not Met*
Melton	0	0	Met
Point Cook	0	0	Met
Traralgon	0	0	Met

* Data capture less than 75%

SO_2 Sulfur dioxide

(NEPM standard: 1 hour = 0.20ppb, 1 day = 20ppb)

Station	1 hour		1 day	
	Number of exceedances	NEPM goal compliance	Number of exceedances	NEPM goal compliance
Alphington	0	Met	0	Met
Altona North	0	Not Met*	0	Not Met*
Geelong South	0	Not Met*	0	Not Met*
Traralgon	0	Met	0	Met

* Data capture less than 75%

Pb Lead

(NEPM standard: 1 year = 0.50µg/m^3)

Not monitored in Victoria since 2004

PM_{10} Particles as PM_{10}

(NEPM standard: 1 day = 50µg/m³, 1 year = 25µg/m³)

Station	1 Day			1 Year	
	Non-exceptional event exceedances	Exceptional event exceedances	NEPM goal compliance	Annual average (mg/m³)	NEPM goal compliance
Alphington	0	0	Met	16.31	Met
Dandenong	1	0	Not Met	16.43	Not Met
Footscray	0	0	Met	18.63	Met
Geelong South	0	0	Met	18.67	Met
Mooroolbark	1	0	Not Met*	14.43	Not Met*
Traralgon	0	0	Not Met	15.99	Not Met

* Data capture less than 75%

$PM_{2.5}$ Particles as $PM_{2.5}$

(NEPM standard 1 day = 25µg/m³, 1 year = 8µg/m³)

Station	1 Day			1 Year	
	Non-exceptional event exceedances	Exceptional event exceedances	NEPM goal compliance	Annual average (mg/m³)	NEPM goal compliance
Alphington	0	0	Met	6.66	Met
Footscray	0	0	Not Met*	5.76	Not Met*
Geelong South	0	0	Not Met*	4.4	Not Met*
Melbourne CBD	1	0	Not Met	7.26	Not Met
Traralgon	0	0	Not Met*	6.62	Not Met*

* Data capture less than 75%

Queensland

Report to the NEPC on the implementation of the National Environment Protection (Ambient Air Quality) Measure for Queensland by Hon. Leanne Linard MP, Minister for the Environment and the Great Barrier Reef and Minister for Science and Innovation, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

This report contains monitoring data from 1 January 2022 to 31 December 2022 and relevant events during the reporting year commencing 1 July 2022 and ending 30 June 2023.

In Queensland, the Ambient Air Quality NEPM is implemented under the Environmental Protection Act 1994 (EP Act), the Environmental Protection Regulation 2019, and the Environmental Protection (Air) Policy 2019, with the NEPM standards incorporated as air quality objectives.

In the 2022–23 reporting period, monitoring was conducted in seven of the ten regions identified in the Monitoring Plan: South East Queensland, Toowoomba, Maryborough – Hervey Bay, Gladstone, Mackay, Townsville and Mount Isa. Thirteen of the eighteen sites nominated in monitoring plan, and two additional reporting sites, were operational. Monitoring at three of the five remaining sites concluded prior to 2022–23 due to completion of campaign monitoring.

As part of a four-year program to provide Queensland communities with locally relevant air quality information during bushfire smoke exposure episodes, PM_{10} and $PM_{2.5}$ monitoring re-commenced in Toowoomba in January 2022 and commenced in Maryborough in October 2022 and in Cairns in March 2023.

Collection of $PM_{2.5}$ data using Tapered Element Oscillating Microbalance (TEOM) instrumentation with Filter Dynamics Measurement System (FDMS) continued at three stations in South East Queensland (Rocklea, Springwood and Southport) and one station in Gladstone (South Gladstone) during 2022.

Collection of $PM_{2.5}$ data using Teledyne Advanced Pollution Instrumentation (TAPI) T640X optical particle spectrometers continued at two stations in South East Queensland (Mountain Creek and Flinders View) and at Mackay (West Mackay), Townsville (North Ward) and Mount Isa (The Gap) during 2022. Collection of $PM_{2.5}$ data using TAPI T640X optical particle spectrometers commenced at Toowoomba and Maryborough-Hervey Bay during 2022.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The results of Queensland's ambient air quality monitoring in 2022 indicate that the goal of the AAQ NEPM was met for all pollutants at all monitoring stations where there was sufficient data capture to assess compliance, except for:

- one-hour and one-day sulfur dioxide concentrations in Mount Isa due to industry emissions,
- one-day PM_{10} concentrations in Toowoomba likely due to local dust-generating activities, and
- one-day PM_{10} concentrations in Mount Isa due to windblown dust during strong winds.

Although sulfur dioxide emissions to air from industry sources in Mount Isa have reduced in recent years through capture and conversion to sulfuric acid and improved monitoring and process control feedback mechanisms, existing regulatory controls mean that compliance with the AAQ NEPM sulfur dioxide one-hour and one-day standards is unlikely to be achieved, particularly following the recent introduction of more stringent AAQ NEPM 1-hour and 1-day standards. The smelter operator's current Environmental Authority (EA), issued in 2015 (and amended in 2022), permits one-hour and one-day average sulfur dioxide concentrations in excess of the AAQ NEPM standards. As a result, the AAQ NEPM sulfur dioxide one-hour standard was exceeded for 43 hours and the one-day standard on 25 days at The Gap monitoring site in Mount Isa during 2022 due to industrial emissions.

There were two exceedances of the AAQ NEPM PM_{10} one-day standard (the numerical threshold) across Queensland performance monitoring stations during 2022. The single one-day PM_{10} exceedance at The Gap station in Mount Isa was due to windblown dust during a combination of dry conditions and strong winds accompanying the passage of a cold front on 30 May 2022. The single one-day PM_{10} exceedance at Toowoomba occurred on 21 November 2022 and while a source could not be conclusively identified, from the high ratio of PM_{10} to $PM_{2.5}$ and short period when PM_{10} concentrations were elevated (two hours) it was concluded that dust-generating activities taking place in close proximity to the monitoring station were most likely responsible.

There were two exceedances of the AAQ NEPM $PM_{2.5}$ one-day standard (the numerical threshold) across Queensland performance monitoring stations during 2022. The single one-day exceedance at North Ward in Townsville was directly attributable to an exceptional event (jurisdictional authorised hazard-reduction burn) and, as such, was excluded from the determination of compliance with the AAQ NEPM one-day goal. The remaining exceedance of the $PM_{2.5}$ one-day standard occurred at Maryborough on 26 November 2022 and while a source could not be conclusively identified, from the high ration of $PM_{2.5}$ to PM_{10} and short period when $PM_{2.5}$ concentrations were elevated (four hours), smoke from a local fire was seen as the most likely cause.

Valid assessment of compliance with the standards and goal for 2022 was not possible for:

- all parameters at the Rocklea site in South East Queensland due to the station being offline for approximately three months following flooding of the site in late February,
- carbon monoxide at the Boyne Island site in Gladstone due to an extended instrument outage,
- PM_{10} and $PM_{2.5}$ at the Springwood site in South East Queensland due to an extended instrument outage, and
- PM_{10} and $PM_{2.5}$ at the Maryborough site due to monitoring commencing part way through the year.

Data from relevant monitoring stations are presented in tabular form below to enable an evaluation of whether the NEPM standards and goal were met at each monitoring station. The standards, with accompanying definitions and explanations, appear in Schedule 2 of the NEPM. For averaging times shorter than one year, compliance with the NEPM goal is achieved if the standard for a pollutant is exceeded on no more than a specified number of days in a calendar year (one day per year for all pollutants except PM_{10}, which may be exceeded no more than five days per year) and at least 75% of data are captured in each quarter.

The data are presented in greater detail in the Queensland 2022 air monitoring report available at https://www.qld.gov.au/environment/management/monitoring/air/air-reports.

The monitoring plan for Queensland is also available via: https://www.qld.gov.au/environment/management/monitoring/air/air-reports.

CO Carbon monoxide

(NEPM standard 8 hours = 9.0ppm)

Station	Number of exceedances	NEPM goal compliance
South East Queensland		
Woolloongabba	0	met
Gladstone		
Boyne Island	0	not demonstrated[a]

[a] not demonstrated due to insufficient data (i.e. less than 75 per cent) due to an extended monitoring instrument outage in Quarter 4.

NO_2 Nitrogen Dioxide

(NEPM standard: 1 hour = 0.08ppm, 1 year = 0.015ppm)

Station	1 Hour		1 Year	
	Number of exceedances	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
South East Queensland				
Mountain Creek	0	met	0.003	met
Deception Bay	0	met	0.004	met
Rocklea	0	not demonstrated[a]	0.007	not demonstrated[a]
Springwood	0	met	0.005	met
Southport	0	met	0.004	met
Flinders View	0	met	0.006	met
Gladstone				
South Gladstone	0	met	0.004	met
Townsville				
North Ward	0	met	0.003	met

[a] not demonstrated due to insufficient data (i.e. less than 75 per cent) resulting from the station being offline during part of Quarters 1 and 2 following flood damage to site infrastructure in late February.

O_3 Ozone

(NEPM standard: 8 hours = 0.065ppm)

Station	8 Hour		
	Non-exceptional event exceedances	Exceptional event exceedances	NEPM goal compliance
South East Queensland			
Mountain Creek	0	0	met
Deception Bay	0	0	met
Rocklea	0	0	not demonstrated[a]
Springwood	0	0	met
Southport	0	0	met
Flinders View	0	0	met

[a] not demonstrated due to insufficient data (i.e. less than 75 per cent) resulting from the station being offline during part of Quarters 1 and 2 following flood damage to site infrastructure in late February.

SO_2 Sulfur dioxide

(NEPM standard: 1 hour = 0.10ppm, 1 day = 0.02ppm)

Station	1 Hour		1 Day	
	Number of exceedances	NEPM goal compliance	Number of exceedances	NEPM goal compliance
South East Queensland				
Springwood	0	met	0	met
Flinders View	0	met	0	met
Gladstone				
South Gladstone	0	met	0	met
Townsville				
North Ward	0	met	0	met
Mount Isa				
The Gap	43	not met	25	not met

Pb Lead

(NEPM standard 1 year = 0.50µg/m^3)

Station	Annual average (µg/m^3)	NEPM goal compliance
Townsville		
Coast Guard	0.07	met
Mount Isa		
The Gap	0.10	met

PM_{10} Particles as PM_{10}

(NEPM standard 1 day = 50µg/m³, 1 year = 25µg/m³)

Station	1 Day			1 Year	
	Non-exceptional event exceedances	Exceptional event exceedances	NEPM goal compliance	Annual average (µg/m³)	NEPM goal compliance
South East Queensland					
Mountain Creek‡	0	0	met	15.5	met
Rocklea+	0	0	not demonstrated[a]	12.8	not demonstrated[a]
Springwood+	0	0	not demonstrated[b]	10.5	not demonstrated[b]
Southport+	0	0	met	9.8	met
Flinders View‡	0	0	met	14.1	met
Toowoomba					
Toowoomba‡	1	0	not met	12.1	met
Maryborough – Hervey Bay					
Maryborough‡	0	0	not demonstrated[c]	insufficient data	not demonstrated[c]
Gladstone					
South Gladstone+	0	0	met	11.0	met
Mackay					
West Mackay‡	0	0	met	16.7	met
Townsville					
North Ward‡	0	0	met	15.2	met
Mount Isa					
The Gap‡	1	0	not met	13.4	met

[a] not demonstrated due to insufficient data (i.e. less than 75 per cent) resulting from the station being offline during part of Quarters 1 and 2 following flood damage to site infrastructure in late February.

[b] not demonstrated due to insufficient data (i.e. less than 75 per cent) in one or more quarters due to an extended instrument fault in Quarter 2.

[c] not demonstrated due to insufficient data (i.e. less than 75 per cent) in one or more quarters due to PM_{10} monitoring not commencing until Quarter 4.

\+ monitoring by TEOM Model 1405DF instrumentation fitted with FDMS.

‡ monitoring by TAPI T640X optical particle spectrometer.

$PM_{2.5}$ Particles as $PM_{2.5}$

(NEPM standard 1 day = 25µg/m³, 1 year = 8µg/m³)

Station	1 Day			1 Year	
	Non-exceptional event exceedances	Exceptional event exceedances	NEPM goal compliance	Annual average (µg/m³)	NEPM goal compliance
South East Queensland					
Mountain Creek‡	0	0	met	6.0	met
Rocklea+	0	0	not demonstrated[a]	6.1	not demonstrated[a]
Springwood+	0	0	not demonstrated[b]	5.6	not demonstrated[b]
Southport+	0	0	met	4.1	met
Flinders View‡	0	0	met	5.6	met
Toowoomba					
Toowoomba‡	0	0	Not met	12.1	met
Maryborough – Hervey Bay					
Maryborough‡	1	0	not demonstrated[c]	insufficient data	not demonstrated[c]
Gladstone					
South Gladstone+	0	0	met	11.0	met
Mackay					
West Mackay‡	0	0	met	16.7	met
Townsville					
North Ward‡	0	1**	met	15.2	met
Mount Isa					
The Gap‡	0	0	not met	13.4	met

[a] not demonstrated due to insufficient data (i.e. less than 75 per cent) resulting from the station being offline during part of Quarters 1 and 2 following flood damage to site infrastructure in late February.

[b] not demonstrated due to insufficient data (i.e. less than 75 per cent) in one or more quarters due to an extended instrument fault in Quarter 2.

[c] not demonstrated due to insufficient data (i.e. less than 75 per cent) in one or more quarters due to $PM_{2.5}$ monitoring not commencing until Quarter 4.

** exceptional event due to smoke from hazard-reduction burns on Mount Stuart on 31 May 2022

\+ monitoring by TEOM Model 1405DF instrumentation fitted with FDMS.

‡ monitoring by TAPI T640X optical particle spectrometer.

Western Australia

Report to the NEPC on the implementation of the National Environment Protection (Ambient Air Quality) Measure for Western Australia by the Department of Water and Environmental Regulation for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In Western Australia, The National Environment Protection (Ambient Air Quality) Measure (NEPM) is implemented by the Department of Water and Environmental Regulation (DWER) under the *National Environment Protection Council (Western Australia) Act 1996* and the *Environmental Protection Act 1986*.

Implementation activities may be viewed in two categories:

1. those activities related to the monitoring and reporting protocol of the NEPM, plus other activities associated with the 'Future Actions' listed in the NEPM Impact Statement; and
2. those activities within Western Australia (including regulatory activities) designed to ensure that air quality is in compliance with the NEPM goal for each of the seven criteria pollutants.

In the first category, DWER has:

- continued to liaise with local governments and other organisations as required to facilitate the establishment of fixed ambient monitoring stations. The most recent site was established at Armadale in July 2020.
- maintained monitoring of carbon monoxide, oxides of nitrogen, ozone, sulfur dioxide and PM_{10} and $PM_{2.5}$ particle fractions.

In the second category, DWER has:

- continued to implement the *Perth Air Quality Management Plan* (AQMP). The AQMP is a whole of government plan aimed at improving and maintaining Perth's air quality.
- continued to investigate and trial a number of new monitoring technologies designed to establish a better understanding of the sources and emissions of pollutants and the dispersion of these pollutants in targeted areas. This includes monitoring campaigns that survey air quality in residential and other sensitive receptor areas, particularly where these areas may be impacted by vehicle or industrial emissions.
- maintained community access to regularly updated air quality information via DWER's webpage (www.wa.gov.au/service/environment/environment-information-services/air-quality); and
- Regulated emissions from industrial premises through works approvals and licences to control emissions of the criteria pollutants.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The Ambient Air Quality NEPM has provided a focus for air quality issues and driven all jurisdictions to work towards nationally consistent monitoring techniques and reporting. This has culminated in the development and approval of monitoring plans for all jurisdictions, including Western Australia. The NEPM standards and goals provide an additional impetus for the implementation of air quality improvement strategies and are a useful benchmark against which air quality management can be assessed. Western Australia is committed to implementing the NEPC-agreed NEPM variation to apply annual average and daily $PM_{2.5}$ standards of 7 µg/m^3 and 20 µg/m^3 respectively by 2025.

Air quality management initiatives implemented in Western Australia have placed the State in a favourable position to achieve compliance with the NEPM goals in most circumstances. For example, sulfur dioxide has been effectively controlled by industry regulation in the key airsheds of Kwinana and Kalgoorlie. Carbon monoxide, lead and nitrogen dioxide concentrations comply with the NEPM standards by comfortable margins due to clean fuel quality standards, national vehicle emissions standards and regulatory control of other sources. Ozone, PM_{10} and $PM_{2.5}$ remain pollutants of concern in the Perth metropolitan region and are the focus of attention within the AQMP. In regional areas, PM_{10} and $PM_{2.5}$ are the pollutants of most significance with respect to the NEPM standards.

The data presented below show that Western Australia met the NEPM goals for all pollutants in calendar year 2022 except for daily average PM_{10} at Quinns Rocks, Mandurah and Collie, and daily average $PM_{2.5}$ at Albany, Busselton, Caversham, Collie, Kalgoorlie and Quinns Rocks. The annual average goal for $PM_{2.5}$ was not met at Busselton, Collie and Quinns Rocks. The hourly average goal for ozone was not met at Rockingham and the hourly average goal for nitrogen dioxide was not met at Quinns Rocks.

The Mandurah monitoring station is the closest site to the coast and has been recording exceedances of the daily PM_{10} standard during on-shore winds which are due mainly to sea-salt from the ocean. While these exceedances are assessable according to the current classification, it is noted that marine aerosol is not harmful to human health.

Data from monitoring stations are presented in tabular form below to enable an evaluation of whether the NEPM standards and goals were met at each monitoring station. The standards, with accompanying definitions and explanations, appear in Schedule 2 of the NEPM.

The data are presented in greater detail in https://www.wa.gov.au/government/document-collections/air-quality-publications.

The monitoring plan for Western Australia is available from https://www.wa.gov.au/government/publications/national-environment-protection-measure-ambient-air-quality.

CO Carbon monoxide

(NEPM standard 8 hours = 9.0ppm)

Station	Number of exceedances	NEPM goal compliance
Perth		
North East Metro	0	Met
North Metro	0	Met
South East Metro	0	Met
Peel		
Mandurah	0	Met
Goldfields		
Kalgoorlie	0	Met

NO_2 Nitrogen Dioxide

(NEPM standard: 1 hour = 0.12ppm, 1 year = 0.03ppm)

Station	1 Hour		1 Year	
	Number of exceedances	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Perth				
North Metro	0	Met	0.005	Met
North East Metro	0	Met	0.004	Met
Outer North Coast	1	Not Met	0.004	Met
South Coast	0	Met	0.005	Met
Outer East Rural	0	Met	0.002	Met
South East Metro	0	Met	0.006	Met
Inner West Coast	0	Met	0.003	Met
Peel				
Mandurah	0	Met	0.002	Met

O_3 Ozone

(NEPM standard: 8 hours = 0.065ppm)

Station	4 Hours	
	Number of exceedances	NEPM goal compliance
Perth		
North East Metro	0	Met
Outer North Coast	0	Met
South Coast	1	Not Met
Outer East Rural	0	Met
South East Metro	0	Met
Inner West Coast	0	Met
Peel		
Mandurah	0	Met

SO_2 Sulfur dioxide

(NEPM standard: 1 hour = 0.10ppm, 1 day = 0.02ppm)

Station	1 hour		1 day	
	Number of exceedances	NEPM goal compliance	Number of exceedances	NEPM goal compliance
Perth				
South Metro	0	Met	0	Met
South Coast	0	Met	0	Met
South East Metro	0	Met	0	Met
Goldfields				
Kalgoorlie	0	Met	0	Met

Pb Lead

(NEPM standard 1 year = 0.50µg/m^3)

Lead monitoring ceased on 31 December 2001 following the introduction of unleaded petrol. These management initiatives consequently resulted in sustained measurements at analytical limits of detection well below the standard.

PM_{10} Particles as PM_{10}

(NEPM standard 1 day = 50µg/m³, 1 year = 25µg/m³)

Station	1 Day		1 Year	
	Number of exceedances	NEPM goal compliance	Annual average (µg/m³)	NEPM goal compliance
Perth				
North East Metro	2	Met	12.2	Met
North Metro	0	Met	11.3	Met
Outer North Coast	1	Not Met	18.8	Met
South East Metro	5	Met	13.5	Met
Peel				
Mandurah	8	Not Met	19.9	Met
Southwest				
Albany	0	Met	10.7	Met
Bunbury	4	Met	14.0	Met
Busselton	3	Met	15.7	Met
Collie	10	Not Met	18.0	Met
Midwest				
Geraldton	1	Met	14.8	Met
Goldfields				
Kalgoorlie	0	Met	11.7	Met

$PM_{2.5}$ Particles as $PM_{2.5}$

(NEPM standard 1 day = 25µg/m³, 1 year = 8µg/m³)

Station	1 Day		1 Year	
	Number of exceedances	NEPM goal compliance	Annual average (µg/m³)	NEPM goal compliance
Perth				
North East Metro	4	Not Met	6.4	Met
North Metro	2	Met	4.8	Met
Outer North Coast	9	Not Met	11.0	Not Met
South East Metro	12	Met	7.0	Met
Peel				
Mandurah	4	Met	7.0	Met
Southwest				
Albany	1	Met	4.0	Met
Bunbury	7	Not Met	6.5	Met
Busselton	8	Met	8.7	Not Met
Collie	42	Not Met	11.4	Not Met
Midwest				
Geraldton	0	Met	4.2	Met
Goldfields				
Kalgoorlie	2	Not Met	4.2	Met

Location descriptors for metropolitan monitoring stations

Location descriptor	Station Location
North East Metro	Caversham
North Metro	Duncraig
South East Metro	South Lake & Armadale
Outer East Rural	Rolling Green

Location descriptor	Station Location
South Coast	Rockingham
Inner West Coast	Swanbourne
South Metro	Wattleup
Outer North Coast	Quinns Rocks

South Australia

Report to the NEPC on the implementation of the National Environment Protection (Ambient Air Quality) Measure for South Australia by the Hon. Susan Close, Minister for Climate, Environment and Water, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- In South Australia, the Environment Protection Authority (EPA) is responsible for implementing the National Environment Protection (Ambient Air Quality) Measure.
- South Australia provides access to air quality monitoring data available on a variety of publicly available platforms and has made improvements to data visualisation in recent years.
- South Australia has implemented nationally consistent air quality categories based on the recommendations provided by the enHealth committee of the Australian Health Protection Principal Committee (AHPPC).
- Annual average PM_{10} and $PM_{2.5}$ levels at all sites were lower in 2022 compared to 2021.
- High data capture rates were achieved in 2022, with data availability for all quarters greater than 79% at all sites.
- The Mount Barker Wood Smoke Program commenced in April 2022 to assess the effects of wood heater smoke on air quality in Mount Barker. Results from the study will help inform evaluations of risk in other locations that have similar impacts, and future Wood Smoke Programs.
- The monitoring station at Northern Adelaide (Elizabeth)was re-established in September 2022. However, due to the limited data available for the 2022 reporting year, it has not been included in the tables below.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Data for South Australia shows that air quality was generally good during the 2022 calendar year.

In the Adelaide metropolitan region:

- Carbon monoxide – monitoring at the Adelaide CBD station showed concentrations were low. The data has not been included in the report as the station is not a NEPM site.
- Nitrogen dioxide – the 1-hour and 1-year standards and goals were met at all Adelaide monitoring stations.
- Ozone – the 8-hour standard and goal were met at all Adelaide monitoring stations.
- Sulfur dioxide – the 1- hour and 1-day standards and goals were met at Le Fevre Peninsula (North Haven) monitoring station.
- Particles (PM_{10}) – the 1-year standard was met at all monitoring stations. The 1-day standard was met at all stations except Western Adelaide (Netley) (2 exceedances) and LeFevre Peninsula (Birkenhead) (1 exceedance), this was due to local sources.
- Particles ($PM_{2.5}$) – the 1-day and 1-year standards and goals were met at both Western Adelaide (Netley) and LeFevre Peninsula monitoring stations (Birkenhead and North Haven)

In the Spencer Region:

- Particles (PM_{10})
  - The 1-day standard was met at Port Pirie (Oliver Street) and Whyalla (Schulz Reserve) monitoring stations but not at the Whyalla (Walls Street) station. There were 20 exceedances at Whyalla (Walls Street), this was due to local sources based on data analysis and comparison with other stations in the region.
  - The 1-year standard was met at all sites.
- Sulfur dioxide – the 1-hour and 1-day standards and goals were not met at Port Pirie (Oliver Street).
- Lead – the annual average standard and goal were met at both NEPM monitoring stations in Port Pirie.

Data from relevant monitoring stations are presented in tabular form below to enable an evaluation of whether the NEPM standards and goal were met at each monitoring station. The standards, with accompanying definitions and explanations, appear in Schedule 2 of the NEPM. There are no allowable exceedances for any of the standards.

An exceptional event rule may apply in the event of bushfires, jurisdiction-authorised hazard reduction burning, or continental scale windblown dust, meaning that during these exceptional events, levels of fine and coarse particulate matter as well as ozone that exceed the NEPM standard will be noted as exceedances but not counted as such for compliance purposes.

The monitoring plan for South Australia is available from https://www.epa.sa.gov.au/files/12061_airnepm.pdf.

The Environment Protection Authority publishes air quality information and monitoring data on the EPA and Data SA websites:

- Hourly data
  Air quality monitoring | EPA (https://www.epa.sa.gov.au/environmental_info/air_quality/new-air-quality-monitoring)
- Annual air quality statements
  Reports | EPA (https://www.epa.sa.gov.au/environmental_info/air_quality/reports_and_summaries)
- Validated data
  Air Quality Monitoring Sites - Dataset - data.sa.gov.au

NO_2 Nitrogen Dioxide

(NEPM standard: 1 hour = 0.08ppm, 1 year = 0.015ppm)

Station	1 Hour		1 Year	
	Number of exceedances	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Adelaide				
ALD07 – CBD	0	Met	0.010	Met
Southern Adelaide CHD01 – Christie Downs	0	Met	0.003	Met
Western Adelaide NET01 – Netley	0	Met	0.006	Met
Northeastern Adelaide NOR01 – Northfield	0	Met	0.004	Met
Le Fevre Peninsula NHV01 – North Haven	0	Met	0.005	Met

O_3 Ozone

(NEPM standard: 8 hours = 0.065ppm)

Station	8 Hour		
	Non-exceptional event exceedances	Exceptional event exceedances	NEPM goal compliance
Adelaide			
Southern Adelaide CHD01 – Christie Downs	0	0	Met
Western Adelaide NET01 – Netley	0	0	Met
Northeastern Adelaide NOR01 – Northfield	0	0	Met
Le Fevre Peninsula NHV01 – North Haven	0	0	Met

SO_2 Sulfur dioxide

(NEPM standard: 1 hour = 0.10ppm, 1 day = 0.02ppm)

Station	1 hour		1 day	
	Number of exceedances	NEPM goal compliance	Number of exceedances	NEPM goal compliance
Adelaide				
Le Fevre Peninsula NHV01 – North Haven	0	Met	0	Met
Spencer				
PTP01 – Pt Pirie Oliver Street	40	Not Met	11	Not Met

Pb Lead

(NEPM standard: 1 year = 0.50µg/m^3)

Station	Annual average (µg/m^3)	NEPM goal compliance
Spencer		
PTP05 – Pt Pirie Frank Green Park	0.16	Met
PTP05 – Pt Pirie Oliver Street	0.25	Met

PM_{10} Particles as PM_{10}

(NEPM standard: 1 day = 50µg/m^3, 1 year = 25µg/m^3)

Station	1 Day			1 Year	
	Non-exceptional event exceedances	Exceptional event exceedances	NEPM goal compliance	Annual average (µg/m^3)	NEPM goal compliance
Adelaide					
ADL07 – CBD	0	0	Met	11.9	Met
BIR02 – LeFevre Peninsula (Birkenhead)	1	0	Not Met	17.0	Met
Southern Adelaide CHD01 – Christie Downs	0	0	Met	14.9	Met

Station	1 Day			1 Year	
	Non-exceptional event exceedances	Exceptional event exceedances	NEPM goal compliance	Annual average (µg/m³)	NEPM goal compliance
Western Adelaide NET01 – Netley	2	0	Not Met	23.3	Met
Le Fevre Peninsula NHV01 – North Haven	0	0	Met	13.0	Met
Spencer					
PTP01 – Pt Pirie Oliver Street	0	0	Met	16.7	Met
WHY04 – Whyalla Walls Street	20	0	Not Met	22.3	Met
WHY07 – Whyalla Schulz Reserve	0	0	Met	14.8	Met

$PM_{2.5}$ Particles as $PM_{2.5}$

(NEPM standard: 1 day = 25µg/m³, 1 year = 8µg/m³)

Station	1 Day			1 Year	
	Non-exceptional event exceedances	Exceptional event exceedances	NEPM goal compliance	Annual average (µg/m³)	NEPM goal compliance
Adelaide					
ADL07 – CBD	0	0	Met	5.1	Met
Le Fevre Peninsula BIR01 – Birkenhead	0	0	Met	3.8	Met
Western Adelaide NET01 – Netley	0	0	Met	4.4	Met
Le Fevre Peninsula NHV01 – North Haven	0	0	Met	4.3	Met

Tasmania

Report to the NEPC on the implementation of the National Environment Protection (Ambient Air Quality) Measure for Tasmania by Hon Nick Duigan Minister for Parks and Environment for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- In Tasmania the enabling legislation for the National Environment Protection (Ambient Air Quality) Measure (Air NEPM) process is the *Environmental Management and Pollution Control Act 1994* (EMPCA). The process is implemented primarily through the Environment Protection Authority (EPA).
- National Environment Protection Measures are adopted as state policies under the *State Policies and Projects Act 1993,* and the Air NEPM is put into effect under the *Environment Protection Policy (Air Quality) 2004* (Air Policy), the *Environmental Management and Pollution Control (Smoke) Regulations 2019* and the *Tasmanian Air Quality Strategy 2006*.
- The Air Policy includes specific reference to meeting the requirements of the Air NEPM through regulation of industry and management of diffuse sources like planned burning activities. The policy is available on the EPA Tasmania's website at Environment Protection Policy (Air Quality) 2004 | EPA Tasmania (https://epa.tas.gov.au/about-the-epa/policy-legislation-cooperative-arrangements/statutory-policies/state-policies-and-environment-protection-policies/environment-protection-policy-(air-quality)-2004).
- Wood smoke from domestic wood heaters and from planned burning activities continues to be the primary air quality issue for Tasmania.

In the *Tasmanian Air Quality Strategy*, published in June 2006, a five-year process to assess compliance with the Air NEPM standards in Tasmania is detailed and strategies for achieving compliance where standards are not being met are specified. The strategy addresses the management of air quality in Tasmania and includes programs to further reduce domestic and industrial emissions of respirable particles in critical regions of the State.

The *Environmental Management and Pollution Control (Distributed Atmospheric Emissions) Regulations 2007*, were gazetted in August 2007 to provide a legal framework for programmes to reduce the emission of domestic wood smoke through controls on the import, sale, and installation of wood heaters. The regulations were revised and remade on 26 June 2019 as the *Environmental Management and Pollution Control (Smoke) Regulations 2019*. The Regulations continue to make the emission of excessive smoke from a residential chimney an offence. On-ground experience, however, has found that many councils have difficulty in the implementation of these Regulations; householders often report that excessive smoke from neighbouring properties is impacting at night. Resource constraints can mean councils are less likely to be able to respond at these times.

- In 2009 the EPA established a statewide network of indicative level air monitoring stations referred to as the BLANkET (Base-Line Air Network of EPA Tasmania) network. In 2018–19 this network consisted of 34 fixed stations, including those co-located with the reference level stations at Hobart, Launceston, and Devonport. This network of optical particle monitors, calibrated against reference level instruments, provides real-time information for understanding smoke concentration, movement, and dispersal in the greater Tasmanian airshed. Air quality and meteorological data from the BLANkET network are published in near real-time on the EPA website. Several Tasmanian towns have been found to experience very poor winter-time air quality due to smoke from residential woodheaters.
- From 2009 planned burning activities undertaken by the Forestry industry and by Parks and Wildlife Service, Department of Natural Resources and Environment (NRE), have been conducted using the *Coordinated Smoke Management Strategy* (CSMS) administered by the *Forest Practices Authority* (FPA). The CSMS requires burners to make daily bids for burn units in a given air shed. Bidding is managed by an automated web-based system. The total burn unit allocation is set with reference to meteorological and other considerations. Air quality data from the EPA's state-wide BLANkET network is used to facilitate an annual review process to increase the strategy's effectiveness. Monitoring data from the BLANkET network shows that the severity of planned burn smoke impacts has decreased since the implementation of the CSMS.

Feedback from the users of the CSMS indicates that the ability to make more informed decisions concerning smoke movement and dispersion is facilitated by the BLANkET air quality monitoring network and the analyses carried out by the EPA.

- In response to the growing understanding that poor winter-time air quality is widespread in many Tasmanian towns and urban areas, the *Domestic Smoke Management Program* (DSMP), an initiative of the EPA, was started in 2012. The focus of the program is community education on air quality issues and how smoke emissions from domestic wood heaters can be significantly reduced through proper operation. The DSMP is realised through collaborative projects with local government known as the '*Burn Brighter this Winter*' projects. Officers of the EPA and various Councils work together on the *'Burn Brighter this Winter*' projects. The education and information campaign is backed up with air quality data from nearby BLANkET stations, mobile air quality monitoring and from smoky chimney surveys. These data enable appropriate information to be conveyed to specific households.
- Since winter 2016 small, indicative-quality air stations have been deployed in a number of residential backyards as part of work undertaken with local government supporting chimney-smoke complaint-resolution. The small stations, known as 'babyBLANkETs', are easily relocatable and are of low-cost. The data from these stations have at times assisted councils with their regulatory activities and provide a window into 'peak-residential' woodsmoke exposure. The local air quality has been found to be significantly degraded in some instances. However, quantitative data illustrating degraded air quality are not recognised as evidence of an offence under the *Environmental Management and Pollution Control (Smoke) Regulations 2019*, and in some cases no rectification action is taken.
- The Tasmanian reference level air monitoring program operates under an ISO:17025 compliant Quality System and holds NATA accreditation for the daily measurement of $PM_{2.5}$ and PM_{10} using the reference instruments and methods prescribed in the Air NEPM.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The Air NEPM has made a significant contribution to improved urban air quality in Tasmania, by raising community awareness of air quality issues and supporting programs aimed at reducing wood smoke pollution during winter. This has been particularly effective in Launceston, where a combination of a reduction in the number of wood heaters, and improved community co-operation has reduced winter PM_{10} levels.

Other ongoing programs to reduce the impacts of air pollution in Tasmania, driven at least in part by the Air NEPM and the associated air quality standards and goals, have been introduced in more recent years. These include the Domestic Smoke Management Program started in 2012 to address issues related to smoke from domestic wood heaters and the Coordinated Smoke Management Strategy established in 2009 to address issues related to smoke from planned burning activities.

Launceston

PM_{10}

- From analysis of preliminary data there were no exceedances of the 24 hour PM_{10} standard of 50 µg/m^3 measured in Launceston in 2022. Data capture rates and the annual average value are not yet available.

$PM_{2.5}$

- From analysis of preliminary data there were no exceedances of the 24 hour $PM_{2.5}$ standard of 25 µg/m^3 measured in Launceston in 2022. Data capture rates and the annual average value are not yet available.

Hobart

PM_{10}

- From analysis of preliminary data there were no exceedances of the 24 hour PM_{10} standard of 50 µg/m^3 measured in Hobart in 2022. Data capture rates and the annual average value are not yet available.

$PM_{2.5}$

- From analysis of preliminary data there were two calendar days with $PM_{2.5}$ above the 24 hour $PM_{2.5}$ standard of 25 µg/m^3 measured in Hobart in 2022. A number of planned burns were conducted in Tasmania on the days both preceding and the actual dates of these occurrences. While the majority of burning appeared to be from the forest industry, some environmental and hazard reduction burning also took place. At present it is not possible to apportion the smoke impacts at Hobart from these various burns. Data capture rates and the annual average value are not yet available.

Devonport

PM_{10}

- From analysis of preliminary data there were no exceedances of the 24 hour PM_{10} standard of 50 µg/m^3 measured in Devonport in 2022. Data capture rates and the annual average value are not yet available.

$PM_{2.5}$

- From analysis of preliminary data there were no exceedances of the 24 hour $PM_{2.5}$ standard of 25 µg/m^3 measured in Devonport in 2022. Data capture rates and the annual average value are not yet available.

Data from relevant monitoring stations enable an evaluation of whether the NEPM standards and goal were met at each monitoring station. Due to various circumstances final data for the calendar year are not yet available. The standards, with accompanying definitions and explanations, appear in Schedule 2 of the NEPM. For averaging times shorter than one year, compliance with the NEPM goal is achieved if the standard for a pollutant is exceeded on no more than a specified number of days in a calendar year (one day per year for all pollutants except PM_{10}, which may be exceeded no more than five days per year) and at least 75% of data are captured in each quarter.

The data are presented in greater detail in Tasmania's annual reports.

The monitoring plan for Tasmania is available from the EPA Tasmania website (https://epa.tas.gov.au/environment/air/monitoring-air-pollution/monitoring-data/reference-station-(nepm)-monitoring-information).

CO Carbon monoxide

(NEPM standard 8 hours = 9.0ppm)

Not measured in Tasmania.

NO_2 Nitrogen Dioxide

(NEPM standard: 1 hour = 0.12ppm, 1 year = 0.03ppm)

Not measured in Tasmania.

O_3 Ozone

(NEPM standard: 1 hour = 0.10ppm, 4 hours = 0.08ppm)

Not measured in Tasmania.

SO_2 Sulfur dioxide

(NEPM standard: 1 hour = 0.20ppm, 1 day = 0.08ppm, 1 year = 0.02ppm)

Not measured in Tasmania.

Pb Lead

(NEPM standard 1 year = 0.50µg/m^3)

Not measured in Tasmania.

PM_{10} Particles as PM_{10}

(NEPM standard 1 day = 50µg/m^3)

FINAL DATA NOT AVAILABLE.

$PM_{2.5}$ Particles as $PM_{2.5}$

(NEPM standard 1 day = 25µg/m^3, 1 year = 8µg/m^3)

FINAL DATA NOT AVAILABLE.

Australian Capital Territory

Report to the NEPC on the implementation of the National Environment Protection (Ambient Air Quality) Measure for the Australian Capital Territory by Ms Rebecca Vassarotti MLA for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The ACT's ambient air quality monitoring was performed in accordance with the ACT's monitoring plan, National Environment Protection (Ambient Air Quality) Measure (the NEPM) Technical Papers and ACT Health's National Association of Testing Authorities' accreditation.

The ACT's air quality in 2022–23 was assessed against the NEPM standards. In accordance with its agreed policy position, the ACT assessed its compliance for the annual average for particulate matter less than 10 microns (PM_{10}) against a lower standard of 20µg/m^3 rather than the NEPM standard of 25µg/m^3 from 2016.

Due to a lack of heavy industry, the ACT has never monitored sulfur dioxide (SO_2) as it is primarily an industrial pollutant, and lead monitoring ceased in 2002 with the phase out of leaded petrol

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The ACT Government has been undertaking ambient air quality monitoring in Canberra since the early 1990s. The monitoring network in the ACT consists of three monitoring stations.

Data from relevant monitoring stations are presented in tabular form below to enable an evaluation of whether the NEPM standards and goal were met at each monitoring station. The standards, with accompanying definitions and explanations, appear in Schedule 2 of the NEPM. For stations to demonstrate compliance they also need at least 75% data captured in each quarter.

A summary of the 2022 Report is:

- The ACT experienced the best air quality on record in 2022, with no exceedances of any of the AAQ NEPM standards at any of the ACT's monitoring stations;
- The daily $PM_{2.5}$ standard was not exceeded for the first time since 2004 due to the wet weather in 2022; and
- Annual average levels for particulate matters (PM_{10} and $PM_{2.5}$) were at the lowest levels experienced in the past 10 years.

Data from relevant monitoring stations are presented in tabular form below to enable an evaluation of whether the NEPM standards and goal were met at each monitoring station. The standards, with accompanying definitions and explanations, appear in Schedule 2 of the NEPM. There are no allowable exceedances for any of the standards.

An exceptional event rule may apply in the event of bushfires, jurisdiction-authorised hazard reduction burning, or continental scale windblown dust, meaning that during these exceptional events, levels of fine and coarse particulate matter as well as ozone that exceed the NEPM standard will be noted as exceedances but not counted as such for compliance purposes.

The data are presented in greater detail in the ACT Air Quality report which can be found here: 2022 ACT Air Quality Report (https://www.accesscanberra.act.gov.au/__data/assets/pdf_file/0006/2367852/2022-ACT-Air-Quality-Report.pdf).

CO Carbon monoxide

(NEPM standard 8 hours = 9.0ppm)

Station	Number of exceedances	NEPM goal compliance
Monash	0	ND
Florey	0	Met

NO_2 Nitrogen Dioxide

(NEPM standard: 1 hour = 0.08ppm, 1 year = 0.015ppm)

Station	1 Hour		1 Year	
	Number of exceedances	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Monash	0	Met	0.003	Met
Florey	0	Met	0.004	Met

O_3 Ozone

(NEPM standard: 8 hours = 0.065ppm)

Station	8 Hours		
	Non-exceptional event exceedances	Exceptional event exceedances	NEPM goal compliance
Monash	0	0	Met
Florey	0	0	Met

PM_{10} Particles as PM_{10}

(NEPM standard: 1 day = 50µg/m^3, 1-year average = 20 µg/m^3(ACT Standard))

Station	1 day			1 year	
	Non-exceptional event exceedances	Exceptional event exceedances	NEPM goal compliance	Annual average (µg/m^3)	ACT goal compliance
Monash	0	0	Met	7.5	Met
Florey	0	0	Met	7.5	Met

$PM_{2.5}$ Particles as $PM_{2.5}$

(NEPM standard: 1 day = 25µg/m^3, 1 year = 8µg/m^3)

Station	1 day			1 year	
	Non-exceptional event exceedances	Exceptional event exceedances	NEPM goal compliance	Annual average (µg/m^3)	ACT goal compliance
Monash	0	0	Met	5.3	Met
Florey	0	0	Met	5.0	Met

Northern Territory

Report to the NEPC on the implementation of the National Environment Protection (Ambient Air Quality) Measure for Northern Territory by the Minister for Environment, Climate Change and Water Security for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The Department of Environment, Parks and Water Security (DEPWS) provides services to the Northern Territory Environment Protection Authority (NT EPA) which is responsible for implementing the Ambient Air Quality NEPM in the Northern Territory through provisions of the *Waste Management and Pollution Control Act 1998* and the *National Environment Protection Council (Northern Territory) Act 1994*.
- Air pollutants nitrogen dioxide (NO_2), sulfur dioxide (SO_2), ozone (O_3), carbon monoxide (CO) and particles (as PM_{10} and $PM_{2.5}$) are routinely monitored at three ambient air quality monitoring stations Palmerston, Winnellie and Stokes Hill, all located within the Greater Darwin Region. A station located in Katherine monitors only PM_{10} and $PM_{2.5}$. This station is operated by Katherine Town Council (KTC) as part of a performance agreement with the NT EPA.
- Major pollutants in the Darwin air shed and Katherine – $PM_{2.5}$ and PM_{10}, are associated with smoke from controlled and uncontrolled bushfire activities in surrounding bushland.
- The Northern Territory's ambient air monitoring program is undertaken in accordance with the approved monitoring plan. The administrative frameworks for implementation of the NEPM are in place.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

- During 2022–23, all the ambient air quality monitoring stations in the Darwin region met the NEPM goals for SO_2, NO_2, CO and O_3, since no exceedances of the AAQ NEPM standards for these pollutants were recorded, and sufficient data was collected at the stations. As explained below, although some exceedances of short-term standards were recorded for particles (as PM_{10} and $PM_{2.5}$) in Darwin and Katherine, all exceedances were directly associated with exceptional events. All the stations, except Stokes Hill, recorded exceedances of the 1-year average $PM_{2.5}$ standard, but none of the stations exceeded the 1-year average PM_{10} standard.
- PM_{10}: To comply with the AAQ NEPM 1-day standard for PM_{10}, no exceedance of the 1-day average standard of 50 µg/m^3 is allowed unless determined as an exceptional event. Katherine recorded 10 exceedances, Palmerston recorded 2 exceedances, Stokes Hill recorded 5 exceedances, and Winnellie recorded 4 exceedances of the 1-day standard, but these exceedances were linked to smoke from bushfires, which are exceptional events. PM_{10} 1-year averages of 22.2, 13.1, 17.0 and 15.7 µg/m^3 at Katherine, Palmerston, Stokes Hill and Winnellie, respectively, were below the AAQ NEPM standard of 25 µg/m^3. Thus, all the stations complied with the AAQ NEPM PM_{10} goals.
- $PM_{2.5}$: To comply with the AAQ NEPM 1-day standard for $PM_{2.5}$, no exceedances of the 1-day average standard of 25 µg/m^3 is allowed, unless determined as an exceptional event. During 2022, all exceedances of the $PM_{2.5}$ 1-day standard (19 at Katherine, 12 at Palmerston, 5 at Stokes Hill and 19 at Winnellie) were linked to smoke from bushfires, which are classified as exceptional events. The $PM_{2.5}$ 1-year averages of 11.8, 8.6 and 10.3 µg/m^3 at Katherine, Palmerston, and Winnellie, respectively, were above the AAQ NEPM standard of 8 µg/m^3 as such these stations did not comply with the AAQ NEPM 1-year goal. Stokes Hill's 1-year average of 5.8 µg/m^3 was below the standard, so this station met the AAQ NEPM goals for $PM_{2.5}$.

Data from relevant monitoring stations are presented in tabular form below to enable an evaluation of whether the NEPM standards and goals were met at each monitoring station. The standards, with accompanying definitions and explanations, appear in Schedule 2 of the NEPM. There are no allowable exceedances for any of the standards.

An exceptional event rule may apply in the event of bushfires, jurisdiction-authorised hazard reduction burning, or continental scale windblown dust, meaning that during these exceptional events, levels of fine and coarse particulate matter as well as ozone that exceed the NEPM standard will be noted as exceedances but not counted as such for compliance purposes.

The data is presented in greater detail in http://ntepa.webhop.net/NTEPA.

The monitoring plan for the Northern Territory is available from https://ntepa.nt.gov.au/__data/assets/pdf_file/0010/284986/monitoringplan.pdf.

CO Carbon monoxide

(NEPM standard 8 hours = 9.0ppm)

Station	Number of exceedances	NEPM goal compliance
Palmerston	0	Met
Stokes Hill	0	Met
Winnellie	0	Met

NO_2 Nitrogen Dioxide

(NEPM standard: 1 hour = 0.08ppm, 1 year = 0.015ppm)

Station	1 Hour		1 Year	
	Number of exceedances	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Palmerston	0	Met	0.0017	Met
Stokes Hill	0	Met	0.0043	Met
Winnellie	0	Met	0.0021	Met

O_3 Ozone

(NEPM standard: 8 hours = 0.065ppm)

Station	Non-exceptional event exceedances	Exceptional event exceedances	NEPM goal compliance
Palmerston	0	0	Met
Stokes Hill	0	0	Met
Winnellie	0	0	Met

SO_2 Sulfur dioxide

(NEPM standard: 1 hour = 0.10ppm, 1 day = 0.02ppm)

Station	1 hour		1 day	
	Number of exceedances	NEPM goal compliance	Number of exceedances	NEPM goal compliance
Palmerston	0	Met	0	Met
Stokes Hill	0	Met	0	Met
Winnellie	0	Met	0	Met

Pb Lead

(NEPM standard 1 year = 0.50µg/m^3)

No monitoring for lead is undertaken in the NT for NEPM reporting.

PM_{10} Particles as PM_{10}

(NEPM standard 1 day = 50µg/m^3, 1 year = 25µg/m^3)

Station	1 Day			1 Year	
	Non-exceptional event exceedances	Exceptional event exceedances	NEPM goal compliance	Annual average (µg/m^3)	NEPM goal compliance
Katherine	0	10	Met	22.2	Met
Palmerston	0	2	Met	13.1	Met
Stokes Hill	0	5	Met	17.0	Met
Winnellie	0	4	Met	15.7	Met

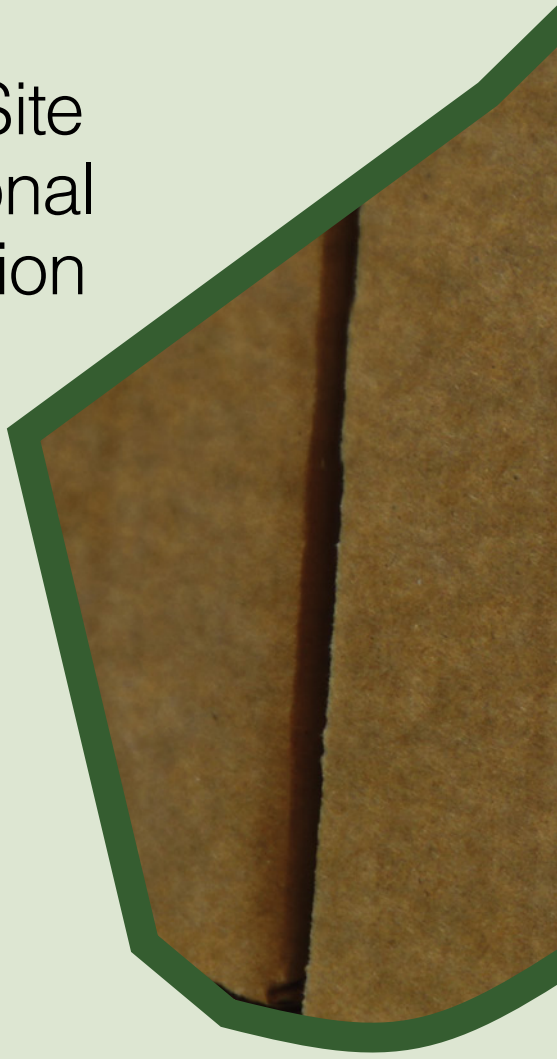
$PM_{2.5}$ Particles as $PM_{2.5}$

(NEPM standard 1 day = 25µg/m^3, 1 year = 8µg/m^3)

Station	1 Day			1 Year	
	Non-exceptional event exceedances	Exceptional event exceedances	NEPM goal compliance	Annual average (µg/m^3)	NEPM goal compliance
Katherine	0	19	Met	11.8	Not Met
Palmerston	0	12	Met	8.6	Not Met
Stokes Hill	0	5	Met	5.8	Met
Winnellie	0	19	Met	10.3	Not Met

APPENDIX 3:

Jurisdictional reports on the implementation and effectiveness of the Assessment of Site Contamination National Environment Protection Measure



Commonwealth

Report to the NEPC on the implementation of the National Environment Protection (Assessment of Site Contamination) Measure from the Commonwealth, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The Australian Government continues to implement the Assessment of Site Contamination NEPM (ASC NEPM) administratively on Commonwealth land and in Commonwealth waters across Australia.

The ASC NEPM is an example of partnering among all of Australia's jurisdictions.

The ASC NEPM continues to provide a practical and nationally consistent framework for Australian Government agencies to use in assessing site contamination. The science-based approaches in the ASC NEPM support collaborative action among the Commonwealth, states, and territories on contamination issues.

The PFAS National Environmental Management Plan (PFAS NEMP) assists landowners, site managers, communities and governments by providing consistent, risk-based national standards and guidance for managing PFAS contamination. A draft Version 3.0 of the PFAS NEMP was agreed by governments and published for consultation in September 2022. The draft is due for finalisation by the end of 2024.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The Assessment of Site Contamination NEPM (ASC NEPM) continues to provide consistent, effective, and efficient national guidance which contributes to achieving Australian Government goals, particularly in the context of the Environment Protection and Biodiversity Conservation Act 1999, the National Environment Protection Council Act 1994, the National Environment Protection Measures (Implementation) Act 1998, and the Sea Dumping Act 1981. The NEPM is widely used across Australia by industry, site owners, auditors, and governments.

The ASC NEPM provides useful technical guidance for assessing contaminated sites and includes human health and ecological investigation levels for listed toxicants. The upcoming 10-yearly statutory review of the ASC NEPM will provide an opportunity to develop additional investigation levels for contaminants such as per- and poly- fluoroalkyl substances, persistent organic pollutants, environmentally mobile chemicals, and endocrine disrupting chemicals. It will also provide an opportunity to update the techniques for laboratory analysis of toxicants in air, soil, and water. The review could also explore opportunities for inclusion of additional technical guidance on site remediation processes.

New South Wales

Report to the National Environment Protection Council (NEPC) on the implementation of the National Environment Protection (Assessment of Site Contamination) Measure for New South Wales by the Hon. Penny Sharpe MP, Minister for Climate Change, Minister for Energy, Minister for the Environment and Minister for Heritage, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The NSW Environment Protection Authority (EPA) considers the National Environment Protection (Assessment of Site Contamination) Measure (NEPM) when making decisions on whether contaminated land requires regulation under the *Contaminated Land Management Act 1997* (the Act) (NSW).
- The NEPM is approved as a statutory guideline by the EPA under section 105 of the Act.
- In 2022–23, the EPA was notified of 38 contaminated sites, seven new sites were declared to be significantly contaminated under the Act, and regulation of five sites was ended after remediation.
- The NSW EPA monitors and reviews the work of site auditors, which includes checks on whether site audits have been undertaken with due regard to the NEPM.
- In 2022–23 accredited site auditors issued 221 site audit statements following 169 statutory audits and 52 non-statutory audits under the Act.
- Overall, the NEPM has improved the efficiency of regulating contaminated sites in NSW.
- The limited number of derived ecological investigation levels (EILs) adopted into the NEPM continues to present challenges. While there is already a framework for deriving EILs outlined in NEPM Schedule B5b, the EPA sees a need for a clear and transparent process for adopting new EILs into the NEPM.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

- The EPA continues to update relevant legislative instruments and guidance to incorporate or refer to the 2013 amendments to the NEPM.
- The EPA published its updated Sampling Design: Contaminated Guidelines in August 2022, replacing the previous 1995 sampling design guidelines.
- These guidelines help consultants design sampling programs for contaminated sites, including where to sample, how many samples to collect, and how to compare data to relevant criteria.
- The updated guidelines:
  - include up-to-date policy and legislative requirements at both state and federal levels
  - better reflect industry best practice and experience, and
  - improve usability and readability.

Victoria

Report to the NEPC on the implementation of the National Environment Protection (Assessment of Site Contamination) Measure for Victoria by the Hon. Lily D'Ambrosio, Minister for the State Electricity Commission, Climate Action, Energy and Resources and *the Hon. Ingrid Stitt, Minister for the Environment, Early Childhood Education and Pre-prep for the reporting year ended 30 June 2023.*

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In Victoria, the ASC NEPM is implemented by the Environment Protection Regulations 2021, the Environment Reference Standard (ERS) and associated EPA contaminated environments policies and guidance. The regulations and ERS came into force on 1 July 2021, as subordinate legislation to the *Environment Protection Act 2017* (EP Act) which applied from the same date.

The EP Act and regulations introduce a range of significant changes to environmental protection laws. These include new obligations relating to the risks contaminated land poses to human health and the environment – a duty to manage contamination risks and a duty to notify EPA in certain circumstances. The ERS incorporates ASC NEPM standards and methodologies, including using investigation and screening levels as a proxy for indicators in the land use settings where no other published standards exist in Australia.

EPA Victoria also contributed to the National Contaminated Environments Network activities and the consultation draft of the PFAS NEMP 3.0 (an update to the PFAS NEMP 2.0).

There continues to be a lack of guidance relating to contaminants of emerging concern. The upcoming review of the ASC NEPM should focus on changes to the instrument to allow for more frequent updates to appendices and supporting documentation as more information about these contaminants becomes known.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The ASC NEPM continues to reinforce an existing framework for the management of contaminated sites in Victoria by providing consistent, consolidated guidance on the assessment of site contamination. Some improvements in the consistency of site assessment have resulted from use of the NEPM.

The NEPM continues to be well supported by environmental auditors and others in the site assessment industry.

We look forward to the upcoming review of the NEPM.

Queensland

Report to the NEPC on the implementation of the National Environment Protection (Assessment of Site Contamination) Measure (NEPM) for Queensland by the Hon. Leanne Linard MP, Minister for the Environment and the Great Barrier Reef and the Minister for Science and Innovation for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The Department of Environment, Science and Innovation (DESI) is the central administering authority for contaminated land in Queensland under the Environmental Protection Act 1994 (EP Act).

The first step in the management of land which is contaminated or presumed to be contaminated in Queensland is the listing of the land on either the Environmental Management Register (EMR) or the Contaminated Land Register (CLR). Land may be included on the EMR if a notifiable activity prescribed in Schedule 3 of the EP Act has been carried out on the land or the land is otherwise contaminated land. Land may be included on the CLR if it is necessary to take action to remediate the contaminated land to prevent serious environmental harm.

It is mandatory in Queensland for contaminated land investigation documents, which includes site investigation reports, validation reports and draft site management plans, to be certified by an approved auditor prior to being submitted to DESI.

As at the end of the reporting period, Queensland had 29 contaminated land auditors approved to perform regulatory functions under section 568 of the EP Act.

The following relevant operational data associated with NEPM implementation were collected in the reporting period 2022–2023:

- 38 sites were listed on the EMR for a hazardous contaminant.
- 42 sites were listed on the EMR as a notifiable activity.
- 0 sites were listed on the CLR.
- DESI appointed 2 new contaminated land auditors during 2022–2023. One auditor was approved under the mutual recognition framework based on approvals held in other jurisdictions. While the other was appointed under the EP Act. Auditor applications are assessed by a DESI technical panel and approved by the delegate.
- 20 sites were finalised during the reporting period as being adequately assessed according to the NEPM, remediated and removed from the EMR.
- 1 Site Management Plan was issued during the reporting period for development or use of a site, including those that were assessed and partially remediated with management of residual contamination for restricted land uses.
- 154 permits were issued during the reporting period for the transport and disposal of contaminated soil in accordance with the EP Act.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The NEPM is a central reference document for the assessment of site contamination in Queensland. It is supported by the Queensland Government's guidelines on contaminated land and, in instances of surface and groundwater contamination, the Environmental Protection (Water and Wetland Biodiversity) Policy 2019. Its use is well established in contaminated land practices, leading to effective and practical site and development outcomes.

The use of the NEPM by contaminated land practitioners has been recognised through the provisions of the operational policy and guidelines relating to assessment of contaminated land. All applications to DESI for statutory decisions about site contamination and changing the status of land on the EMR/CLR must demonstrate compliance with the current NEPM in accordance with the EP Act.

The NEPM continues to be used as an effective technical basis for site assessment for contaminated site professionals operating in Queensland.

The current NEPM provides adequate guidance for selected types of contamination affecting terrestrial ecosystem, vapour flux, aesthetic and management impacts of petroleum hydrocarbon compounds in soil and groundwater, and fragments of cement bonded asbestos commonly encountered on contaminated sites. Statutory approval conditions related to land development require current NEPM adherence. The quality control procedures applied by DESI in internal review of assessment reports involve a review of the practitioner's adherence to the NEPM.

The establishment and implementation of the contaminated land auditor approval framework has successfully led to the certification of 29 auditors. The selection and approval of the persons to be auditors has been structured around Schedule B9 of the amended NEPM 1999.

Implementation of the general provisions of the NEPM would be improved by additional guidance for particular common types of contamination. This includes fluorinated organic chemicals that are commonly encountered on contaminated sites.

It is considered that clarification of these issues in any future revision of the NEPM would assist jurisdictions and practitioners.

Western Australia

Report to the NEPC on the implementation of the National Environment Protection (Assessment of Site Contamination) Measure for Western Australia by Department of Water and Environmental Regulation for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The Department of Water and Environmental Regulation (DWER) is responsible for regulating the assessment of site contamination in Western Australia (WA) under the Contaminated Sites Act 2003 (CS Act) and the Contaminated Sites Regulations 2006.

The NEPM and other relevant technical guidelines are taken into account by DWER in regulating contaminated sites, by contaminated sites auditors when conducting site audits, and by environmental consultants when assessing the risk to human health and the environment from known and suspected contaminated sites.

Compliance with the NEPM and DWER guidelines is assessed in the site classification/ reclassification process under the CS Act. DWER classified 210 sites (including reclassifications) during the year, bringing the total number of classified sites to 4639. As of 30 June 2023, 1385 of these sites were listed on the public contaminated sites database and require remediation or restrictions on the use of the land and/or groundwater to protect public health and/or the environment and/or environmental values.

During the year ended 30 June 2023, 111 known or suspected contaminated sites were reported to DWER compared with 96 in the previous year.

In the same period, DWER received 49 mandatory audit reports related to contaminated sites, and a further 11 voluntary audit reports. These reports were submitted to comply with conditions imposed under a written law, generally a Ministerial or planning condition, or as part of the investigation or remediation of 'source' sites and their related 'affected' sites.

Environmental practitioners in WA have a high level of awareness of the amended NEPM requirements and as a result, the assessment reports submitted to DWER generally apply the guidance in an appropriate and consistent manner.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The NEPM continues to be used as the central technical reference document for site assessment by contaminated site professionals operating in WA. DWER regularly liaises with environmental regulators in other jurisdictions to ensure a nationally consistent approach can be developed for any new implementation issues as they arise.

The limited number of Ecological Investigation Levels (EILs) provided in the NEPM continues to be a limitation to consistent implementation of the guidance across a range of ecological settings. Although the NEPM provides a detailed methodology in Schedule B5b for developing new EILs, this is rarely done in practice for individual site assessments due to the time and effort required to carry out an appropriately detailed literature search to identify and assess relevant ecotoxicity data. Implementation of the general provisions of the NEPM would be improved by development and inclusion of additional ecological assessment levels for common types of contamination.

To ensure that the NEPM continues to provide authoritative guidance where site contamination has occurred, it is important that the guidance is periodically reviewed in the context of advances in scientific knowledge and updated technical information. The inclusion of relevant supporting material in the NEPM Tool Box assists in promoting a nationally consistent approach to emerging issues. The inclusion of new EILs in the Tool Box, derived using the NEPM methodology by appropriately qualified experts and endorsed by environmental regulators, would be consistent with the purpose and desired environmental outcome of the NEPM.

South Australia

Report to the NEPC on the implementation of the National Environment Protection (Assessment of Site Contamination) Measure for South Australia by the Hon. Susan Close, Minister for Climate, Environment and Water for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The South Australian Environment Protection Authority (EPA) is responsible for administering the implementation of the National Environment Protection (Assessment of Site Contamination) Measure (the ASC NEPM) in South Australia.
- Site contamination is regulated by the EPA through a framework established under the *Environment Protection Act 1993* (the Act).
- The ASC NEPM informs the EPA's established processes for the assessment and remediation, as well as its risk-based regulatory decision making in relation to site contamination. The purpose and desired environmental outcome and the technical guidance of the ASC NEPM continues to be supported by the EPA through published guidelines and advice.
- The EPA provides written and verbal guidance and information in respect to site contamination and the ASC NEPM to the community, peak groups, industry, developers, site owners, planning authorities, site contamination consultants and accredited site contamination auditors. Selected guidelines are prescribed under the Act and must be considered in the regulation, auditing and assessment of site contamination by relevant persons including site contamination auditors and consultants.
- During the 2022–2023 reporting period, the EPA accepted 136 notifications of site contamination that affects or threatens underground water. In the same period, the EPA recorded 23 site contamination audit reports on the Public Register required to be kept by the EPA under the Act. There were 23 site contamination auditors accredited by the EPA in South Australia.
- Site contamination advice, guidelines and an index of site contamination information and auditor register are available on the EPA website.
- Actions supporting the implementation of the ASC NEPM in South Australia during the 2022–2023 reporting period included the following:
  - Preparation of revised and updated guidance on the processes for assessment, remediation and auditing of site contamination.
  - Establishment of groundwater prohibition areas to protect the community from exposure to contaminated groundwater. Work on further groundwater prohibition areas continues to be undertaken.
  - Implementing orphaned site contamination assessment to investigate identified risks to public health from legacy site contamination.
  - Use of the EPA regulatory framework, statutory tools under the Act and a certified practitioner policy to support consistency and predictability in regulatory decision-making in relation to site contamination.
  - Ongoing engagement with local communities impacted by site contamination.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The EPA continues to strengthen its systems, communications, guidance and tools to support the implementation of the NEPM with consideration of the most current technical advice and best practice. Several important issues which influence the effectiveness of the NEPM in South Australia include the following:

- Environment Protection Policy

  The EPA intends to prepare a draft *Environment Protection (Site Contamination) Policy* under the Act to give mandatory effect to the ASC NEPM (as amended in 2013).

- Development and planning

  The planning system has an important role in ensuring risk posed by known or suspected site contamination is appropriately considered when land use changes or land is otherwise developed.

- National harmonisation of auditor accreditation

  The national harmonisation of auditor accreditation requirements, consistent with Schedule B9 of the ASC NEPM, would ensure a consistent technical standard across all jurisdictions and provide benefits to future applicants through improved application processes. The EPA continues to strongly support the development and implementation of an agreed national approach. Jurisdictions continue to work collaboratively to develop a process for the national harmonisation of auditor accreditation.

- Community and stakeholder engagement

  The EPA continues to work to deliver open and effective engagement and the exchange of information with local communities affected by site contamination, and to ensure that appropriate engagement is planned and implemented by all parties through improved and updated guidance and access to specialist expertise within the EPA.

- Review issues

  The emergence of new issues where there may be limited or no specific guidance in the ASC NEPM continues to provide challenges in relation to the assessment of risk to human health and the environment. A review proposed by the SA EPA of the ASC NEPM is essential to ensure that it continues to:

  – incorporate new scientific knowledge and updated technical information
  – maintain credibility as the premier and authoritative source of technical guidance on health and environmental outcomes related to site contamination in Australia, and
  – provide increased certainty that human health and the environment are adequately protected.

Tasmania

Report to the NEPC on the implementation of the National Environment Protection (Assessment of Site Contamination) Measure for Tasmania by Hon. Nick Duigan Minister for Parks and Environment for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In Tasmania, the National Environment Protection (Assessment of Site Contamination) Measure (NEPM) is a State Policy under the *State Policies and Projects Act 1993*.

The NEPM is implemented in the following ways:

- Notices issued under the *Environmental Management and Pollution Control Act 1994* routinely require NEPM compliant environmental site assessment.
- Works required pursuant to the *Environmental Management and Pollution Control (Underground Petroleum Storage Systems) Regulations 2020* (UPSS Regulations) must comply with the NEPM.
- Contaminated land issues that are being managed through a collaborative approach adopt the NEPM as the primary guidance document for assessment of contaminated land.
- Tasmanian Planning Authorities may require NEPM compliant assessments where land changes to a more sensitive use.
- The Potentially Contaminated Land Code applies to planning schemes and is being progressively implemented by Tasmanian Planning Authorities. The Code requires that environmental site assessments submitted to satisfy planning purposes are prepared in accordance with the NEPM.
- Ensuring contaminated land site assessor's work is compliant with the NEPM is a key focus in Tasmania. To help improve work quality and outcomes in the assessment and management of site contamination, the Director, EPA requires that contaminated site assessments to be provided to EPA are completed by persons certified under an approved accreditation scheme.
- Regulatory effort on site contamination continues to be drawn to the management of pollution associated with service stations, although management of PFAS contamination is also an increasing focus. Through the implementation of UPSS Regulations, regulatory focus has shifted towards prevention of pollution arising from UPSS systems, however management of contaminated sites remains a priority.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

In Tasmania, the implementation of the NEPM has helped contribute to a consistent and authoritative framework for the assessment and management of contaminated sites.

Australian Capital Territory

Report to the NEPC on the implementation of the National Environment Protection (Assessment of Site Contamination) Measure for the Australian Capital Territory by Ms. Rebecca Vassarotti MLA for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

Access Canberra, within the Chief Minister, Treasury and Economic Development Directorate, is responsible for the implementation and administration of the National Environment Protection (Assessment of Site Contamination) Measure (the NEPM). The Environment, Planning and Sustainable Development Directorate is responsible for the development of legislation and policy to ensure the NEPM is appropriately implemented.

The provisions of the NEPM are implemented under the Environment Protection Act 1997 (the Act). The Contaminated Sites Environment Protection Policy 2017, made under the Act, is the primary policy document for the management of contaminated land in the ACT and references the NEPM as the key resource for assessing contaminated land in the ACT.

All contaminated site assessments undertaken in the ACT must be undertaken in accordance with the NEPM.

Contaminated land professionals working in the ACT have not raised any significant issues with respect to their implementation of the NEPM.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The NEPM continues to be an effective means of ensuring a nationally consistent approach to contamination assessment.

ACT practitioners continue to recommend changes to administrative processes in relation to NEPM updates to allow for more timely inclusion of emerging contaminants of concern, relevant criteria and guidance in relation to site assessment, remediation and ongoing management.

Northern Territory

Report to the NEPC on the implementation of the National Environment Protection (Assessment of Site Contamination) Measure for Northern Territory by the Minister for Environment, Climate Change and Water Security for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In the reporting period of 1 July 2022 to 30 June 2023, the Northern Territory (NT) has continued to refer to, and rely upon the Assessment of Site Contamination National Environment Protection Measure (ASC NEPM) for the consistent and appropriate management of contaminated sites across the NT.

The NT Environment Protection Authority's (NT EPA) Northern Territory Contaminated Land Guideline (NT CLG), published in 2017 references the ASC NEPM, creating an NT referenced expectation of compliance with the ASC NEPM.

The ASC NEPM and NT CLG are referenced in all statutory notices issued for contaminated land requiring investigation.

The NT EPA website includes information on contaminated land investigation, management and remediation, as well as a public register of statutory noticed issued requiring contaminated site audits, and the outputs of those audits. This assists the public, industry and other government bodies in understanding their duties relating to contaminated land in the NT in accordance with the ASC NEPM.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The ASC NEPM and the NT CLG has facilitated better understanding of contamination site assessment in the Northern Territory. It continues to help ensure that all parties are aware of the expectations and responsibilities within the site assessment process and establish potential risk to environmental and human health receptors.

It has provided a stable and defensible position for the NT to require developments and legacy contaminated sites to undertake contaminated land investigations where applicable, with the support of the ASC NEPM to clearly explain the need and minimum expectations.

Continued implementation of the ASC NEPM within the NT will ensure that all parties are clearly aware of the requirements of appropriately assessing contaminated or potentially contaminated sites. This is being progressed through the continuing development of the strategies mentioned in Part 1 and further interaction and consultation with planning authorities, professional organisations such as the Australian Land and Groundwater Association, consultants, and the broader community. The requirement to use accredited contaminated site auditors to audit, amongst other factors, assists to increase compliance with ASC NEPM across the NT.

APPENDIX 4:

Jurisdictional reports on the implementation and effectiveness of the Diesel Vehicle Emissions National Environment Protection Measure

Commonwealth

Report to the NEPC on the implementation of the National Environment Protection (Diesel Vehicle Emissions) Measure from the Commonwealth, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The National Environment Protection (Diesel Vehicle Emissions) Measure 2001 (Diesel NEPM) aims to reduce exhaust emissions from diesel vehicles. It forms part of an integrated suite of national approaches to address emissions from diesel vehicles, including the Australian Design Rules and fuel quality standards, managed by the Commonwealth. The Diesel NEPM targets "in service" vehicles (vehicles in use, after the point of sale), by supporting initiatives implemented by states and territories such as smoky vehicle programs.

The Commonwealth implements the Diesel NEPM administratively and is not required to undertake direct activities to reduce exhaust emissions from diesel vehicles.

A new Australian Design Rule 80/04 mandating compliance with Euro VI (for heavy vehicles) or equivalent noxious emission standards was determined by the Minister for Infrastructure, Transport, Regional Development and Local Government on 14 February 2023. The new Design Rule will apply to newly approved heavy vehicle models supplied from 1 November 2024 and all new heavy vehicles supplied from 1 November 2025.

A final impact analysis evaluating the costs and benefits of mandating Euro 6d for light vehicles in conjunction with improved fuel quality standards to reduce aromatics in petrol was completed in May 2023. The final impact analysis incorporates the feedback received during public consultation on the 'Light Vehicle Emission Standards for Cleaner Air draft Regulation Impact Statement' (October 2020) and the 'Better Fuel for Cleaner Vehicles' draft Regulation Impact Statement' (November 2022).

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Following inter-jurisdictional consultations reviewing the need for the Diesel NEPM in 2018 and 2019, it was agreed that the NEPM fulfils a useful role but would benefit from further work. While there was support at that time for the NEPM being retained, its need and/or purpose will be considered further in the context of the decision to progress national noxious emissions standards for vehicles to Euro 6d/ VI. Any potential changes to this NEPM would take into account outcomes from the review of the *National Environment Protection Council Act 1994* and the Conran Review and align with any proposed legislative amendments.

New South Wales

Report to the National Environment Protection Council (NEPC) on the implementation of the National Environment Protection (Diesel Vehicle Emissions) Measure for New South Wales by the Hon. Penny Sharpe MP, Minister for Climate Change, Minister for Energy, Minister for the Environment and Minister for Heritage, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In NSW, the *Protection of the Environment Operations Act 1997* (POEO Act) and the Protection of the Environment Operations (Clean Air) Regulation 2022 provide the regulatory framework for action to address emissions from the in-service diesel fleet.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The NSW Environment Protection Authority (EPA), Transport for New South Wales (TfNSW) and the Department of Planning and Environment (DPE) continue to collect data on the diesel vehicle fleet and implement Government programs to reduce diesel emissions. In 2022–23, NSW continued the Smoky Vehicles Program and the TfNSW Clean Fleet Program and continued the transition of the State's bus fleet to electric under the Zero Emission buses transition plan.

NSW diesel fleet profile

The TfNSW registration statistics data base was replaced during 2022–2023 with the TfNSW Registration Snapshot Report. Some vehicle categories were changed to better represent the current fleet, new categories have been added and others merged. As a result, the 2022–2023 statistics are not comparable to previous years data.

The data shows that during 2022–2023 the total NSW vehicle fleet grew by 173,503 vehicles from 7,019,899 to 7,193,462 or 2.47 percent, and the number of diesel vehicles increased by 77,734 from 1,553,955 to 1,632,689 or 5.0 percent (see Table 1).

Table 1: Diesel vehicles as a proportion of the total fleet and diesel fleet

Total Number	July-2022	June-2023	Vehicle Change	% change
All Vehicles in fleet	7,019,899	7,193,402	173,503	2.47%
Diesel Vehicles in fleet	1,553,955	1,631,689	77,734	5.00%

Source: Transport for NSW registration snapshot report (June 2023)

TfNSW registration data shows that as of 30 June 2023 the proportion of diesel vehicles in the fleet constituted 22.68% of the total NSW fleet (see Table 2). This is compared to 22.14% in June 2022, and 21.51% in June 2021. Light goods vehicles represent the largest diesel vehicle category with 10.75% of the total fleet and 47.39% of the diesel vehicle fleet.

Table 2: Diesel vehicles by category as a proportion of the total fleet and diesel fleet

Diesel vehicle categories				
NSW June 2023		**No. in diesel category**	**Diesels in total NSW fleet**	**Vehicles by category in diesel fleet**
Light vehicles	Light Goods Vehicle	773,199	10.75%	47.39%
	Passenger Car	298,031	4.14%	18.27%
	Off-road Vehicle	277,905	3.86%	17.03%
	Forward-cont. Passenger Vehicle	25,204	0.35%	1.54%
	Light Omnibus	12,423	0.17%	0.76%
	Light Plant	822	0.01%	0.05%
	Motor Cycle	41	0.00%	0.00%
	Light Trailer	10	0.00%	0.00%
	Other	4	0.00%	0.00%
Heavy vehicles	Medium Goods Vehicle	146,218	2.03%	8.96%
	Heavy Goods Vehicle	79,041	1.10%	4.84%
	Heavy Omnibus	12,180	0.17%	0.75%
	Heavy plant	6,611	0.09%	0.41%
	Total	**1,631,689**	**22.68%**	**100%**

Source: Transport for NSW registration snapshot report (June 2023)

Diesel vehicle emissions estimates

Diesel vehicles made up 22.68% of the total NSW fleet at 30 June 2023, however, they contribute disproportionately to the amount of air pollution produced by on-road mobile sources.

On-road mobile sources were estimated to contribute approximately 55% oxides of nitrogen (NO_x) and 13% of fine particle (particulate matter 2.5 ($PM_{2.5}$)) emissions from all anthropogenic sources in the Sydney[1] region in 2013.

The latest data for 2021–22 from the Australian Infrastructure and Transport Statistics Yearbook shows that the total vehicle kilometres travelled in NSW decreased by approximately 7% compared to 202021. During and after COVID-19 the vehicle distance travelled by passenger vehicles in NSW are lower than previous years, particularly in Sydney. However, the total vehicle distance travelled continues to increase for light goods vehicles and heavy vehicles.

The total per kilometre $PM_{2.5}$ and NO_x exhaust emissions from diesel vehicles is estimated to have continued to decrease since 2011, following the introduction of more stringent vehicle emissions regulations combined with fleet turnover.

1 'Sydney region' is as defined in the Air Emissions Inventory for the NSW Greater Metropolitan Region, which can be found on the EPA's website www.epa.nsw.gov.au/air/airinventory.htm.

- For light diesel vehicles, the absolute NO_x emissions and percentage contribution to total vehicle fleet emissions is likely to have slightly increased compared to 2021 with the increase in fleet growth and vehicle kilometre travelled for certain types of light vehicles.

- For both light and heavy-duty diesels, the rate of reduction in $PM_{2.5}$ emissions is larger than the rate of increase in vehicle kilometres travelled.
- For heavy-duty diesel vehicles, NO_x emissions are estimated to have decreased from 2011 to 2022, despite projected increases in vehicle kilometres travelled.

National Clean Air Agreement – Evaluating the potential for a national approach to non-road diesel engine emissions

Under the National Clean Air Agreement (https://www.dcceew.gov.au/environment/protection/air-quality/national-clean-air-agreement/evaluation-non-road-diesel-engine-emissions), in 2022–23 DPE and the Commonwealth Department of Climate Change, Energy, the Environment and Water continued to evaluate the potential for a national approach to manage non-road diesel engine emissions in Australia.

Non-road diesel engines are used in a wide range of industries and applications, including construction, mining, manufacturing, airport services, agriculture, and marine sectors. Diesel engine exhaust contains high levels of pollutants, including fine particles ($PM_{2.5}$) and NO_x, and has been declared as carcinogenic by the World Health Organisation's International Agency for Research on Cancer (https://www.iarc.who.int/wp-content/uploads/2018/07/pr213_E.pdf). It contributes to premature deaths and health related problems, such as cardiovascular, cardiopulmonary and respiratory diseases, and lung cancer.

Unlike other countries (including the United States, the European Union, China, India, Brazil and Japan), and unlike for on-road (passenger) vehicles in Australia, there are currently no national standards or approaches to manage emissions from non-road diesel engines in Australia.

In 2022–23 DPE continued to work with the Commonwealth Department of Climate Change, Energy, the Environment and Water on a cost benefit analysis examining the impact of options to manage emissions from non-road diesel engines. The cost benefit analysis report was published in early 2023 and based on the findings, progressed to an Impact Analysis process. Public consultation of the draft Impact Analysis was undertaken from 24 May to 14 July 2023. Further information on the project can be found on the National Clean Air Agreement website (https://www.dcceew.gov.au/environment/protection/air-quality/national-clean-air-agreement/evaluation-non-road-diesel-engine-emissions).

National on-road vehicle emission and fuel standards

The Commonwealth Government is responsible for fuel quality and vehicle emission standards for new on-road vehicles, including diesel vehicles. These standards are being reviewed. Over 2022–22 NSW DPE continued to support early adoption of the Euro 6/VI emissions standards for diesel vehicles, as well as tighter fuel efficiency standards to enable the control technology needed to meet tighter emission standards.

Smoky vehicles program

In NSW it is an offence for a vehicle to emit excessive air impurities for a continuous period of more than 10 seconds. Penalty notices may be issued to the registered owners of vehicles emitting excessive air impurities. The public can also report smoky vehicles via the EPA's Environment Line website or mobile phone application. A monthly average of 124 smoky vehicle reports were received from the public (more than 1,400 public reports over the year), indicating a high level of awareness in the community of the unacceptability of excessive visible emissions.

In 2022–23 the EPA issued 596 advisory letters based on public reports, of which 497 advisory letters were to diesel vehicle owners.

Annual statistics for smoky diesel vehicles

Table 3 shows a breakdown of the percentage of diesel vehicle owners that received fines, advisory or warning letters as a proportion of all vehicles fined.

There has been a reduction in the number of diesel vehicles that received fines since 2018, as the TfNSW Smoky Vehicle Enforcement Project, which previously operated in the M5 East Tunnel, concluded in 2017–18.

Table 3: Smoky vehicles – actions taken

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22	2022–23
Total number of vehicles that received fines	186	114	289	78	89	75	6	0	0	0	0	0
Diesel vehicles that received fines	173	109	283	76	89	74	6	0	0	0	0	0
Percentage of all vehicles fined that were diesel vehicles	93%	96%	98%	97%	100%	99%	100%	0	0	0	0	0
Total vehicles that received advisory and warning letters	556	552	891	812	782	957	681	835	804	810	675	596
Diesel vehicles that received advisory and warning letters	96	74	462	423	433	475	438	623	621	628	566	497
Percentage of all vehicles that received advisory and warning letters that were diesel vehicles	17%	13%	52%	52%	55%	50%	64%	75%	77%	78%	84%	83%

APPENDIX 4

Audited maintenance programs for diesel vehicles

TfNSW operates an audited maintenance program known as 'Clean Fleet'. This was launched in 2006 and currently has approximately 4,800 vehicles in the program. In the absence of ongoing

Commonwealth funding for Diesel NEPM programs, there were no promotional activities or training courses held under the program in 2022–2023, and no change in participation rates compared to the previous year.

Other programs

Zero emissions buses transition plan

The NSW Government's Net Zero Plan Stage 1: 2020–2030, and NSW Electric Vehicle Strategy identified commitments to replace the State's 8,000 plus Diesel and Compressed Natural Gas bus fleet with zero emission buses. From 2021, TfNSW commenced the roll out of battery electric buses across Sydney. The transition of the NSW bus fleet to zero emission buses, powered by renewable energy, is a key initiative to support the NSW Government's net zero commitments.

In December 2022, the NSW Government announced $3 billion in funding for the Zero Emission Buses program. The funding will support the delivery of the first stage of the program in Greater Sydney which includes purchasing more than 1,200 new buses, converting 11 existing depots for electric charging and building a new depot at Macquarie Park.

The NSW Government will transition the entire 8,000 plus bus fleet to zero emissions technology by 2035 in Greater Sydney, Outer Metro regions by 2040 and regional NSW by 2047.

Transport for NSW is already operating Australia's largest Zero Emission Bus fleet, with more than 100 buses already in service.

Construction industry

In 2022–23 DPE continued to administer the NSW Government Resource Efficiency Policy (GREP). The GREP includes requirements to address non-road diesel engine emissions through government procurement and contracts.

For non-road diesel engines, government agencies must continue to comply with EU or US EPA standards when purchasing or leasing such equipment. Agencies must consider air emissions from contractor-supplied equipment in tender processes for all new buildings and infrastructure and upgrades to existing buildings and infrastructure over $10 million. The tender selection process either incorporates a weighting for air emission standards in conjunction with other environmental considerations, or a statement by contractors on how they will reduce emissions from their equipment accompanied with their equipment's air emissions data.

Locomotives

Amendments to the POEO Act to regulate railway rolling stock operations, in addition to railway infrastructure operators, came into effect in July 2019. The regulatory amendments mean that operators of rolling stock are required to hold an environment protection licence and are directly accountable for their environmental performance, including management of air emissions.

The EPA issued the new rolling stock operator licences in August 2020. The requirements in the licence are for new locomotives to meet US Tier 2 particulate matter emissions. There are no air emission limits for locomotives already operating on the rail network. The licences, however, include operating conditions and pollution studies that seek to minimise impacts on air quality through idling. In 2022–23 the EPA continued to work with the rail industry to progressively reduce locomotive air emissions.

Victoria

Report to the NEPC on the implementation of the National Environment Protection (Diesel Vehicle Emissions) Measure for Victoria by the Hon. Lily D'Ambrosio, Minister for the State Electricity Commission, Climate Action, Energy and Resources and *the Hon Ingrid Stitt, Minister for the Environment, Early Childhood Education and Pre-prep, for the reporting year ended 30 June 2023.*

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The diesel NEPM in Victoria is administered and implemented by the Environment Protection Regulations 2021.

These regulations came into force on 1 July 2021, as subordinate legislation to the *Environment Protection Act 2017* which applied from the same date.

With the introduction of the Act, environment protection law shifted to a prevention-based approach. Central to this approach is the general environment duty. This is a shared responsibility to prevent harm to the environment and means all Victorians must each take reasonable steps to stop harm, and do so before damage is done.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The Environment Protection Authority Victoria (EPA) has run a public smoky vehicle reporting program for many years. The numbers of vehicles reported provide some insight into the level of community awareness and concern into diesel vehicle exhaust emissions.

The number of smoky vehicles reported since the program began in 2005/06 is declining, which may indicate that there are fewer smoky vehicles being encountered on Victorian roads. Over the past five years, the number of diesel vehicles reported as smoky has steadily declined. This may indicate that there are fewer diesel vehicles out of compliance with in–service emissions standards.

There is no current information available on the level of diesel vehicle emissions to ambient air. Retail diesel fuel sales in Victoria have risen by 3.2% (energy.gov.au) and the number of diesel vehicles registered in Victoria has risen by 6% (abs.gov.au). Fuel sales had rebounded from the previous year's Covid affected reduction. Emissions from diesel engines are likely to have gone up due to the increased fuel consumption, outweighing any gains from engine efficiency from one year to the next.

Smoky vehicles program

Victoria's public smoky vehicle reporting program allows members of the public to report vehicles (diesel, petrol or LPG) identified as continuously emitting smoke for more than 10 seconds to EPA. EPA also operates an official smoky vehicle enforcement program where EPA or Victoria Police officers can report vehicles using the "10-second" smoke rule.

As a result of these reports, the owners of the offending vehicles are informed in writing of the report and are requested to have the problem fixed. They are also informed about the penalties that may apply if they are identified by officers from EPA, VicRoads or the Police. From 1 June 2024, EPA will commence issuing enforceable notices to vehicle owners who have been reported by EPA or Police, requiring them to have their vehicle tested, and to provide evidence of compliance in relation to smoke emission regulations. Failing compliance with the notice, vehicle owners will be issued with an infringement.

The following table indicates the number of smoky vehicle letters being sent from the public and official reporting programs over the past ten years. Generally, there is a slow downward trend in the number of letters issued over recent years in both streams of the program.

Table 1*: Number of cautionary letters issued under the smoky vehicles reporting program from public and official reports over the last 12 years. From 2019/20 the streams are not separated.

Year	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Number of letters from public reports	4895	3910	2012	2124	1901	1815	1777	842	-	-	-	-
Number of letters from official reports	495	554	145	193	95	196	459	198	-	-	-	-
Total number of letters									973	0	264	2395

* Note: These numbers include all vehicles in the official program, not just diesel-engine vehicles.

Diesel vehicle emission testing and repair programs

Victoria has not had an emission testing and repair program since 2016.

Audited maintenance programs for diesel vehicles

Victoria does not have an audited maintenance program for diesel vehicles.

Diesel vehicle retrofit programs

Victoria does not have a diesel vehicle retrofit program.

Other programs

Not applicable.

Queensland

Report to the NEPC on the implementation of the National Environment Protection (Diesel Vehicle Emissions) Measure for Queensland by the Hon. Bart Mellish, Minister for Transport and Main Roads, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The *National Environmental Protection Council (Queensland) Act 1994* establishes the structure for enforcing the Diesel Vehicle Emissions (DVE) Measure under the National Environmental Protection Diesel Vehicle Emissions (DVE) framework in Queensland. The Department of Transport and Main Roads (TMR) is tasked with executing and documenting the implementation of the DVE NEPM. Queensland has established initiatives to uphold air quality and properly handle diesel vehicle emissions, as outlined in the Diesel NEPM. Currently, there are no notable concerns to disclose.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Smoky vehicles program

The Smoky Vehicle Online Reporting Program offers the public a platform to report vehicles that surpass the ten-second smoke rule, mandating compliance with specific smoke opacity standards. Vehicles breaching this rule emit smoke continuously for ten seconds or more.

Upon matching reported data with provided information, a notification letter is dispatched to the registered owner, highlighting the report and suggesting methods to identify and rectify the issue. If a vehicle is reported three times within a four-month span, the owner receives a Present Vehicle Order (PVO), necessitating a Transport Inspector to inspect their vehicle for potential defects. However, there remains uncertainty regarding the correlation between smoke and other pollutants, as pollutants might not be visually detectable.

For the period 1 July 2022 to 30 June 2023 there were a total of 1690 vehicles reported through the smoky vehicle online reporting form in Queensland. Of the reported vehicles, 1444 were diesel powered with 633 warning letters issued. Of the remaining 893 that did not receive a warning letter, 771 diesel vehicles were compliant and 46 were unsubstantiated complaints. For six vehicles the registration number or incorrect data was provided, 306 vehicles were reported more than once, and two vehicles were inspected by a TMR Transport Inspector.

Increased uptake in diesel vehicles

Over a five-year period, diesel powered vehicles have increased from 1,224,663 as at 30 June 2019 to 1,512,398 as at 30 June 2023 representing an increase of 23.5% in Queensland. The light vehicle sector has experienced the most growth.

Reductions in diesel vehicle emissions are projected to continue gradually due to fleet turnover. The replacement of older, higher-polluting heavy vehicles with newer, less polluting models is expected to contribute to this decline. Additionally, the ongoing process of aligning emission standards with those of the European Union is aiding in mitigating diesel emissions, thereby potentially enhancing air quality.

Diesel vehicle emission testing and repair programs

TMR administers a mandatory scheduled inspection program for all registered heavy vehicles in Queensland. These inspections occur every twelve months, coinciding with the registration renewal process. Public passenger vehicles, such as buses, undergo inspections every six months.

TMR conducted inspections on 19,413 heavy vehicles, while additional inspections were carried out by private approved inspection stations on 52,951 vehicles. These vehicles ran on diesel, diesel and electric, or diesel and gas and comprised rigid heavy vehicles, prime movers, and buses. These inspections play a crucial role in identifying and rectifying issues related to defective engine performance, exhaust, and muffler problems, all of which contribute to emissions concerns.

Audited maintenance programs for diesel vehicles

The Queensland Government promotes involvement in the National Heavy Vehicle Accreditation Scheme (NHVAS) among heavy vehicle owners and operators. Administered by the NHVR, this scheme acknowledges operators with strong safety management systems.

NHVAS empowers heavy vehicle owners with greater responsibility for maintaining their vehicles and ensuring compliance with maintenance and general duty obligations as per road transport laws. To attain accreditation, operators must undergo an independent audit of their management systems, confirming the adequacy, adherence, and adherence to scheme standards. Subsequent independent audits are conducted to sustain accreditation status.

There are 51,612 Queensland registered heavy vehicles currently participating in the NHVAS maintenance scheme, representing a slight increase on last years accredited vehicles. The vehicles are operating under 1,099 operators. The majority of vehicles participating in the NHVAS maintenance scheme use diesel fuel and it is anticipated that if they are well maintained they are less likely to have problematic emissions.

There are 1,239 Operators and 11,413 heavy vehicles operating under the NHVAS mass scheme which allows the vehicles to carry higher loads in exchange for being tracked to ensure drivers remain on specified routes. These vehicles are larger but make fewer trips and improve productivity, congestion and fuel efficiency.

Diesel vehicle retrofit programs

Queensland has no diesel retrofit programs at this time.

Other programs

TMR advocates for the adoption of innovative, higher-capacity heavy vehicles via the PBS. PBS enables vehicles to comply based on performance rather than strict, predefined standards.

The use of PBS vehicle combinations translates to a reduced number of heavy vehicles on the roads, leading to decreased congestion and improved safety outcomes within the network. Particularly on specific routes in Queensland, PBS heavy vehicles like A-doubles have effectively reduced the number of trips for certain freight tasks by half, thanks to their increased capacity and intelligent design. PBS implementation is enhancing operational efficiency, fostering greater diesel fuel savings, and contributing to a reduction in associated emissions.

Zero Emission Heavy Vehicles

TMR is developing a well-considered and genuine outcome that supports the heavy vehicle industry, and more broadly, aims to facilitate the adoption of cleaner and safer heavy vehicles.

Through working with key stakeholders, TMR aims develop a future road map which provides a considered and measured way forward for developing an engineering led policy for zero emission heavy vehicle network access.

Western Australia

Report to the NEPC on the implementation of the National Environment Protection (Diesel Vehicle Emissions) Measure for Western Australia by the Department of Water and Environmental Regulation for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In Western Australia, the National Environment Protection (Diesel Vehicle Emissions) Measure (Diesel NEPM) is implemented by the Department of Water and Environmental Regulation (DWER) under the *National Environment Protection Council (WA) Act 1996* and the Western Australian *Environmental Protection (Western Australia) Act 1986*.

Vehicle emissions in Western Australia are regulated under the *Road Traffic (Vehicles) Act 2012* and *Road Traffic (Vehicles) Regulations 2014*, which are administered by the Department of Transport (DoT). The 'ten-second rule' in the regulations is the primary mechanism used to target visually polluting diesel and petrol vehicles.

The Western Australian Government's Perth Air Quality Management Plan (AQMP) aims to ensure that clean air is achieved and maintained throughout the Perth metropolitan region. The AQMP identifies that the management of emissions from in-service petrol and diesel vehicles is critical to achieving clean air, and contains a range of initiatives that target on-road vehicles. The implementation of vehicle emissions reduction initiatives in the AQMP is largely complementary to the outcomes of the Diesel NEPM.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The implementation of vehicle emissions reduction initiatives of the AQMP and the CleanRun Program is the foundation of vehicle emissions reduction strategies undertaken by DWER. DWER continues to work with DoT, government agencies and industry associations to investigate and implement motor vehicle related policies and management actions to reduce the impact of diesel vehicle emission in Western Australia.

Smoky vehicles program

In 2022–2023 the Smoky Vehicle Reporting Program (SVRP) received 750 valid reports, which is an average of 62 reports per month, and was a six per cent decrease in reports from 2021–2022. This was the first time in the last five years that report numbers decreased from the previous year.

There were no significant changes in the operation of the smoky vehicle reporting program for 2022–2023.

Prior to contacting the owners of reported vehicles, DWER and DoT verify reports by comparing reported vehicle details against the DoT vehicle registration database, discarding reports if details do not sufficiently match. 640 advisory letters were sent to reported vehicle owners in 2022–2023 (85 per cent valid report rate).

Table 1 summarises the responses received for vehicles reported from July 2022 to June 2023, and compares them to previous years.

Table 1. Responses from owners of reported vehicles

Response	2016–2017	2017–2018	2018–2019	2019–2020	2020–2021	2021–2022	2022–2023
Reports received	480	415	482	579	685	796	750
Letters sent	424	353	417	505	576	666	640
Responses received	292	191	225	265	216[2]	317	281
Vehicle repaired	136 (46.6%)	129 (67.5%)	142 (63.1%)	174 (65.4%)	133 (61.6%)	206 (65.0%)	160 (56.9%)
Vehicle does not smoke	96 (32.9%)	49 (25.7%)	67 (29.8%)	71 (26.7%)	68 (31.5%)	98 (30.9%)	100 (35.6%)
Can't afford to repair	6 (2.1%)	0 (0%)	0 (0.0%)	1 (0.4%)	0 (0.0%)	3 (0.9%)	2 (0.7%)
Disposed of vehicle	16 (5.5%)	5 (2.6%)	7 (3.1%)	12 (4.5%)	6 (2.8%)	6 (1.9%)	11 (3.9%)
Wrong vehicle	19 (6.5%)[3]	1 (0.5%)	1 (0.4%)	2 (0.8%)	2 (0.9%)	3 (0.9%)	4 (1.4%)
Other	19 (6.5%)	7 (3.7%)	8 (3.6%)	6 (2.3%)	7 (3.2%)	1 (0.3%)	5 (1.8%)
Petrol	49 (16.8%)	66 (20.2%)	70 (16.8%)	95 (17.5%)	122 (19.1%)	99 (13.5%)	80 (11.6%)
Diesel	208 (71.2%)	259 (79.4%)	345 (82.7%)	443 (81.6%)	510 (79.7%)	633 (86.0%)	607 (87.7%)
LPG	0 (0%)	0 (0%)	2 (0.5%)	5 (0.9%)	8 (1.3%)	4 (0.5%)	5 (0.7%)

2022–2023 saw a downward trend appear in the data of 'vehicle repaired' responses mirroring an upward trend of 'vehicles does not smoke' responses. This warrants further monitoring to identify potential causes for this shift over time.

Diesel vehicles continue to represent the most significant vehicle group reported to the program. 2022–2023 saw the proportion of diesel vehicles reported increase to it highest level in recent years.

There were 32 vehicles reported more than once in 2022–2023, eight of which were reported more than twice. Of the vehicles reported more than once, seven vehicle owners responded to the advisory letters sent.

Annual reporting on smoky vehicle reporting is published on the DWER website, summarising program data and analysis of vehicle trends observed: Smoky Vehicle Reporting Program (https://www.wa.gov.au/government/document-collections/smoky-vehicle-reporting-program).

2 Responses from July mailout event were still being received at the time of this report being prepared. It is likely this figure will be higher, but it is not expected to be higher than 2019–2020. Response percentages are not expected to significantly change.

3 A mailing error resulted in several vehicle owners receiving incorrect vehicle details (though registration and location details were still correct). Outside this event, only one wrong vehicle response was received.

Diesel vehicle emission testing and repair programs

The Western Australia government does not undertake diesel vehicle emission testing and repair programs.

Audited maintenance programs for diesel vehicles

The National Heavy Vehicle Accreditation Scheme (NHVAS) encourages heavy vehicle operators to take responsibility for servicing their vehicles and ensuring vehicles are compliant with scheme accreditation requirements.

In Western Australia, operators of certain types of heavy vehicles must become accredited to gain a permit or notice from Main Roads Western Australia. The majority of these vehicles use diesel as their primary fuel source. Western Australian Heavy Vehicle Accreditation (WAHVA) is mandatory for individuals and organisations which require a permit or notice to perform any transport task as part of a commercial business or for profit within Western Australia, including interstate operators.

There are currently four accreditation modules – Accreditation Common Standards, Fatigue Management, Maintenance Management, and Dimension and Loading. An optional module, Mass Management, is also available.

Accredited operators must ensure their vehicles are maintained and meet all relevant safety standards. A record of the maintenance and servicing work done to each vehicle must be kept to prove the vehicles are safe at all times.

Compliance and enforcement activities are key factors in ensuring effective and safe management of heavy vehicles on the road network. Transport inspectors in Western Australia are authorised to intercept and inspect vehicles for roadworthiness, load security and vehicle licencing conditions. Compliance also performs the important role of educating and working with the transport industry and other agencies and stakeholders to improve standards.

Diesel vehicle retrofit programs

The Western Australia government does not operate a diesel vehicle retrofit program.

Other programs

There are no other programs currently run by the Western Australia government relevant to the Diesel NEPM.

South Australia

Report to the NEPC on the implementation of the National Environment Protection (Diesel Vehicle Emissions) Measure for South Australia by the Hon. Susan Close, Minister for Climate, Environment and Water for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In South Australia, the National Environment Protection (Diesel Vehicles Emissions) Measure (Diesel NEPM) became an Environment Protection Policy under the repealed Section 28A of the Environment Protection Act 1993. Section 4 of the transitional provisions in the Environment Protection (Miscellaneous) Amendment Act 2005, Schedule 1, enables the continued operation of the Diesel NEPM as an Environment Protection Policy.

The South Australian government made provision to regulate emissions from diesel vehicles under the Road Traffic (Light Vehicle Standards) Rules 2018: Rule 131 – Exhaust Emissions – diesel-powered vehicles. Rule 147A set emission limits for NO_x and Particulate Matter for diesel vehicles that are in service.

The 10-second smoke rule regulated as Rule 130 in Road Traffic (Light Vehicle Standards) Rules 2018 has also been applied as an in-service standard towards the achievement of Diesel NEPM outcomes.

National Heavy Vehicle Law was enacted in South Australia in 2013 including adoption of the national regulations. Rule 96 of the Heavy Vehicle (Vehicle Standards) Regulation continues the existing diesel emission standard for South Australian heavy vehicles (in addition to requiring heavy vehicles in each participating jurisdiction to comply with the standard).

Compliance with Rule 147A & Rule 96 was previously tested at the Regency Park Vehicle Inspection Emissions Test Facility, however, the facility has now been closed due to high maintenance costs and low throughput of vehicles.

SA Police patrols are the primary means for the detection of vehicles exceeding the 10-second smoke rule. During the reporting period, no diesel vehicles were reported by SA Police to the Department for Infrastructure and Transport (DIT) for the assessment of corrective actions. Vehicle inspectors also look for excessive smoke, missing or inoperative particulate filters and empty AdBlue tanks and order corrective action where necessary.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Unlike most states, South Australia does not conduct a 'Dob in a Smoky Vehicle' program, where members of the public can report a smoky vehicle on-line with follow-action in the form of a letter of concern sent to the registered owner of the vehicle. In South Australia it is expected that the matter would be reported directly to the Police. There is evidence of occasional reports being made, but without their own firsthand evidence of non-compliance, there is some reluctance to allocate resources to conduct an investigation. There is no reporting by Police of any complaints made.

With the closure of the Regency Park Emissions Test Facility during the 2013–14 financial year due to high maintenance costs and ongoing reliability issues, there has been no means to accurately test diesel emissions in South Australia other than by visual assessment.

In the absence of effective reporting, vehicle testing and compliance mechanisms, this program has become ineffective in South Australia.

Smoky vehicles program

Not applicable

Diesel vehicle emission testing and repair programs

Not applicable

Audited maintenance programs for diesel vehicles

Not applicable

Diesel vehicle retrofit programs

Not applicable

Other programs

In 2019 the Department of Infrastructure and Transport (DIT) introduced a new specification, *PC-ST2 Sustainability in Construction*, which includes requirements for DIT contractors to reduce the environmental as well as community / workforce health impacts of vehicles, plant and equipment emissions. The clause includes requirements for contractors to:

- purchase or hire mobile non-road diesel plant and equipment that complies with highest practicable EU or US EPA emissions standards (for plant over 19kW); and
- require sub-contractors for larger projects (i.e., >$100 million) to provide information on the emissions standards of the mobile non-road diesel plant and equipment they propose to use on site, and apply a weighting for air emission standards (in conjunction with other environmental considerations) in tender selection processes (for plant over 19kW)
- ensure engines are correctly repaired and regularly serviced to ensure efficiency and to prevent / minimise spills and leaks;
- restrict unnecessary idling time of vehicles, plant and equipment;
- improve an engine's emission performance by fitting it with an anti-pollution control device;
- ensure fuel conforms with relevant quality standards.

These requirements are reflected in DIT's Road Maintenance Contract.

Tasmania

Report to the NEPC on the implementation of the National Environment Protection (Diesel Vehicle Emissions) Measure for Tasmania by Hon. Nick Duigan Minister for Parks and Environment for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- Under Section 12A of the *Tasmanian State Policies and projects Act 1993*, National Environmental Protection Measures made under Section 14(1) of the *National Environment Protection Council (Tasmania) Act 1995* are taken to be State Policies under that Act.
- In 2006 and 2007, a contract between the then Department of Tourism, Arts and the Environment and the then Commonwealth Department of the Environment and Water Resources facilitated the funding of a series of diesel engine skill gap training workshops in the south, north and northwest of the State. Funding provided for the purchase of diesel emissions testing equipment and the delivery of free three-hour training courses for 321 qualified mechanics.
- Since the end of this program, TasTAFE has continued to utilise this equipment in training courses for automotive apprentices. The equipment is used in training activities to test the operation and repairs of emission controls /devices on vehicles. Prior to 2019, the equipment was also used to check the emission outputs of LNG and CNG conversions. However, emissions testing for LNG/CNG heavy vehicle conversions are no longer undertaken, as the market for LNG and CNG within the heavy vehicle road transport industry in Tasmania has significantly declined due to the low cost of diesel fuels.
- The diesel emissions testing equipment has not been used for commercial purposes in the current period.
- A limitation of the equipment is that it is not certified to perform the DT80 emission test. The DT80 test is the Australian Transport Council's in-service emission standard for diesel vehicles.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

As of 30 June 2023, there were 16,400 diesel powered heavy vehicles (that is vehicles over 4.5 tonnes) and 166,881 diesel powered light vehicles registered in the State. This represents an increase of 5.1 % and an increase of 3.5 % respectively since 1 July 2022. Of the total of 712,232 vehicles registered in Tasmania on 30 June 2023, 25.7% were diesel powered.

Smoky vehicles program

The Department of State Growth maintains a strong focus on road safety and does not actively target vehicle emissions as part of light vehicle Compliance and Enforcement activities, with the National Heavy Vehicle Regulator being responsible for vehicle standards applicable to all heavy vehicles.

The Department does not possess diesel vehicle emission measurement facilities. However, standards applicable to light and also heavy vehicles include "the vehicle must not emit visible emissions for a continuous period of at least 10 seconds" also known as the ten second rule. When issued a Defect Notice and/or Traffic Infringement Notices by Authorised Officers, remedial action and subsequent inspection by an Approved Vehicle Examiner is required to enable the defective vehicle status to be cleared from the registry.

Diesel vehicle emission testing and repair programs

The Department of State Growth does not possess vehicle emission measurement facilities, and do not compile records of vehicle testing or repairs.

Audited maintenance programs for diesel vehicles

There is no audited maintenance program specific to diesel vehicle emissions in Tasmania, however the National Heavy Vehicle Regulator now administers the National Heavy Vehicle Accreditation Scheme (previously performed individually by jurisdictions). Heavy Vehicle Maintenance Management Accreditation is one module within this scheme that encourages heavy vehicle operators to take more responsibility for maintaining their vehicles correctly and ensuring that they are always in good mechanical condition, compliant with relevant vehicle standards and operating efficiently. Fuel quality and fault repair activity standards apply in this module. Scheduled compliance audits and triggered audits are requirements of this accreditation.

Diesel vehicle retrofit programs

Statistics are not compiled on diesel vehicle retrofitting.

Other programs

There were no other programs implemented during the reporting year to manage emissions from in-service diesel vehicles.

Australian Capital Territory

Report to the NEPC on the implementation of the National Environment Protection (Diesel Vehicle Emissions) Measure for the Australian Capital Territory by Ms Rebecca Vassarotti MLA for the reporting year ended 30 June 2023

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The ACT's *Road Transport (Vehicle Registration) Regulation 2000* requires emission control systems supplied by vehicle manufacturers to remain fitted and functional. This is consistent with the goals in the National Environment Protection (Diesel Vehicle Emissions) Measure (the NEPM).

Aggregate air quality data indicates that air pollution caused by diesel emissions is not a significant contributor to the urban airshed in the ACT. Therefore, no actions are taken in the ACT as a result of measures against the NEPM.

Notwithstanding the above, the ACT has introduced a number of measures consistent with achieving the goals of the NEPM, including:

- adoption of the Australian Design Rules as requirements under Schedule 1 of the *Road Transport (Vehicle Registration) Regulation 2000*;
- requiring emission control equipment fitted to a vehicle to remain fitted and be maintained in a condition to ensure it operates essentially in accordance with the systems original design under Schedule 1 of the *Road Transport (Vehicle Registration) Regulation 2000*;
- implementation of random on-road and car park inspections;
- implementation of arrangements enabling members of the community to report vehicles that they consider unroadworthy, including those that emit excessive smoke, and enabling appropriate action against those vehicles;
- ACT Government subscription to Greenfleet for the planting of trees to offset its vehicles fleet emissions;
- supporting ACT representation on the fuel standards consultative committee; and
- incentivising uptake of zero/low emission light vehicles through concessions to registration fees. The ACT is also transitioning to emissions-based registration arrangements for light vehicles, commencing in July 2024.

While statistics on the number of inspections, defects and warnings are collected, currently the reasons for these enforcement actions are not collated. In general, ACT inspectors would not normally issue an infringement notice to a vehicle emitting excessive smoke. The ACT has found it more beneficial to require a vehicle to be repaired than to impose a monetary penalty. Issuing a monetary penalty is likely to delay repairs or make it more difficult for owners to repair their vehicles.

In addition, the Transport Canberra and City Services Directorate (TCCS) took delivery of 6 Euro VI diesel buses and 12 battery electric buses in 2022–23 replacing 18 aged non-Euro VI compliant diesel buses. The number of Euro VI buses in the TC fleet stands at 188. In addition, 70 CNG buses purchased between 2004 and 2008 remain in the fleet. There are a total of 374 diesel buses in the TCCS fleet.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

As indicated above, the ACT airshed quality does not approach the NEPM trigger points and therefore no action is taken within the ACT as a result of the NEPM. As such, the NEPM has limited effectiveness within the ACT.

Therefore, the programs identified under the NEPM are not applicable within the ACT as any actions taken in relation to diesel vehicles are as a result of the overriding road transport laws that apply standards to individual vehicles based on type, age and roadworthiness.

Smoky vehicles program

Not applicable.

Diesel vehicle emission testing and repair programs

Not applicable.

Audited maintenance programs for diesel vehicles

Not applicable.

Diesel vehicle retrofit programs

Not applicable.

Other programs

Not applicable.

Northern Territory

Report to the NEPC on the implementation of the National Environment Protection (Diesel Vehicle Emissions) Measure for the Northern Territory by the Hon Kathryn Worden MLA Minister for the Environment for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

Aggregate data on diesel emissions for the Northern Territory is not available. However, air quality studies and the National Pollutant Inventory indicate that motor vehicle traffic is not a major contributor to air emissions in the larger urban areas.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

A number of initiatives have been implemented to control diesel vehicle emissions in the Northern Territory. Vehicle standards are enforced through general provisions of the Northern Territory's *Motor Vehicles Act 1949* and the Australian Vehicle Standard Rules which require all vehicles to comply with Australian Design Rules when in service.

In the Northern Territory, there are approximately 69,948 diesel vehicles registered, representing around 45 per cent of the total vehicle fleet, which is much higher than the national proportion of diesel vehicles in the vehicle fleet (approximately 28 per cent). Bureau of Infrastructure and Transport Research Economics data indicates that diesel vehicles registered in the Northern Territory represent approximately 1.2 per cent of all diesel vehicles in Australia.

Of the four major regions in the Northern Territory, 71 per cent of all diesel vehicles registered are in the Darwin region, with 14 per cent in Alice Springs, 8 per cent in Katherine and 2 per cent in Tennant Creek.

In the Darwin region, approximately 42 per cent of all registered vehicles are diesels, which is lower than in Alice Springs where diesels represent 47 per cent of the total vehicle fleet. In Katherine and Tennant Creek the diesel portion of the total fleet is 62 per cent and 63 per cent respectively, indicating a higher reliance on diesel vehicles in remote areas.

Of the heavy vehicle diesels registered in the Northern Territory, 63 per cent are registered in the Darwin region, 18 per cent in Alice Springs and 11 per cent in Katherine. The distribution of light diesel vehicle registrations in the Territory differs slightly, with 72 per cent of all light diesel vehicles registered in the Darwin region, 14 per cent in Alice Springs and 8 per cent in Katherine.

Smoky vehicles program

A smoky vehicle program is undertaken as part of the Territory's vehicle registration and roadworthiness testing procedures. Records of diesel vehicles issued with defect orders show that only a small number of vehicles checked as part of the vehicle registration process received a defect notice due to engine smoke.

Diesel vehicle emission testing and repair programs

Pollutants associated with diesel emissions in the Territory are well below emission standards. Therefore, the current air quality conditions are not considered a trigger for change in relation to managing diesel emissions in the Territory. The Northern Territory will continue to monitor the need for action on diesel emissions and will take appropriate steps as required.

Audited maintenance programs for diesel vehicles

Vehicle roadworthy inspections are undertaken periodically for light and heavy vehicles. These inspections include checking that all required emission control equipment is fitted as well as the detection of smoky vehicles. Periodic roadworthy inspections are required at registration renewal and the frequency of inspections is determined by the vehicle type, age and category. Since 1 July 2013, light vehicle inspections are required at five years, 10 years and then annually. All heavy vehicles require an annual roadworthy inspection.

Diesel vehicle retrofit programs

The majority of the Northern Territory road train fleet employs the latest technology in engine management systems to minimise fuel consumption. On a payload per emission basis, road trains conducting line haul operations in remote Australia are considered to be some of the most efficient road freight vehicles in the world.

Other programs

The Northern Territory's open access policy provides for 'as of right' access for road trains and 100 per cent network access for vehicles operating at higher mass limits. In addition, the Territory's innovative vehicle policy promotes the development of high productivity innovative vehicle combinations which can deliver further efficiency benefits.

APPENDIX 5:

Jurisdictional reports on the implementation and effectiveness of the Movement of Controlled Waste between States and Territories National Environment Protection Measure

Commonwealth

Report to the NEPC on the implementation of the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure from the Commonwealth, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The Commonwealth supports the Controlled Waste NEPM through our hazardous waste data and reporting activities.

Key activities related to tracking and understanding Australia's interstate movements of hazardous and controlled waste included:

- Annual data on hazardous waste generation produced for reporting under the Basel Convention (published for the 2022 calendar reporting year and preparing to publish for the 2023 calendar reporting year).
- Working with the states, territories and industry to deliver the National Waste Policy Action Plan's commitment to implement agreed national waste data, reporting and information-sharing improvements.

For more information, see www.dcceew.gov.au/environment/protection/hazardous-waste/reform.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Not applicable for the Commonwealth.

New South Wales

Report to the National Environment Protection Council (NEPC) on the implementation of the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure for New South Wales by the Hon. Penny Sharpe MP, Minister for Climate Change, Minister for Energy, Minister for the Environment and Minister for Heritage, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The Movement of Controlled Wastes (MCW) National Environment Protection Measures (NEPM) has been in place since 1998, with the most recent changes being minor and implemented in NSW in 2014 following the 10-year review of the NEPM in 2010.

Recent incidents outside of NSW which resulted in adverse impacts indicate that interjurisdictional management of some controlled wastes could be improved. Currently, each jurisdiction has their own waste tracking systems and requirements which lack consistency and differ widely in their ability to provide and share information necessary to ensure the effective implementation of the NEPM. In response, NSW is currently leading the establishment of a nationally consistent waste tracking and data system which will improve the quality of data and give better oversight of waste movements in and between jurisdictions. Improved information sharing, accessibility and transparency may prevent such incidents, and will assist in NSW's strategic infrastructure planning and the identification of critical waste infrastructure needs.

The *NSW Waste and Sustainable Materials Strategy 2041* (https://www.dpie.nsw.gov.au/our-work/environment-energy-and-science/waste-and-sustainable-materials-strategy) outlines the actions NSW will take over the next six years (the first phase of the strategy) to transition to a circular economy. This includes improved waste management and environmental outcomes for controlled waste in NSW.

In accordance with section 13 of the NEPMs, a report on the movement of controlled waste into NSW is provided in Part 2.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Inconsistencies between jurisdictions' waste management strategies, policies and legislation limit the effectiveness of the NEPM, as noted in Part 1. In addition, outdated waste tracking processes and the absence of a nationally integrated waste tracking system greatly limits NSW and other jurisdictions' ability to ensure compliance with NEPM requirements and achieve the NEPM's goal:

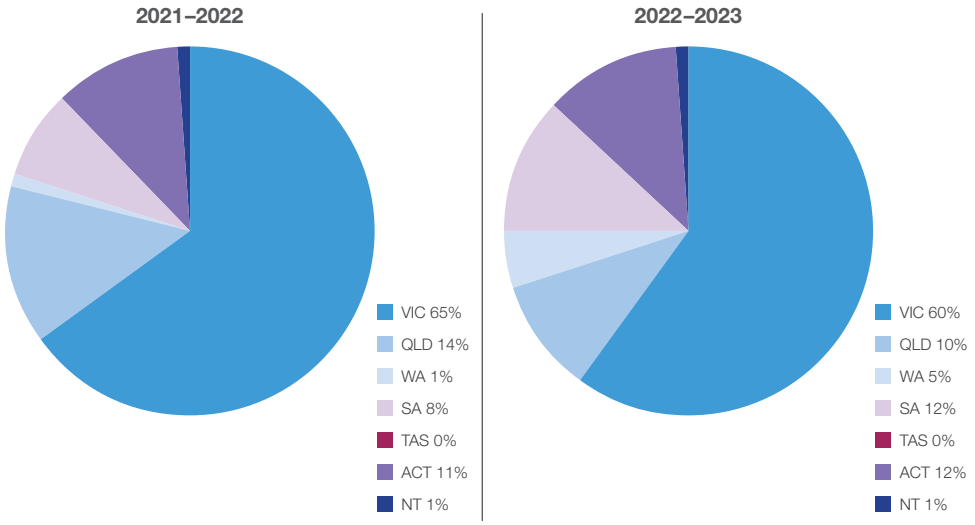
> *To provide a basis for ensuring that controlled wastes which are to be moved between States and Territories are properly identified, transported, and otherwise handled in ways which are consistent with environmentally sound practices for the management of these wastes.*

In 2022–23, a total of 63,512 tonnes of controlled waste in 4,383 movements was reported as having been transported into NSW from interstate (Tables 2 and 4). This is a 12% decrease on the 72,283 tonnes moved in 2021–22 and a 2% increase on the 4,299 waste movements that occurred in 2021–22. This compares to the reported 12% decrease in controlled waste tonnage and 14% decrease in waste movements from 2020–21 to 2021–22.

NSW received less waste in 2022–23 compared to 2021–22 from Victoria and Queensland, and received more waste from Western Australia, South Australia, Tasmania, the ACT and the Northern Territory. However, Victoria is still the largest contributor by volume 2022/23.

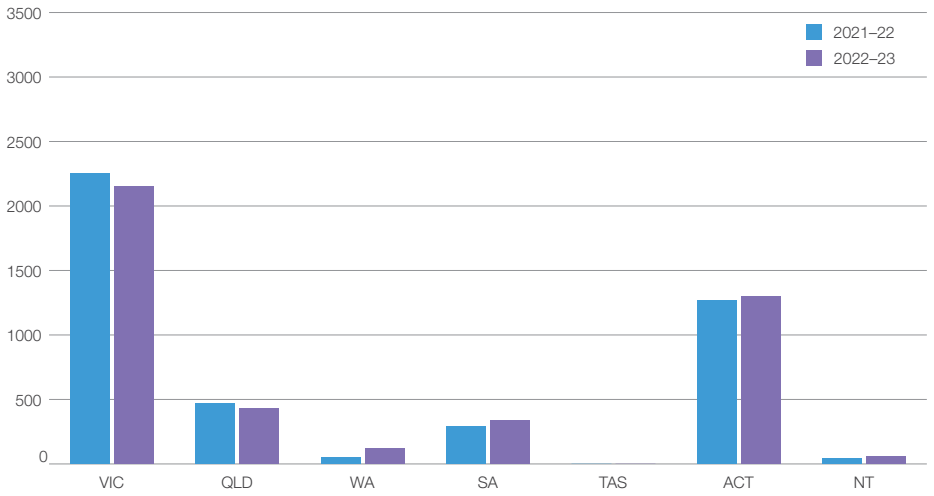
The greatest increase was from Western Australia (2,187 tonnes, 342%), followed by South Australia (1,068 tonnes, 17%), the ACT (106 tonnes, 1%), the Northern Territory (98 tonnes, 38%) and Tasmania (17 tonnes, 102%). The greatest decrease in waste was from Victoria (8,635 tonnes, 18%), followed by Queensland (3,611 tonnes, 35%) (Figures 1 and 2).

Figures 1 and 2 – Percentage waste contribution from states and territories into NSW



During the 2022–23 reporting period there were 84 more movements into NSW than during the 2021–22 period; with Victoria accounting for the largest decrease (by 121) and Western Australia the largest increase (by 111) (Figure 3).

Figure 3 – Waste movements into NSW by Transport Certificate totals (all TCs) by State/Territory



Highlights by jurisdiction

Victoria: Transport of acid waste between 2022–23 and 2021–22 decreased by 51% to 6,283 tonnes. Other wastes that decreased were inorganic chemical waste by 35% to 3,283 tonnes, and paints, resins, inks and organic sludges by 44% to 625 tonnes. Clinical and pharmaceutical waste increased by 512% to 1,997 tonnes.

Queensland: Inorganic chemicals waste decreased by 40% to 4,871 tonnes. Waste paints, resins, inks and organic sludges decreased by 82% to 44 tonnes, as did organic solvents by 60% to 131 tonnes. Clinical and pharmaceutical waste increased from 14 tonnes to 456 tonnes.

Western Australia: Inorganic chemical waste increased from 481 tonnes to 1,653 tonnes. There was also an increase in waste oils from 108 tonnes to 952 tonnes, and an increase in clinical and pharmaceutical waste from soil/sludge waste from 7 tonnes to 191 tonnes.

South Australia: There was an increase in waste oil by 22% to 6,376 tonnes and an increase is clinical and pharmaceutical waste by 52% to 542 tonnes.

Tasmania: 11 tonnes of organic solvent waste and 21 tonnes of waste oil were the main contributions of waste recorded as transported to NSW.

ACT: There was an 8% decrease in transport of putrescible and organic waste to 5,153 tonnes. Clinical and pharmaceutical waste increased by 24% to 329 tonnes.

Northern Territory: the total quantity of waste transported from the Northern Territory (total 848 tonnes) was similar to the previous reporting period (750 tonnes), with the main component being inorganic chemicals (725 tonnes).

Highlights by waste type

Oils: increased by 10% from 2021–22 to 32,242 tonnes, with Victoria contributing the most (by 598 tonnes).

Acids: decreased by 50% from 2021–22 to 6,369 tonnes, with Victoria's contribution reducing the most (by 6,578 tonnes).

Inorganic chemicals: have reduced by 26% from 2020–21 to 10,685 tonnes.

Paints, resins, inks, organic sludges: decreased from 2021–21 by 48% from 1,809 tonnes to 932 tonnes, with Victoria contributing to the majority of the decrease (484 tonnes decrease).

NOTE: data is still being reported to the EPA and undergoing a QA/QC process. The data may contain some minor discrepancies that are still under investigation.

Detailed data is provided in Tables 1–3. Note that with respect to Table 3, reliable discrepancy information is not currently available due to system constraints.

Table 1: Number of consignment authorisations issued by NSW for the movement of controlled waste into NSW for the period 1 July 2022 to 30 June 2023

Reporting Year	Consignment authorisations issued
2020–21	1,359
2021–22	1,290
2022–23	1,162

Table 2: Quantity of controlled waste into NSW for the period 1 July 2022 to 30 June 2023
Tonnes per waste category by state/territory

Group	Description	VIC	QLD	WA	SA	TAS	ACT	NT	Total (T)
A	Plating & heat treatment	0	0	0	0	0	0	0	**0**
B	Acids	6,283	7	15	0	0	0	64	**6,369**
C	Alkalis	104	437	0	0	0	0	9	**551**
D	Inorganic chemicals	3,284	4,871	1,653	101	0	51	725	**10,685**
E	Reactive chemicals	0	0	0	0	0	2	0	**2**
F	Paints, resins, inks, organic sludges	625	44	0	0	0	253	11	**932**
G	Organic solvents	568	131	1	13	11	24	0	**748**
H	Pesticides	1	0	0	0	0	0	0	**1**
J	Oils	22,860	390	952	6,376	21	1,575	23	**32,204**
K	Putrescible/ organic waste	1,507	1	0	0	0	5,153	14	**6,674**
L	Industrial washwater	n/r	n/r	n/r	n/r	n/r	n/r	n/r	**n/r**
M	Organic chemicals	166	197	0	96	1	2	1	**463**
N	Soil / sludge	108	22	16	48	0	290	0	**469**
R	Clinical & pharmaceutical	1,997	456	191	542	0	329	0	**3,515**
T	Miscellaneous	598	6	0	79	0	178	0	**861**
Total		**38,131**	**6,561**	**2,826**	**7,256**	**33**	**7,858**	**848**	**63,514**

n/r = not recorded under this category

Table 3: Discrepancies in movements of controlled waste into NSW for the period 1 July 2022 to 30 June 2023

Discrepancy Type	VIC	QLD	WA	SA	TAS	ACT	NT	Ext Terr
Consignment non-arrival	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Transport without authorisation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Non-matching documentation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Waste data	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 4: Number of movements of controlled waste into NSW for the period 1 July 2022 to 30 June 2023

NSW	VIC	QLD	WA	SA	TAS	ACT	NT	Ext Terr	Total
N/A	2,126	417	148	349	3	1,289	51	0	4,383

Victoria

Report to the NEPC on the implementation of the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure for Victoria by the Hon. Lily D'Ambrosio, Minister for the State Electricity Commission, Climate Action, Energy and Resources and *the Hon Ingrid Stitt, Minister for the Environment, Early Childhood Education and Pre-prep for the reporting year ended 30 June 2023.*

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The Environment Protection Act 2017 came into effect 1 July 2021. The accompanying Environment Protection Regulations 2021 described the requirements for waste transport recording, including interstate transport of controlled waste.

1 July 2021 also saw the introduction of a new waste reporting system, Waste Tracker. Waste Tracker can be used to record the transport of waste into Victoria to permissioned sites.

Largest proportion of waste coming into Victoria was R code clinical waste. Next largest codes were M, which includes soil contaminated with PFAS.

Total waste coming into the state was reduced compared to last year.

There continues to be consultation between the state and territory agencies, via an Implementation Working Group established under the NEPM agreement.

The Implementation Working Group is proposing to strengthen and harmonise the regulation and tracking of controlled waste movements in Australia, work being led by EPA NSW. EPA Victoria continues active discussions with EPA NSW on waste tracking solutions.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Table 1: Number of consignment authorisations issued by Victoria

Reporting Year	Consignment authorisations issued
2021–22	227 (waste into Victoria – 196) (waste out of Victoria – 31)
2022–23	224 (waste into Victoria – 205) (waste out of Victoria – 19)

Table 2: Quantity of controlled waste into Victoria for the period 1 July 2022 to 30 June 2023 – Tonnes per waste category by State/Territory

Code	Description	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext-Terr	Total (Tonnes)
A	Plating & heat treatment	0.00	N/A	0.00	0.00	0.00	0.00	0	0.00	0	**0.00**
B	Acids	461.53	N/A	0.00	0.00	9.60	0.00	0	3.60	0	**474.73**
C	Alkalis	207.99	N/A	54.55	0.00	0.00	0.00	0	0.00	0	**262.54**
D	Inorganic chemicals	1138.60	N/A	48.95	10.30	1388.76	940.79	0	27.05	0	**3554.46**
E	Reactive chemicals	6.08	N/A	0.00	0.00	0.00	0.00	0	0.00	0	**6.08**
F	Paints, resins, inks, organic sludges	1010.46	N/A	551.98	185.83	388.13	15.12	0	0.15	0	**2151.67**
G	Organic solvents	2460.15	N/A	742.57	697.45	454.45	0.00	0	0.03	0	**4354.65**
H	Pesticides	227.06	N/A	5.45	257.93	22.30	0.00	0	0.00	0	**512.73**
I	Oils	0.00	N/A	0.00	0.00	0.00	0.00	0	0.00	0	**0.00**
J	Putrescible/ organic waste	1348.21	N/A	0.00	2053.17	0.00	961.30	0	249.21	0	**4611.89**
K	Industrial washwater	798.37	N/A	19.80	0.00	0.00	1.98	0	169.81	0	**989.96**
L	Organic chemicals	1006.43	N/A	0.00	0.00	200.00	0.00	0	87.60	0	**1294.03**
M	Soil/Sludge	3819.10	N/A	1424.34	0.00	393.72	64.01	0	3079.63	0	**8780.79**
N	Clinical & pharmaceutical	533.55	N/A	246.48	0.00	1872.90	4.00	0	13.64	0	**2670.57**
O	Misc	0.00	N/A	0.00	0.00	0.00	0.00	0	0.00	0	**0.00**
State Totals (tonnes)		**13017.52**	**0.00**	**3094.13**	**3204.67**	**4729.86**	**1987.20**	**0.00**	**3630.72**	**0.00**	**29664.10**

1. These figures may vary due to the ongoing processing of amendments and cancellations at the request of duty holders, as well as the digitising of offline and interstate waste records

Table 3: Discrepancies in movements of controlled waste into Victoria for the period 1 July 2022 to 30 June 2023 – Percentage of total movements

Discrepancy Type	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
Consignment non-arrival		N/A							
Transport without authorisation		N/A							
Non-matching documentation		N/A							
Waste data		N/A							

1. Figures for consignment non-arrival, transport without authorisation, non-matching documentation and waste data remain unavailable at the time of reporting due to data and system constraints

Table 4: Number of movements of controlled waste into Victoria for the period 1 July 2022 to 30 June 2023

NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
2298	N/A	143	232	682	107	0	581	0

Queensland

Report to the NEPC on the implementation of the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure for Queensland by Hon. Leanne Linard MP, Minister for the Environment and the Great Barrier Reef and the Minister for Science and Innovation for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The Queensland Department of Environment, Science and Innovation (DESI) is responsible for the administration of the *National Environmental Protection (Movement of Controlled Waste between States and Territories) Measure* (NEPM) in Queensland. The NEPM is implemented under the *Environmental Protection Act 1994* (EP Act) through Chapter 5, Part 9 of the Environmental Protection Regulation 2019 (EP Reg). As per the NEPM, the regulation includes provisions in relation to obligations for the tracking of controlled waste into and out of Queensland, as well as requirements for the prior approval of consignments of controlled waste being transported into Queensland. Legislative requirements for the licensing of controlled waste transporters are included in the EP Act and detailed in Schedule 12 of the EP Reg. The NEPM administration is integrated with intrastate tracking, controlled waste licensing and compliance activities in Queensland.

- DESI has continued to administer the NEPM to help ensure controlled waste is managed appropriately. The prior approval process through consignment authorisation and consultation with other jurisdictions and waste handlers has helped to ensure controlled waste is consigned to appropriate facilities. The total number of applications for consignment authorisation (Table 1) approved for 2022–23 was 432, which is a 27.03% decrease from 2021–2022 (592).
- During 2022–2023, DESI's compliance efforts were focused on key departmental investigations and ensuring movement data for specific waste types was verified.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Table 1: Number of consignment authorisations issued by Queensland

Reporting Year	Consignment authorisations issued
2021–22	592
2022–23	432

Table 2: Quantity of controlled waste into Queensland for the period 1 July 2022 to 30 June 2023 – Tonnes per waste category by State/Territory

Code	Description	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext-Terr	Total (Tonnes)
A	Plating & heat treatment	6.84	0	N/A	0	0	0	0	0		**6.84**
B	Acids	63.58	0	N/A	0	0	0	0	87.69		**151.27**
C	Alkalis	1,283.11	0	N/A	0	20	0	0	71.58		**1,374.69**
D	Inorganic chemicals	1,969.33	34.34	N/A	33.32	0	0	0	144.37		**2,181.36**
E	Reactive chemicals	0	0	N/A	0	0	0	0			**0**
F	Paints, resins, inks, organic sludges	357.36	36.3	N/A	0	0	0	0	16.78		**410.44**
G	Organic solvents	693.39	0	N/A	0	0	0	0	2.27		**695.66**
H	Pesticides	128.65	0	N/A	0	14	0	0	0.8		**143.45**
J	Oils	54,746.6	18.69	N/A	0.88	532	0	0	3,638.00		**58,936.17**
K	Putrescible/ organic waste	3,519.06	38.08	N/A	50.5	231.6	0	0	0		**3,839.24**
L	Industrial washwater	0	0	N/A	0	0	0	0	0		**0**
M	Organic chemicals	806.96	0	N/A	0	0	0	0	31.26		**838.22**
N	Soil/Sludge	1,526.12	0.05	N/A	0	1.46	0	0	0		**1,527.63**
R	Clinical & pharmaceutical	405.69	0.25	N/A	0	0	0	0	0		**405.94**
T	Misc	3,141.55	155.98	N/A	0	0	0	0	1,033.3035		**4,330.83**
State Totals (tonnes)		**68,648.24**	**283.69**	**N/A**	**84.7**	**799.06**	**0**	**0**	**5,026.05**	**0**	**74,841.74**

Table 3: Discrepancies in movements of controlled waste into Queensland for the period 1 July 2022 to 30 June 2023 – Percentage of total movements

Discrepancy Type	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
Consignment non-arrival	-	-	N/A	-	-	-	-	-	-
Transport without authorisation	-	-	N/A	-	-	-	-	-	-
Non-matching documentation	-	-	N/A	-	-	-	-	-	-
Waste data	-	-	N/A	-	-	-	-	-	-

Table 4: Number of movements of controlled waste into Queensland for the period 1 July 2022 to 30 June 2023

NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
386	8	N/A	3	5	1	3	26	0

Western Australia

Report to the NEPC on the implementation of the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure for Western Australia for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In Western Australia, the Department of Water and Environmental Regulation is responsible for administering the implementation of the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure, under the National Environment Protection Council (Western Australia) Act 1996 and the Environmental Protection Act 1986.

The Environmental Protection (Controlled Waste) Regulations 2004 (CW Regulations) provide for the licensing of carriers, drivers, vehicles and/or tanks, and the use of controlled waste tracking forms to ensure controlled waste is transported to an appropriate waste facility.

Western Australia is amending the CW Regulations following a review to ensure the CW Regulations are risk-based, streamlined and effective. Gazettal of the amendments is anticipated in 2024.

The number of consignment authorisations issued by Western Australia during the 2022–23 reporting year for the movement of waste into the state decreased 39.4 per cent compared to 2021–22 (from 33 to 20) and decreased 13 per cent compared to 2020–21 (from 23 to 20).

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Table 1: Number of consignment authorisations issued by Western Australia

Reporting Year	Consignment authorisations issued
2021–22	33
2022–23	20

Table 2: Quantity of controlled waste into Western Australia for the period 1 July 2022 to 30 June 2023 – Tonnes per waste category by State/Territory

Code	Description	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext-Terr	Total (Tonnes)
A	Plating & heat treatment			33.65	n/a						**33.65**
B	Acids		233.01	29.97	n/a	373.59					**636.57**
C	Alkalis		44.48		n/a	25.52			277.16		**347.16**
D	Inorganic chemicals				n/a				12.17		**12.17**
E	Reactive chemicals	8.70	5.53		n/a	11.17					**25.40**
F	Paints, resins, inks, organic sludges				n/a				40.27		**40.27**
G	Organic solvents				n/a						**0.00**
H	Pesticides				n/a						**0.00**
I	Oils	41.67			n/a				530.15		**571.82**
J	Putrescible/ organic waste				n/a						**0.00**
K	Industrial washwater				n/a						**0.00**
L	Organic chemicals	14.53		35.16	n/a	18.23					**67.92**
M	Soil/Sludge				n/a				752.50		**752.50**
N	Clinical & pharmaceutical				n/a				21.50		**21.50**
O	Misc				n/a						**0.00**
State Totals (tonnes)		**64.90**	**283.02**	**98.77**	**n/a**	**428.50**	**0.00**	**0.00**	**1633.75**	**0.00**	**2508.94**

Table 3: Discrepancies in movements of controlled waste into Western Australia for the period 1 July 2022 to 30 June 2023 – Percentage of total movements

Discrepancy Type	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
Consignment non-arrival				n/a					
Transport without authorisation				n/a					
Non-matching documentation				n/a					
Waste data				n/a					

n/a = not available/applicable

Table 4: Number of movements of controlled waste into Western Australia for the period 1 July 2022 to 30 June 2023

NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
4	17	8	n/a	36	0	0	93	0

n/a = not available/applicable

South Australia

Report to the NEPC on the implementation of the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure for South Australia by the Hon. Susan Close, Minister for Climate, Environment and Water for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The NEPM obligations are administered by the *Environment Protection (Movement of Controlled Waste) Policy 2014* under the *Environment Protection Act 1993*.
- No implementation issues were reported during 2022–23.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Table 1: Number of consignment authorisations issued by South Australia

Reporting Year	Consignment authorisations issued
2021–22	168
2022–23	129

Table 2: Quantity of controlled waste into South Australia for the period 1 July 2022 to 30 June 2023 – Tonnes per waste category by State/Territory

Code	Description	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext-Terr	Total (Tonnes)
A	Plating & heat treatment	0	0	0	0	n/a	0	0	0	0	**0.00**
B	Acids	31.25	23.08	0	0	n/a	0	0	6.05	0	**60.38**
C	Alkalis	0	0	0	0	n/a	0	0	7.00	0	**7.00**
D	Inorganic chemicals	13186.91	18893.92	0	43.90	n/a	54555.13	36.88	843.73	0	**87560.46**
E	Reactive chemicals	0	15.37	0	0	n/a	0	0	0	0	**15.37**
F	Paints, resins, inks, organic sludges	0.37	0.02	0	0	n/a	0	0	55.50	0	**55.89**
G	Organic solvents	33.44	0.11	3.74	0.78	n/a	0	0	13.00	0	**51.07**
H	Pesticides	0	0	0	0	n/a	0	0	0	0	**0.00**
J	Oils	419.6	130.38	0	780.75	n/a	0	0	761.78	0	**2092.51**
K	Putrescible/ organic waste	0	19.56	0	0	n/a	0	0	0	0	**19.56**

Code	Description	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext-Terr	Total (Tonnes)
L	Industrial washwater	0	0	0	0	n/a	0	0	0	0	**0.00**
M	Organic chemicals	0.20	0	0	0	n/a	0	0	0	0	**0.20**
N	Soil/Sludge	16834.59	12594.93	0	64.51	n/a	0	0	**171.05**	0	29665.08
R	Clinical & pharmaceutical	0	48.55	0	793.58	n/a	57.56	0	**14.88**	0	914.57
O	Misc	307.11	0	0	0	n/a	0	0	**2344.27**	0	2651.38
State Totals (tonnes)		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 3: Discrepancies in movements of controlled waste into South Australia for the period 1 July 2022 to 30 June 2023 – Percentage of total movements

Discrepancy Type	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
Consignment non-arrival	20	40	90	14	n/a	29	0	77	0
Transport without authorisation	0	0	0	0	n/a	0	0	0	0
Non-matching documentation	0	0	0	0	n/a	0	0	0	0
Waste data	0	0	0	0	n/a	0	0	0	0

Table 4: Number of movements of controlled waste into South Australia for the period 1 July 2022 to 30 June 2023

NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
799	1088	3	125	n/a	26	1	490	0

Tasmania

Report to the NEPC on the implementation of the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure for Tasmania by Hon Nick Duigan Minister for Parks and Environment for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In Tasmania, the *National Environment Protection (Movement of Controlled Waste between States and Territories) Measure* (NEPM) is a state policy under the *State Policies and Projects Act 1993*. The key legislative instrument for implementation of the NEPM is the *Environmental Management and Pollution Control Act 1994*.

Tasmania consults with Australian jurisdictions on NEPM matters such as consignment authorisations and the appropriateness of treatment/disposal proposals.

Tasmania receives controlled waste from Antarctica and Macquarie Island. This waste was previously reported by Tasmania as being received from an external territory. In July 2019, EPA Tasmania accepted the advice of the Australian Antarctic Division that these waste movements are not subject to the NEPM, and thus they have not been reported herein.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Table 1: Number of consignment authorisations issued by Tasmania

Reporting Year	Consignment authorisations issued
2021–22	2
2022–23	2

Table 2: Quantity of controlled waste into Tasmania for the period 1 July 2022 to 30 June 2023 – Tonnes per waste category by State/Territory

Code	Description	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext-Terr	Total (Tonnes)
A	Plating & heat treatment										**0.00**
B	Acids										**0.00**
C	Alkalis										**0.00**
D	Inorganic chemicals		1368.4								**1368.4**
E	Reactive chemicals										**0.00**
F	Paints, resins, inks, organic sludges										**0.00**
G	Organic solvents										**0.00**
H	Pesticides										**0.00**
I	Oils										**0.00**
J	Putrescible/ organic waste										**0.00**
K	Industrial washwater										**0.00**
L	Organic chemicals										**0.00**
M	Soil/Sludge										**0.00**
N	Clinical & pharmaceutical										**0.00**
O	Misc										
State Totals (tonnes)		**0.00**	**1368.4**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1368.4**

Table 3: Discrepancies in movements of controlled waste into Tasmania for the period 1 July 2022 to 30 June 2023 – Percentage of total movements

Discrepancy Type	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr
Consignment non-arrival						*			
Transport without authorisation						*			
Non-matching documentation						*			
Waste data						*			

* Tasmania does not currently reconcile controlled waste tracking certificate data to allow the identification of discrepancies

Table 4: Number of movements of controlled waste into Tasmania for the period 1 July 2022 to 30 June 2023

NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
					76			

Australian Capital Territory

Report to the NEPC on the implementation of the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure for the ACT by Rebecca Vassarotti MLA for the reporting year ended 30 June 2023

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

Access Canberra, within the Chief Minister, Treasury and Economic Development Directorate, is responsible for the implementation and administration of the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure (the NEPM).

The Environment Planning and Sustainable Development Directorate is responsible for the development of legislation and policy to ensure the NEPM is appropriately implemented in the ACT.

The provisions of the NEPM are implemented through the *Environment Protection Act 1997* and Environment Protection Regulation 2005.

The NEPM has been fully implemented and operational in the ACT since March 2000 with no major issues identified with its operation. Regular contact has been maintained with other jurisdictions to ensure cooperative administration of the NEPM.

NEPM information sheets (which include an explanation of producer, transporter and waste facility responsibilities and instructions on how to complete a waste transport certificate) have been produced by the ACT Government to assist stakeholders in meeting their statutory obligations.

The one difference in relation to movements during the reporting period to previous years was an increase in clinical waste coming into the ACT from Victoria and NSW. More movements have come into the ACT from the surrounding New South Wales regions/Victoria because of a Cleanaway Daniels clinical waste treatment facility in VIC being offline.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Table 1: Number of consignment authorisations issued by the ACT

Reporting Year	Consignment authorisations issued
2021–22	36
2022–23	40

Table 2: Quantity of controlled waste into the ACT for the period 1 July 2022 to 30 June 2023 – Tonnes per waste category by State/Territory

Code	Description	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext-Terr*	Total (tonnes)
A	Plating & heat treatment										0.00
B	Acids										0.00
C	Alkalis										0.00
D	Inorganic chemicals										0.00
E	Reactive chemicals										0.00
F	Paints, resins, inks organic sludges										0.00
G	Organic solvents										0.00
H	Pesticides										0.00
J	Oils	22.25									22.25
K	Putrescible/ organic waste										0.00
L	Industrial wash water										0.00
M	Organic chemicals										0.00
N	Soil/sludge	132.17									132.17
R	Clinical & pharmaceutical	302.64	1413.61								1716.25
T	Misc.										0.00
State Totals (tonnes)		**434.81**	**1413.61**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**1848.42**

Table 3: Discrepancies in movements of controlled waste into the ACT for the period 1 July 2022 to 30 June 2023 – Percentage of total movements

Discrepancy Type	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
Consignment non-arrival									
Transport without authorisation									
Non-matching documentation									
Waste data									

Table 4: Number of movements of controlled waste into the ACT for the period 1 July 2022 to 30 June 2023

NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
1027	263							

Northern Territory

Report to the NEPC on the implementation of the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure for Northern Territory by the Minister for Environment, Climate Change and Water Security for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The Northern Territory Environment Protection Authority (NT EPA), supported by the Department of Environment, Parks and Water Security (DEPWS), is responsible for the implementation of the NEPM in the Northern Territory through the provisions of the *Waste Management and Pollution Control Act 1998* and the *National Environment Protection Council (Northern Territory) Act 1994*.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Table 1: Number of consignment authorisations issued by Northern Territory

Reporting Year	Consignment authorisations issued
2021–22	6
2022–23	6

Table 2: Quantity of controlled waste into Northern Territory of Australia for the period 1 July 2022 to 30 June 2023 – Tonnes per waste category by State/Territory

Code	Description	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext-Terr	Total (Tonnes)
A	Plating & heat treatment										**0.00**
B	Acids										**0.00**
C	Alkalis										**0.00**
D	Inorganic chemicals										**0.00**
E	Reactive chemicals										**0.00**
F	Paints, resins, inks, organic sludges										**0.00**
G	Organic solvents										**0.00**
H	Pesticides										**0.00**
I	Oils			177	396				n/a		**573.00**
J	Putrescible/ organic waste										**0.00**

Code	Description	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext-Terr	Total (Tonnes)
K	Industrial washwater										**0.00**
L	Organic chemicals										**0.00**
M	Soil/Sludge										**0.00**
N	Clinical & pharmaceutical										**0.00**
O	Misc										
State Totals (tonnes)		**0.00**	**0.00**	**177.00**	**396.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**573.00**

Table 3: Discrepancies in movements of controlled waste into Northern Territory of Australia for the period 1 July 2022 to 30 June 2023 – Percentage of total movements

Discrepancy Type	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
Consignment non-arrival									
Transport without authorisation									
Non-matching documentation									
Waste data			5	3					

Table 4: Number of movements of controlled waste into Northern Territory for the period 1 July 2022 to 30 June 2023

NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
		7	6					

APPENDIX 6:

Jurisdictional reports on the implementation and effectiveness of the National Pollutant Inventory National Environment Protection Measure

Commonwealth

Report to the NEPC on the implementation of the National Environment Protection (National Pollutant Inventory) Measure from the Commonwealth, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The Commonwealth implements the NEPM administratively and ensures that its obligations under the *National Environment Protection Act 1994* and *National Environment Protection Measures (Implementation) Act 1998* are met.

On 31 March 2023, the Commonwealth published National Pollutant Inventory (NPI) data for 2021–22. This data detailed emissions from over 4,000 industry facilities and was the 24th year of NPI publication of emissions from industry.

On 21 June 2023, the Commonwealth completed a major upgrade for the NPI Online Reporting System to improve ongoing reliability, security and maintainability of the system. This work builds on the interim solution that was deployed in March 2022 in response to a security issue that disrupted access to the system for reporters and state and territory data administrators. The Commonwealth acknowledges the valuable contributions from state and territory NPI teams towards testing the upgrades.

In 2022–23, the NPI web pages were hosted for the first time as an integrated part of the main website for the Department of Climate Change, Energy, the Environment and Water at dcceew.gov.au/environment/protection/npi.

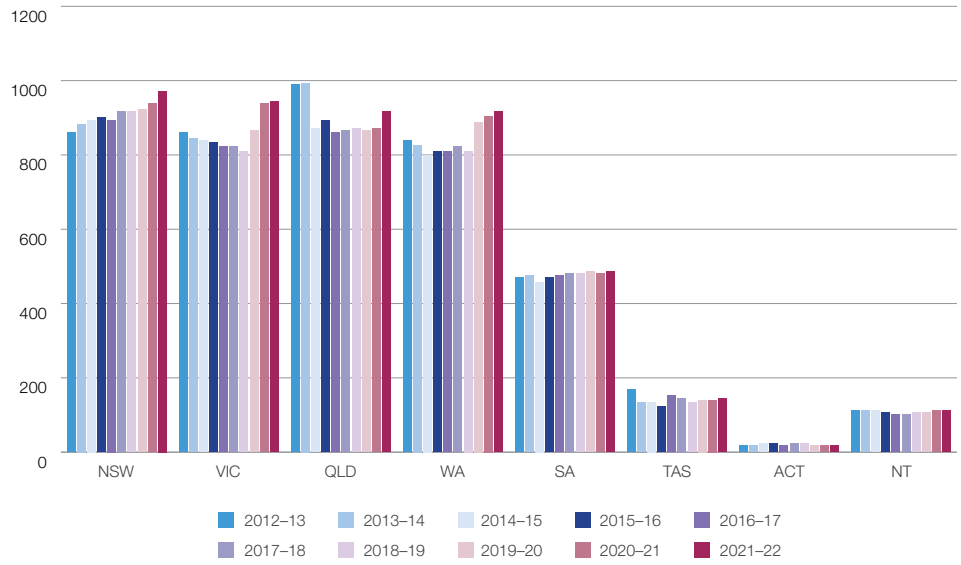
Analytics for this year suggest that the new location for NPI web pages positively influenced traffic to NPI content with over 1.2 million views. This figure was a new record for the NPI and more than double the views for 2021–22.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The Commonwealth published the 2021–22 National Pollutant Inventory (NPI) data on 31 March 2023. The number of facilities reporting to the NPI rose from 4,429 in 2020–21 to 4,537 in 2021–22.

Figure 1 below shows the number of facilities reporting to the NPI in each jurisdiction over the past 10 years.

Figure 1: Number of reporting facilities in each jurisdiction by year since 2012–13



The Commonwealth continued to support the online reporting system to ensure reliable collection of industry data.

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
Public		
• 1.2 million page views on website with an engagement rate of 88%.	• The number of page views increased from 519,000 in the previous year. • Software errors in the NPI database continued to affect public users who searched on the data.	• The Commonwealth responded to 23 information and support requests from the public. • Of the 1,513 times users chose to give anonymous feedback on the helpfulness of an NPI web page, 69% said it was helpful.
Industry		
• 4,429 reports for 2020–21 • 4,537 reports for 2021–22 • 161 new reporters • 1 new sector reporting • No confidentiality claims submitted	• Multiple short-duration outages of the Online Reporting System affected industry reporters during the year. Access to the system was usually restored within 2 hours of the issue being reported. • A small, but growing number of industry reporters had trouble running the new calculation tools due to stricter security protections that prevent types of Excel macros from running.	• The Commonwealth responded to 105 requests from industry. Most industry reporters were referred to the relevant jurisdiction NPI team and a small number of requests were handled directly.
Government		
• 7 facilities from 2 Commonwealth departments reported to the NPI for 2021–22	• The Department of Climate Change, Energy, the Environment and Water used NPI data to update the Australian Government's emissions inventory of short-lived climate forcers (atmospheric substances that affect air quality and climate) in the National Greenhouse Accounts. This includes emissions of black carbon, particulate matter ≤ 2.5 µm ($PM_{2.5}$), particulate matter ≤ 10 µm (PM_{10}), and sulfur dioxide. • The Department of Climate Change, Energy, the Environment and Water used NPI transfers data in the National Waste Report 2022 to estimate waste generation from mining and mineral processing. • The Department of Agriculture, Fisheries and Forestry used NPI ammonia emissions data as part of Australia's Agri-environmental indicators reported to the OECD.	• The Department of Climate Change, Energy, the Environment and Water held a workshop with the Department of Health and Aged Care to explore opportunities for collaboration on environmental health issues. This workshop raised awareness of the NPI within both departments and built stakeholder interest in engaging with the delivery of recommendations from the NPI Review 2021.

New South Wales

Report to the National Environment Protection Council (NEPC) on the implementation of the National Environment Protection (National Pollutant Inventory) Measure for New South Wales by the Hon. Penny Sharpe MP, Minister for Climate Change, Minister for Energy, Minister for the Environment and Minister for Heritage, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The NSW Department of Planning and Environment (DPE) and the NSW Environment Protection

Authority (EPA) implement the National Environment Protection (National Pollutant Inventory) Measure (NEPM) through the provisions in Chapter 8 of the Protection of the Environment Operations (General) Regulation 2022, including:

- definition of reporting premises and substance thresholds
- reporting and record keeping requirements
- compliance and penalty requirements
- emission estimation techniques
- exemptions.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

National Pollutant Inventory (NPI) facility emissions and transfers are reported for the 2021–22 reporting period. This is the most recent year for which facility reporting data has been finalised, provided by NSW to the Commonwealth and published by the Commonwealth.

DPE conducts online and face-to-face training as necessary to assist facility reporters with:

- understanding key elements of NPI reporting
- using the inventory online reporting system
- applying calculation and validation tools rather than emission estimation technique manuals to reduce time and improve accuracy.

The NPI online reporting system has led to improvements in the quality and accuracy of facility data by including estimation and validation tools and minimising the need for manual data entry. There are opportunities for further improvements, including:

- additional calculation tools to estimate the transfer of NPI substances in waste streams from key industry sectors with guidance on transfer destinations
- emission factors for non-standard fuels such as landfill gas burnt in flares or engines
- improved fugitive emission estimation methods
- an interactive on-line training program
- regular review of the NPI to scope improvements in its performance and administration.

There were 42 new reporters in 2021–22. DPE and the EPA undertake industry sector reviews to identify facilities that may be required to report data to the NPI. Generally, these industry sector reviews include facilities that currently hold an environment protection licence issued by the EPA under the NSW *Protection of the Environment Operations Act 1997*.

Table 1: Participation, feedback and effectiveness for New South Wales for the period 1 July 2021 to 30 June 2022

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
Public		
• 1.2 million page views on website with an engagement rate of 88%.	• Academics and researchers continue to use the NPI data for modelling and other studies. • The media and community groups utilise NPI data where they identify environmental issues of concern. • Enquiries from public and media continue to demonstrate a growing awareness of the dataset, however, there continues to be a strong need to provide contextual information to support accurate interpretation of the data.	• N/A
Industry		
• 975 reports for 2021–22 (compared to 943 reports for 2020–21). • 42 new reporters in 2021–22 • No confidentiality claims submitted.	• Training and support provided by DPE to facility reporters has improved data quality and reduced costs to NPI facility reporters.	• During 2021–22, DPE trained approximately 50 reporters by phone and online, including in use of the NPI online reporting system. • DPE has received ongoing requests from industry for training and guidance material on transfers of NPI substances in waste streams.
Government		
• 975 desktop audits of reports.	• DPE and the EPA continue to use the NPI to inform policy and regulatory approaches. • The EPA continues to use the NPI to analyse environmental outcomes in relation to the regulation of substances at industrial facilities.	• DPE continues to utilise internal and inter-agency communications to inform DPE and EPA staff about NPI data and emission estimation techniques. • Regular NPI officer meetings and communications facilitate information exchange and knowledge sharing between jurisdictions and seek to ensure a consistent approach for reporters with multiple facilities across Australia.

Victoria

Report to the NEPC on the implementation of the National Environment Protection (National Pollutant Inventory) Measure for Victoria by the Hon. Lily D'Ambrosio, Minister for the State Electricity Commission, Climate Action, Energy and Resources and *the Hon. Ingrid Stitt, Minister for the Environment, Early Childhood Education and Pre-prep for the reporting year ended 30 June 2023.*

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

From 1 July 2021, the NPI NEPM in Victoria is implemented by the Environment Protection Regulations 2021. The regulations came into force, as subordinate legislation to the *Environment Protection Act 2017* which applied from the same date.

With the introduction of the Act, environment protection law shifted to a prevention-based approach. Central to this approach is the general environment duty. This is a shared responsibility to prevent harm to the environment and means all Victorians must each take reasonable steps to stop harm, and do so before damage is done.

Victoria's new environment protection legal framework means that the enforcement of NPI requirements is more straightforward and not complying with the NPI reporting requirements (including keeping records for 5 years) has become an infringeable offence.

Note that the data presented in this report is for the 2022/23 financial year as per the NEPM requirement.

EPA will continue raising the NPI data quality issue and the need for consistency of the program enforceability across all Australian jurisdictions with the NPI NEPM Review Steering Committee.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
Public		
• 1.2 million page views on website with an engagement rate of 88%.	• No specific feedback was received from the community.	
Industry		
• 951 published reports for 2021/22; • 15 submitted reports for 2021/22 were marked retained and not published; • One 2021/22 NPI report was not submitted late till September 2023, and not yet published; • 941 published 2020/21 reports, 19 retained reports and one 2020/21 report submitted late and not yet published; • 29 new reporting facilities; • 0 confidentiality claims submitted	• Some companies reported difficulties associated with NPI reporting, caused by the MS Excel Macros incorporated in the updated all-in-one calculation tool.	• 93.9% of published 2021/22 reports were submitted on time. • Three published 2021/22 calendar year reports were submitted up to one week late. • 55 published 2021/22 financial year reports or 6.2% were submitted late (including 25 reports delayed by less than one week). • 98% reports for 2021/22 were submitted online, the remaining 17 reports (including one retained report) were submitted on paper.
Government		
• 412 reports for 2021/22 were individually assessed and corrected (if required). • Five NPI-specific audits were conducted in 2022/23. • NPI information was also provided to EPA operation officers as part of their licence compliance site visits and desk-top assessments. • No regulatory action was undertaken in 2022/23 as three identified NPI non-compliances were remedied by the duty-holders prior to any further escalation.	• No specific feedback was received from the government. • EPA previously used NPI data for air quality modelling; cross-checking licence compliance; prioritising compliance work; and to inform reviews of Victoria's Environment Protection Act 1970; Scheduled Premises Regulations; and Environment Protection (Vehicle Emissions) regulations.	

Queensland

Report to the NEPC on the implementation of the National Environment Protection (National Pollutant Inventory) Measure for Queensland by the Hon. Leanne Linard, Minister for the Environment and the Great Barrier Reef and Minister for Science and Innovation for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The purpose of the National Environment Protection (National Pollutant Inventory) Measure (NPI NEPM) is to disseminate a broad base of information on emissions of pollutants.

The program is jointly implemented by the Queensland and Commonwealth Governments as agreed through a Memorandum of Understanding, with state-based reporting obligations set out in Chapter 7 of the Environmental Protection Regulation 2019.

There were no Implementation Working Group meetings for the reporting year ending 30 June 2023

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Reporting for the 2022–23 reporting period (table 1) incorporates data from the 2021–22 year which was received on 30 September 2022 and validated in the 2022–23 financial year.

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
Public		
• 1.2 million page views on website with an engagement rate of 88%.	• 7 news articles were circulated in the 2022–2023 year compared to 9 in the 2021–22 year.	• NPI emissions and transfer reports were published through the Australian Government Open Data portal www.data.gov.au.
Industry		
• 973 reports for 2021–22 (922 published, 5 reported after publication, 45 below threshold no emissions, or transfers reported) • 901 reports for 2020–21 (875 now published, 25 below threshold no emissions or transfers reported, 1 reported in FY23 will be published in FY24) • 36 new reporters • 0 new sectors reporting • 0 confidentiality claims submitted	• Issues with the NPI online reporting system continued, with both accessibility and timing out issues being experienced.	• 90% of facility reports were subject to desktop evaluation. • The second iteration of a PowerBI dashboard for validation purposes was developed.

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
Government		
• 894 desktop audits • 0 on-site audits • 0 regulatory actions	• The Queensland Department of Environment, Science and Innovation (DESI) utilised the industry pollutant emissions data to contribute to the development of emissions inventories.	• The second iteration of the NPI PowerBI dashboard was shared department-wide and with federal and state NPI colleagues. • NPI facility data was matched to National Greenhouse and Energy Reporting Scheme (NGERS) data to facilitate the building of models for greenhouse gas projections.

Western Australia

Report to the NEPC on the implementation of the National Environment Protection (National Pollutant Inventory) Measure for Western Australia by the Department of Water and Environmental Regulation for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In Western Australia, the Department of Water and Environmental Regulation is responsible for implementing the National Environment Protection (National Pollutant Inventory) Measure under the *National Environment Protection Council (Western Australia) Act 1996*, the *Environmental Protection Act 1986* and the *Environmental Protection Regulations 1987*. The implementation of the NEPM continues to be successful in Western Australia.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
Public		
• 1.2 million page views on website with an engagement rate of 88%.	• Environment groups and the media utilise National Pollutant Inventory NEPM data where environmental issues of concern are identified.	• 1 media query (ABC) received and responded to in time. • 1 public query (letter to minister) responded to, including follow-up queries.
Industry		
• 933 reports for 2021–22 • 918 reports for 2020–21 • 23 new reporters • No new sectors reporting • No confidentiality claims submitted	• Widespread compliance with the online reporting system with 97 per cent uptake in WA for 2021–22. • Some smaller facilities, mostly wineries and landfills, require above-average reporting guidance. Staff turnover and technical competency are the main drivers. • Major industrial facilities maintain awareness of community interest in their emissions, and ensure reports accurately reflect site emissions. • Support provided by the Department of Water and Environmental Regulation staff is acknowledged and well regarded by reporters.	• Training sessions provided to industry reporters included an introductory webinar, emission estimation training webinar and online reporting training. • Reporters from other jurisdictions were invited and attended the webinar. • Continued to follow-up potential reporters in several industry sectors. • Reporters regularly reminded of reporting deadlines and supplied additional reporting information to that available on website.

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
Government		
• 933 desktop audits • 55 detailed audits, including 3 site visits • No regulatory actions	• The Department of Water and Environmental Regulation uses National Pollutant Inventory NEPM data to inform policy development, program implementation and to support regulatory activity. • National Pollutant Inventory NEPM data is used to identify and rank WA's major emitters with comparisons made with national data.	• WA NPI audit program redesigned in 2022–2023, changing from individual facilities of interest to industry-wide assessment with targeted site-visits. Significantly increased number of detailed audits undertaken and improved industry reporting methodology consistency. • The Department of Water and Environmental Regulation uses toxic equivalency potentials to support the assessment of risk.

South Australia

Report to the NEPC on the implementation of the National Environment Protection (National Pollutant Inventory) Measure for South Australia by Hon. Susan Close, Minister for Climate, Environment and Water, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In South Australia, the Environment Protection Authority (EPA) implements the National Environment Protection (National Pollutant Inventory) Measure through the Environment Protection (National Pollutant Inventory) Policy 2008.

A detailed air emissions inventory remains a strategic priority for both the National Pollutant Inventory (NPI) program and the South Australian EPA (SA EPA). Aggregated emissions data are required for reliable comparison with industry emissions however, program resourcing levels do not currently allow for the updating of aggregate emissions data (last undertaken in South Australia in 2003).

South Australia strongly supports the ongoing provision of a national NPI dataset via https://data.gov.au/dataset/npi. This is an important step in making NPI information more accessible, easier to use for data analysis and for comparing to other datasets.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
Public		
• 1.2 million page views on website with an engagement rate of 88%.	• There are occasional enquiries about NPI data from the public and industry. • The media use NPI data.	• Prompt responses are made when NPI data is requested. • Participated in the GovHack 2022 open data competition as a data mentor.
Industry		
• 490 reports for 2020–21 • 496 reports for 2021–22 • 9 new reporters • 0 new sectors reporting • No confidentiality claims submitted	• Online reporting training has been well received by industry. • Industry has switched to the exclusive use of the 'all-in-one' calculation tool which addresses incompatibility issues with the old individual NPI calculation tools that do not work with 64-bit version of Excel and have now been decommissioned. • Ongoing support provided to reporters on how to use the all-in-one calculation tool.	• A newsletter was emailed to reporters, and published on the SA EPA website, to inform reporters about updates and provide general information about NPI reporting. • Industry enquiries have been promptly followed up. • Training on NPI requirements, online reporting and 'drop in' sessions were held to support industry reporters.
Government		
• 496 desktop audits • No on-site audits • No regulatory actions	• The SA EPA utilises NPI data to implement the Resource Efficiency Component of its load based or 'polluter pays' licensing system. • The SA EPA uses NPI data as part of its regulation of EPA licensed facilities. • NPI data also provides data for South Australia's State of Environment (SoE) reports. • NPI data are used for developing air quality modelling to provide comprehensive, spatially distributed diffuse and industrial point pollutant emission data across SA airsheds.	• Participation in the NPI Intergovernmental Working Group remains important for the discussion of policy, strategy and technical implementation details. • Implementing the recommendations of the NPI Review are critical to ensuring the program's longevity and utility in the future.

Tasmania

Report to the NEPC on the implementation of the National Environment Protection (National Pollutant Inventory) Measure for Tasmania by Hon. Nick Duigan Minister for Parks and Environment for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The limited funding for implementation restricts the amount of engagement which can be undertaken.

The most recent EET calculator has simplified reporting for many industries.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
Public		
• 1.2 million page views on website with an engagement rate of 88%.	• No feedback received	
Industry		
• 146 reports for 2021–22 • 159 reports for 2022–23 • 7 new reporters • 0 new sectors reporting • 0 confidentiality claims submitted	• Identifying and engaging with new reporter remains a challenge due to a lack of awareness of the program and limited funding	• Continued effort to improve reporting for the sewerage sector has seen an increase in the number of facilities reporting and improved data quality. • Training, site visits and general assistance to industry is ongoing. • Industry enquiries have been promptly followed up.
Government		
• 146 desktop audits • 1 on-site audits • 0 regulatory actions	• No specific feedback was received from the government.	• Efforts to increase awareness of the NPI within EPA and wider government are ongoing.

Australian Capital Territory

Report to the NEPC on the implementation of the National Environment Protection (National Pollutant Inventory) Measure for the Australian Capital Territory by Ms Rebecca Vassarotti MLA for the reporting year ended 30 June 2023

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- Access Canberra, within the Chief Minister, Treasury and Economic Development Directorate is responsible for the implementation and administration of the National Environment Protection (National Pollutant Inventory) Measure (the NEPM).
- The Environment Planning and Sustainable Development Directorate is responsible for the development of legislation and policy to ensure the NEPM is appropriately implemented in the ACT.
- The National Pollutant Inventory (NPI) is implemented through the provisions of the ACT's *Environment Protection Act 1997*.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
Public		
• 1.2 million page views on website with an engagement rate of 88%.	• No specific feedback was received from the community.	
Industry		
• 17 reports for 2021–22 • 19 reports for 2020–21 • No new reporters • No new sectors reporting • No confidentiality claims submitted	• Training was welcomed by the industry for understanding of the program and how to use the online reporting system. • Technical support was essential during reporting period.	• All ACT reporters used the online reporting system. • One-on-one training sessions continued to work successfully. • Industry enquiries were responded to in a timely manner.
Government		
• 17 desktop audits • No on-site audits • No regulatory actions	• No specific feedback was received from the government.	• Every NPI report underwent a desktop validation. • The ACT Government continued liaising with other jurisdictions to achieve a nationally consistent implementation.

Northern Territory

Report to the NEPC on the implementation of the National Environment Protection (National Pollutant Inventory) Measure Northern Territory by the Minister for Environment, Climate Change and Water Security for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

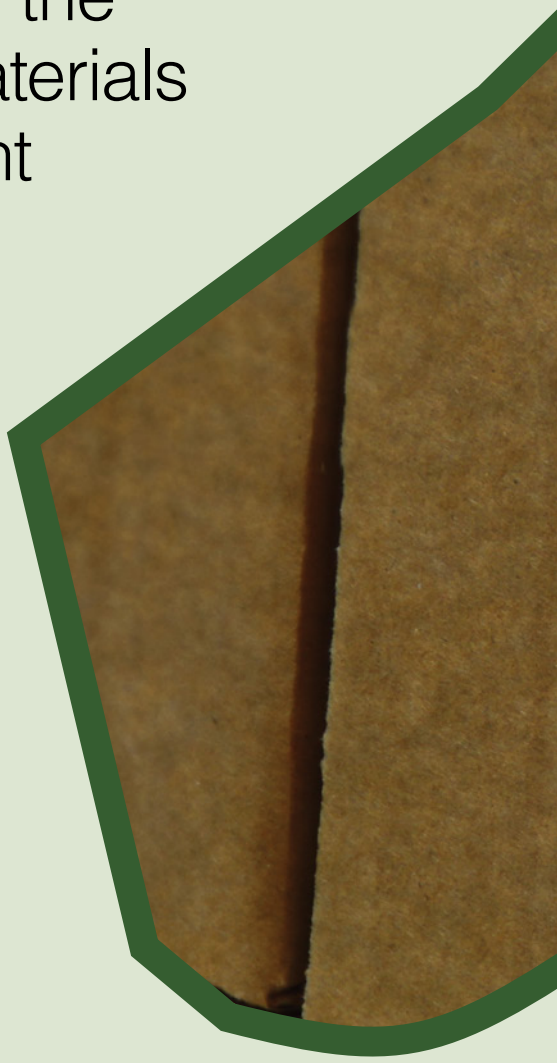
- The National Pollutant Inventory (NPI) program is implemented in the Northern Territory through the *Environment Protection (National Pollutant Inventory) Objective 2004* established under the *Waste Management and Pollution Control Act 1998*. Overall responsibility for implementation of the NPI rests with the Northern Territory Environment Protection Authority (NT EPA) which is supported by the Department of Environment, Parks and Water Security (DEPWS).
- All submitted reports were validated, but due to limited resourcing audits were done selectively based on evidence of significant emissions changes from previous years and facility size.
- The Northern Territory does not have sufficient funding to perform aggregate emissions data (AED) modelling as required by the NPI NEPM. AED includes diffuse sources of emissions such as fuel stations, motor vehicles and other non-road engines.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
Public		
• 1.2 million page views on website with an engagement rate of 88%.	• No feedback on the database was received from the public.	• The NT EPA website provides information on the NPI and has links to the NPI website.
Industry		
• 113 reports for 2021–22 • 115 reports for 2022–23 • 4 new reporters • 0 new sectors reporting • 0 confidentiality claims submitted	• No feedback on the database was received from industry. Insert response	• Industry reporters were provided training on reporting. • Some industry reporters who were assisted in reporting their emissions expressed their appreciation.
Government		
• 9 desktop audits • 0 on-site audits • 0 regulatory actions	• The Department of Infrastructure Planning and Logistics (DIPL) is using NPI data to assist in compiling an emissions inventory for the development of a Darwin airshed model.	• Participation of the NPI Officer in the NPI Intergovernmental Working Group remains important for the implementation of NPI in the NT.

APPENDIX 7:

Jurisdictional reports on the implementation and effectiveness of the Used Packaging Materials National Environment Protection Measure



Commonwealth

Report to the NEPC on the implementation of the National Environment Protection (Used Packaging Materials) Measure 2011 from the Commonwealth, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

Since 1999, the Used Packaging Materials NEPM (NEPM) and Australian Packaging Covenant (Covenant) have provided a mandatory national co-regulatory framework to encourage businesses to design more sustainable packaging that will increase recycling rates and reduce environmental impacts. Under the framework, liable packaging brand owners in Australia must choose between becoming a Covenant signatory or reporting under state or territory government NEPM laws and arrangements.

The industry-led Covenant is an agreement between governments and businesses in the packaging supply chain that aims to optimise the design of more sustainable packaging to increase recycling rates and prevent the impacts of waste packaging on the environment. The Australian Packaging Covenant Organisation (APCO) is the industry body responsible for managing signatories to the Covenant and supporting industry action against the goals of the Covenant.

The NEPM is Commonwealth legislation that is implemented and enforced by participating jurisdictions through necessary laws and other administrative arrangements. It requires participating jurisdictions to establish a statutory basis for ensuring that businesses that choose not to sign up to the Covenant cannot act as free-riders and gain a competitive advantage over those organisations that opt to meet their obligations by becoming Covenant signatories.

The NEPM requires participating state and territory governments to report annually on brand owners that are subject to NEPM requirements, survey packaged products to ascertain the effectiveness of the NEPM, and report local government collection and participation data for kerbside or other municipal material recovery systems.

The Commonwealth NEPM applies to packaging brand owner companies with over 50 per cent Commonwealth ownership, and to the Commonwealth's territories. Australia Post is the only Commonwealth brand owner under the definition of the Commonwealth NEPM, and Christmas and Cocos Keeling Islands are the only Commonwealth territories where the NEPM could be applied.

The Australian Government and Australia Post are signatories to the Covenant, and therefore are not subject to the requirements of the NEPM. The Australian Government encourages all Commonwealth agencies, including Australia Post, to join the Covenant and contribute to meeting its goals.

The NEPM requires the Commonwealth to provide information annually to NEPC on the overall national performance of the Covenant. In accordance with Section 19 of the NEPM, the Commonwealth is to be provided information in relation to:

- membership of the Covenant expressed as both the number of signatories and the proportion of consumer packaging used in Australia represented by those signatories
- the number of action plans lodged with APCO
- recovery and utilisation rates reported by Covenant signatories in accordance with their action plans under the Covenant, with reference to the key performance indicators and targets specified in the Covenant, and
- a statement of interpretation of the information.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Independent review of the co-regulatory arrangement for packaging and regulatory reform

In 2021, an independent review of the NEPM and Covenant to evaluate the effectiveness of Australia's co-regulatory framework for packaging was completed.

This was the first comprehensive statutory review of the co-regulatory framework since it was first established in 1999. The review was informed by a detailed analysis of the federal, state and territory legislation and policies that underpin and provide for enforcement of the NEPM and Covenant, data on packaging consumption and recovery rates in Australia, a five-week stakeholder consultation period, and in-depth briefings and one-on-one interviews with key industry and government stakeholders, including APCO and all state and territory governments.

A review report provided to the Australian Government on 6 September 2021 broadly identified that, while the co-regulatory arrangement has some strengths, the NEPM is not fit-for-purpose and reform is needed to improve environmental outcomes for packaging. In particular, the review found that significant failures in the NEPM's implementation and enforcement since its establishment have created a lack of clarity for brand owners regarding their liability and obligations, enabled free riders, reduced industry confidence and participation in the Covenant, and resulted in limited or no data collection to measure and report on performance.

The review found that the co-regulatory arrangement was no longer fit-for-purpose to deliver a circular economy for packaging, making nine recommendations to address these limitations and assist governments and industry to develop a reformed packaging scheme. The Australian Government released its response to the review in December 2022 and endorsed the need for reform.

In June 2023, environment ministers agreed that Australia will mandate obligations for packaging design as part of a new packaging regulatory scheme. The Australian Government will lead consultation with all governments, industry bodies, and other key stakeholders to develop a fit-for-purpose reformed regulatory scheme.

Effectiveness of the Covenant

To comply with the Covenant, brand owner signatories are required to take the following actions:

- within three months of becoming a Signatory, submit an action plan that sets out what the Signatory proposes to do to contribute to the Covenant's aim and meets the obligations published by APCO
- by 31 March each year, commencing in the financial year following the year in which a company becomes a Signatory, submit an annual report that outlines performance against all of the action plan commitments and meets the reporting obligations as published by APCO
- publish the action plan and annual reports on its website in a prominent and readily identifiable way
- make annual financial contributions in the form of membership fees payable to APCO
- implement policies or procedures to buy products made from recycled materials
- establish collection and recycling programs for used packaging materials generated on-site
- take action, where appropriate, to reduce litter
- allow independent audits of annual reports and the implementation of action plans, including allowing access to relevant supporting documentation demonstrating application of the Sustainable Packaging Guidelines, or an alternative to the Guidelines, and
- assist APCO to respond to complaints from the public about the design and use of packaging materials.

If a signatory to the Covenant does not meet one or more of the above obligations, the non-compliant signatory can be removed from the Register of Covenant Signatories and APCO notifies the relevant state or territory government that the business is no longer a signatory. APCO deems a business referred once the state or territory government has been notified.

Data provided by APCO indicates that as at 30 June 2023, there were 2,170 signatories to the Australian Packaging Covenant (Table 1). This was an increase of 75 signatories (3.6 per cent) from the previous reporting period.

Of the 2,170 signatories, 2,043 had obligations to submit an action plan (of which 1,932 or 94.5 per cent were compliant) and an annual report (of which 1,948 or 95.3 per cent were compliant).

Table 1: Number of Covenant signatories by year

Reporting Year	Number of covenant signatories
2021–22	2,095
2022–23	2,170

Complaints, Investigations and Prosecutions

No complaints regarding brand owners or Covenant signatories were received in the reporting period, and no investigations or prosecutions were necessary.

New South Wales

Report to the National Environment Protection Council (NEPC) on the implementation of the National Environment Protection (Used Packaging Materials) Measure for NSW by the Hon. Penny Sharpe MP, Minister for Climate Change, Minister for Energy, Minister for the Environment and Minister for Heritage, for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The NSW Environment Protection Authority (EPA) is the primary environmental regulator for NSW and is responsible for administering and enforcing *Part 8 of the Protection of the Environment Operations (Waste) Regulation 2014* (POEO (Waste) Regulation), which applies to brand owners.

Part 8 of the POEO (Waste) Regulation gives effect to the National Environment Protection (Used Packaging Materials) Measure 2011 (UPM NEPM) in NSW.

In December 2022, the Commonwealth Government published its response to the 2021 independent review of the UPM NEPM, which acknowledged 'significant failures' in the implementation of the UPM NEPM over the last two decades.

Findings of the review included that the current co-regulatory arrangement is not well understood by stakeholders and many businesses currently have little to no understanding of their mandatory obligations, which has enabled 'free-riders' and hindered achievement of the NEPM Goal.

During 2022–23, the EPA published updated information on its website to improve stakeholder understanding, including clarifying key terms such as 'brand owner', the packaging materials that brand owners are responsible for and the mandatory obligations that are set out in Part 8 of the POEO (Waste) Regulation:

https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/warr-strategy/productstewardship-schemes/packaging

Further issues highlighted in the 2021 review continue to create inefficiency and complexities for UPM NEPM administration. Significant reforms are underway to ensure all of Australia's packaging is being appropriately designed, manufactured, reused, recycled, and reprocessed safely in line with circular economy principles. The EPA has been an active participant in the Commonwealth-led national packaging regulatory reform process.

While the national regulatory changes are being developed, the EPA continues to work closely with the Commonwealth Government, other jurisdictions, and Australian Packaging Covenant Organisation (APCO) to develop and implement effective engagement approaches that enable organisations to understand and comply with their obligations under the co-regulatory framework.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Part 8 of the POEO (Waste) Regulation sets out the responsibilities that Brand Owners have for the packaging of their consumer products. These responsibilities include recovering packaging materials, ensuring recovered packaging materials have been reused or recycled, informing consumers about how to reuse or recycle packaging, reviewing packaging design and keeping annual records.

For the year ending 30 June 2023, the EPA set the following targets for recovery of materials and review of packaging design:

- 90% recovery of all materials used in packaging products up to and including 30 June 2024
- 100% of new and existing packaging must be reviewed using the Sustainable Packaging Guidelines.

Brand Owners can implement systems, processes and/or other activities within their business that meet the regulatory obligations or discharge these obligations by becoming a signatory to the Australian Packaging Covenant.

There was a small increase in the number of Covenant signatories during 2022–23.

Reporting Year	Number of covenant signatories
2020–21	635
2021–22	823
2022–23	874

Instead of meeting the NSW targets, APCO members must collectively work towards the 2025 National Packaging Targets. APCO's review of the 2025 National Packaging Targets in April 2023 stated that none of the targets would be met under a 'business as usual' approach. In response to the findings of the review, APCO and other peak industry bodies representing brand owners are now calling for Governments to introduce mandatory design standards, targets, and other incentives to drive circularity for packaging.

Recovery Data

Nil

Supporting Data

Nil

Surveys

Clause 18 of the Used Packaging Materials NEPM requires jurisdictions to carry out surveys of packaged products ('brand owner surveys') to ascertain the effectiveness of the measure in preventing free riding.

Previous annual reports noted that in August 2015, a meeting of jurisdictions and industry resolved that jurisdiction would not carry out surveys, and that industry would take responsibility for brand owner surveys from 1 July 2016.

This is reflected in Schedule 5 – Compliance Procedures of the Australian Packaging Covenant, which requires the APCO to undertake annual Brand Owner surveys of packaged consumer products and identify potential Brand Owners and not registered as Signatories to the Covenant.

APCO conduct the Brand Owner surveys every two years. No survey was undertaken during 2022–23, though preparations commenced from May 2023 for the next survey in 2023–24.

Complaints, Investigations and Prosecutions

No complaints in relation to specific businesses were received during 2022–23. The EPA responded to approximately 20 enquiries from businesses specifically about the packaging regulation, and approximately 209 enquiries from both businesses and individuals on packaging related issues.

Brand owner engagement campaign

As noted in the 2021–22 report, APCO's last brand owner survey resulted in 799 companies being referred to the EPA for further investigation. This was largely due to companies not responding to the communication material distributed by APCO during 2021–22. Of these, 249 brand owners had already declared to APCO that they are not liable under the UPM NEPM.

During 2022–23, the EPA has taken steps to validate the information provided by APCO. Many companies were potentially not liable 'brand owners' as they either did not appear to own the product name of a product being sold or otherwise distributed in Australia, or the company's product was not considered a packaged 'consumer product'.

In June 2023, the EPA began an engagement campaign to inform potential Brand Owners who are not Covenant signatories about enforceable packaging obligations in NSW. These businesses received emails from the EPA during June and July 2023. Peak industry bodies representing Brand Owners were also informed of the campaign in June 2023 and were requested to share key information with their members.

As the UPM NEPM review found that many businesses currently have little to no understanding of their mandatory obligations, the EPA has focused firstly on awareness and education for Brand Owners to support them in understanding the requirements and the compliance pathways available. This engagement campaign is continuing.

Revoked Covenant Signatories

On 29 June 2023, the EPA received a referral from APCO of 85 former Covenant signatories that had their membership revoked due to not meeting APCO's membership requirements. The EPA is currently reviewing this issue.

REDcycle clean-up notices

On 9 November 2022, REDcycle announced it was pausing its soft plastics collections due to damage caused by a fire at its recycling partner's facility. The REDcycle program previously allowed consumers to take back plastic bags and soft plastic packaging at major supermarkets across Australia. Several Covenant signatories participated in this program.

In early 2023, the EPA issued clean-up notices to two major supermarkets. These notices directed supermarkets to manage the recovery, recycling, and lawful removal of 15 soft plastic stockpiles across NSW, containing more than 5,200 tonnes of soft plastic waste, by May 2024. They may be able to have it processed at a recycling facility or sent overseas. A last resort would be to send it to landfill.

The EPA will continue to monitor the progress of the supermarkets under the Clean-up Notices as they consider options for recycling and reprocessing the material.

The EPA is working with other jurisdictions and industry to ensure we take a co-ordinated approach and understand the issues that impacted the REDcycle program.

Education on plastic bans

In 2022, the EPA commenced regulation of the *Plastic Reduction and Circular Economy Act 2021* (PRCE Act), with proactive education being the primary strategy in the months leading up to and immediately following the bans. The EPA also responds to reports from members of the public about the supply of banned items with education in the first instance. Stronger regulatory action such as notices and fines may be considered where necessary to gain compliance. Banned items particularly relevant to the UPM NEPM include lightweight plastic bags and expanded polystyrene food ware.

Statement of Interpretation of the Information

The EPA delivers an extensive suite of policies, programs and initiatives that contribute to the NEPM Goal of encouraging packaging waste avoidance, reuse, recycling and preventing environmental harm caused by packaging litter and leakage. These activities go beyond the administrative requirements of the UPM NEPM and Part 8 of the POEO (Waste) Regulation and are essential to improving the management of packaging wastes so that their impact to the environment is reduced and recycling and reuse is encouraged.

Strategic and policy updates

The *NSW Waste and Sustainable Materials Strategy 2041* outlines the actions NSW will take over the period to 2027 (the first phase of the strategy) to deliver on our long-term objective to transition NSW to a circular economy. This includes actions to:

- minimise what we throw away
- use and reuse our resources efficiently, making them as productive as possible
- end up with less waste, less emissions, less harm to our environment
- have the services and infrastructure in place to deal with our waste safely, to ensure it does not become a problem for future generations.
- work with consumers, industries, and other governments

The *Plastics Reduction and Circular Economy Act 2021* (PRCE Act) puts into law some of the key measures outlined in the NSW Plastics Action Plan, helping deliver on the Plan's commitment to ban certain single-use plastics.

As a result, the supply of the following plastic and packaging items in NSW are now banned:

- since 1 June 2022 – lightweight plastic bags (35 microns or less in thickness)
- since 1 November 2022 – single-use plastic straws, cutlery (including chopsticks and sporks), stirrers, plates, bowls (without a spill-proof lid), cotton buds, and expanded polystyrene (EPS) food service items (such as clamshells, cups, plates, and bowls).
- since 1 November 2022 – plastic microbeads in certain rinse-off personal care products.

The phasing out of these items in 2022 is expected to prevent an estimated 2.7 billion items of plastic litter from entering our bushland, coastal and marine environments over 20 years.

The EPA is already reviewing further plastic items and materials to see if they need to be considered for regulation. The Plastics Action Plan called for a review to occur in 2024 of plastic items not scheduled for phase out but which remain of concern, but because of the challenges posed by problematic and unnecessary plastics this review has been brought forward. Along with items specifically identified in the Plastics Action Plan, other items have also been reviewed noting the need to harmonise approaches across jurisdictions as far as possible, as well as looking at best practice elsewhere for more global alignment.

The EPA anticipate undertaking a 12-week public consultation period on proposed additional items, materials, actions, and timeframes in the coming months via an issues paper and look forward to receiving and assessing feedback to help determine a preferred approach. Further consultation will then occur.

From July 2022 the NSW Government is investing $356 million to deliver priority programs and policy reforms under the NSW Waste and Sustainable Materials Strategy 2041 and the NSW Plastics Action Plan. These priority programs will help to transition NSW to a circular economy and mitigate impacts from climate change. The investment builds on several successful initiatives and programs funded through the Waste Less Recycle More initiative.

Litter prevention

Litter and leakage to the environment of packaging materials remains a concern. NSW litter data shows that many packaging items end up as litter not only because of littering behaviour, but due to product design and intended use (i.e., lightweight, designed to be torn open and consumed on the go).

Key items of concern include:

- confectionary wrappers and snack bags, which are now the most littered item in the NSW Key Littered Item Study, accounting for around 20% of littered items found in NSW estuaries.
- Beverage container lids, accounting for around 7% of littered items.

Data on NSW's litter targets can be found at: https://www.epa.nsw.gov.au/your-environment/litter/data-and-targets.

The NSW Litter Prevention Strategy provides the framework we use to prioritise funding and action to reduce litter and achieve our objectives: https://www.epa.nsw.gov.au/your-environment/litter/nswlitter-prevention-strategy.

Two new ambitious litter reduction targets have been set in the new NSW Waste and Sustainable Materials Strategy 2041. These targets are:

- reduce all litter items by 60% by 2030
- reduce plastics litter items by 30% by 2025.

Under the NSW Waste and Sustainable Materials Strategy 2041 an additional $38 million of funding for 2022–27 has been allocated to litter prevention programs to achieve these targets. This will provide funding for councils and community groups to deliver local and regional litter prevention projects and build on NSW's other litter prevention work, including the successful Don't be a Tosser! campaign.

Container Deposit Scheme

The introduction of the Return and Earn scheme has had a significant and sustained positive impact on reducing and preventing beverage container litter. Since its introduction in 2017, eligible CDS beverage container litter has fallen in both the number of items (by 54%) and in volume (by 52%).

Consultation on an expanded scope of Return and Earn finished in December 2022. There was widespread support, particularly from the community, about expanding the scheme. The wine industry, however, was opposed and raised several issues that will be further investigated. Feedback received continues to be evaluated and the EPA will soon publish a consultation summary report.

The scheme has also doubled recycling rates for drink containers. Before the scheme commenced 33% of drink containers were being recycled through kerbside recycling in NSW. Since the start of the Scheme, the number of containers being recycled has risen to as high as 67%.

Waste and recycling infrastructure

By 2030, NSW aims to recover 80% of waste on average, reduce waste per capita by 10% and triple the recycling rate of plastics by 2030. Doing this will require significant investment in infrastructure to collect, sort, recycle and remanufacture packaging into new products.

NSW is continuing to invest in new infrastructure. Details of specific waste and recycling infrastructure funding can be found at: https://www.epa.nsw.gov.au/working-together/grants/infrastructure-fund.

The EPA will soon commence work to draft the NSW Infrastructure Plan which will ensure the right infrastructure is located in the right regions to meet our 2030 targets. This will help drive additional recovery and recycling of all packaging types.

Business Support

The EPA supports a range of tools, programs and services, and funding for equipment to make it easier for businesses to avoid waste, recycle more and send less waste to landfill.

This has included:

- Trials to support soft plastics recycling
- Reducing packaging wastes in the dairy and hospitality industries
- Manufacture and reuse of refillable packaging for personal care and cleaning products.

Details of specific programs can be found at: https://www.epa.nsw.gov.au/yourenvironment/recycling-and-reuse/business-government-recycling.

Compostable packaging research

The EPA has undertaken research to further understand the potential for environmental harm caused by the disposal of certain used packaging materials. EPA research published in 2022–23 shows that the impact of increasing compostable plastic content in compost may negatively impact its safe application to land:

https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/business-governmentrecycling/food-organics-and-garden-organics/research-on-fogo.

In NSW, the *Compost Order 2016* specifies the maximum levels of plastics and other physical contaminants allowed in compost being applied to land. It does not allow compostable (or conventional) plastics or fibre-based packaging materials to be accepted by composting facilities.

EPA released a statement in July 2022, formalising its existing position and advice to consumers that compostable packaging products should not go in 'food organics and garden organics' (FOGO) or 'food organics' (FO) bins as they provide little to no nutrient value to compost:

https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/household-recyclingoverview/fogo-information-for-households.

Local Government Data

Clause 17 of the UPM NEPM requires participating jurisdictions to require local governments to provide collection and participation data for kerbside recycling collection services.

This is delivered through the NSW Local Government Waste and Resource Recovery Data Reports, which are based on voluntary annual survey responses from 128 NSW local councils. This report provides data about domestic waste and recycling in NSW. It is an important resource to help local councils and industry measure the success of programs and make evidence-based decisions about waste and recycling. It also helps the EPA monitor waste and recycling levels across the state.

Local government data is available on the EPA's website: www.epa.nsw.gov.au/wastetools/surveys.htm.

Victoria

Report to the NEPC on the implementation of the National Environment Protection (Used Packaging Materials) Measure for Victoria by the Hon. Lily D'Ambrosio, Minister for the State Electricity Commission, Climate Action, Energy and Resources and *the Hon. Ingrid Stitt, Minister for the Environment, Early Childhood Education and Pre-prep for the reporting year ended 30 June 2023.*

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

From 1 July 2021 the NEPM is implemented in Victoria through Part 4.3 of the new *Environment Protection Regulations 2021* (EP Regs).

Regulation 99 of EP Regs states brand owners must provide a report to the Authority prior to 30 September each year, allowing EPA reporting from the first quarter of 2022–23.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The main purpose of the Used Packaging Materials NEPM is to establish a statutory basis for ensuring that brand owners that have signed up to the Australian Packaging Covenant are not competitively disadvantaged in fulfilling their commitments under the Covenant by non-signatories.

The Secretariat of the Covenant makes initial approaches to companies that are identified as brand owners (or potential brand owners) to encourage them to become signatories to the Covenant.

The Secretariat then refers non-signatory brand owners and non-compliant signatory brand owners to jurisdictions. This is done in line with compliance procedures set out in Schedule 3 of the Covenant. Jurisdictions then write to, and speak with, representatives of the companies referred to them.

Victoria, along with the Commonwealth and other jurisdictions have initiated a process to identify free riders and start them reporting on their obligations.

At 30 June 2023, there were over 2431 signatories to the Covenant nationally. Victoria has 848 signatories, accounting for 35% of all signatories. There were 402 brand owners referred to Victoria as a result of the brand audit process undertaken by the Australian Packaging Covenant Organisation (APCO). These are potential brand owners that have failed to become signatories to the covenant and have their registered head office located in Victoria.

Reporting Year	Number of Victorian covenant signatories	Number of non-signatories (referred to Victoria)
2021–22	791	664
2022–23	848	402

Recovery Data

Due to a more targeted approach from APCO, Victoria received a smaller number of referrals for the 2022–23 reporting period than the previous year.

Over the 2022–23 reporting period, EPA Victoria's Compliance Reporting team ran a compliance program around the submission of required annual reports with recovery data as per Clause 16.

A prioritisation methodology was applied to target 107 Brand Owners from Victoria's Brand Audit Referral list received from APCO. These brand owners received initial correspondence from EPA in June 2023 in preparation for the Sept 30 reporting due date. Responses were required in an attached template by 30 June on Brand Owner intention to either:

a) Commence procedure to become a signatory to the covenant via APCO membership.

b) Report through EPA Victoria subject to obligations under Part 4.3 of the EP Regs.

c) Provide evidence that company is exempt as you are not a liable brand owner, have an annual turnover of less than $5 million, ceased trading or has been acquired, or part of another arrangement that produces equivalent outcomes to those achieved by the Australian Packaging Covenant.

EPA then followed up with APCO to check that companies that indicated they would become members of the covenant followed through with that membership and followed up directly with companies that did not respond to our initial correspondence or responded stating they would report directly to EPA.

We received 65 reports which we assessed for completeness and provided feedback to every company. There were 19 companies that did either did not respond to our communications or responded but did not provide their report. We ran a compliance program in which we sent information gathering notices to these 19 companies. Overall, we sent 20 information gathering notices as 1 notice was sent to a family trust and also to the parent company. These notices required information to determine brand owner liability. We received 16 responses to these notices, with half of the responders indicating the company were liable to report under the Regulations. These companies were then followed up and told to submit their used packaging report. The remaining 3 companies who did not provide a response to the notice will be receiving a sanction.

Supporting Data

Nil

Complaints, Investigations and Prosecutions

EPA investigated 20 non-reporting companies referred by APCO for further follow-up. These companies received an information gathering notice to determine whether they met the definition of brand owner. We will be issuing 3 sanctions for not responding to the notice.

Statement of Interpretation of the Information

Nil

Local Government Data

Local government recycling data is published on Recycling Victoria's website:
Victorian local government waste data dashboard | Victorian Government (www.vic.gov.au).

Queensland

Report to the NEPC on the implementation of the National Environment Protection (Used Packaging Materials) Measure for Queensland by Hon. Leanne Linard MP, Minister for the Environment and Great Barrier Reef and Minister for Innovation for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The primary purpose of the National Environment Protection (Used Packaging Materials) Measure (UPM NEPM) is to establish a statutory framework to ensure that signatories to the Australian Packaging Covenant are not competitively disadvantaged in the marketplace as a result of fulfilling their signatory commitments.

The UPM NEPM is given regulatory effect in Queensland through provisions of the Waste Reduction and Recycling Regulation 2011.

On 1 September 2021 Queensland's ban on single-use plastic items commenced. This ban covers single-use plastic straws, stirrers, plates, unenclosed bowls and cutlery, and takeaway expanded polystyrene food containers and cups.

A second round of bans commenced on 1 September 2023, covering plastic microbeads in personal care and cleaning products, expanded polystyrene packaging peanuts, plastic-stemmed cotton buds and plastic shopping bags over 35 microns that do not meet reusability requirements.

In December 2021 the Queensland Government announced a 10-year $1.1 billion Recycling and Jobs Fund, aimed at improving recycling and resource recovery infrastructure across Queensland. Funding is also available for education and behaviour change initiatives aimed at helping reduce contamination in the recycling bin and improving recycling rates.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

During the 2022–2023 reporting year, the number of brand owner signatories in Queensland increased by eight. Queensland continues to support the Australian Packaging Covenant Organisation to identify potential brand owners and to work towards achieving the National Packaging Targets

Reporting Year	Number of covenant signatories
2021–22	153
2022–23	161

Recovery Data

There are currently no brand owners reporting direct to the Department of Environment, Science and Innovation.

Supporting Data

Brand owners audits are now undertaken by the Australian Packaging Covenant Organisation.

Complaints, Investigations and Prosecutions

No complaints were received, investigations commenced or prosecutions undertaken during the reporting period.

Statement of Interpretation of the Information

Queensland is working closely with other states and territories and the Australian Government on reforms to the packaging framework objectives and obligations to ensure consistency across all jurisdictions.

Local government data for the 2022–2023 reporting period is available in the annual Recycling and Waste in Queensland Report 2023, published on the Queensland Government website (https://www.qld.gov.au/environment/management/waste/recovery/data-reports/recycling-waste).

Western Australia

Report to the NEPC on the implementation of the National Environment Protection (Used Packaging Materials) Measure for Western Australia by the Department of Water and Environmental Regulation for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In Western Australia, the National Environmental Protection (Used Packaging Materials) Measure (NEPM UPM) is implemented by the Department of Water and Environmental Regulation (DWER) under the *National Environment Protection Council (Western Australia) Act 1996*, the Western Australian *Environmental Protection Act 1986* and the *Environmental Protection (NEPM-UPM) Regulations 2013*.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

APCO referred 160 brand owners to DWER that were not signatories to the Australian Packaging Covenant. Following analysis, DWER wrote to 158 brand owners (two brand owners were incorrectly identified) and then sent follow up letters to 101 non-responders and incomplete responders. Responses were received from 87 brand owners and nine brand owners committed to join the Covenant.

Reporting Year	Number of covenant signatories
2020–21	101
2021–22	140
2022–23	140

Recovery Data

No Western Australian-based companies have been required to provide records for auditing.

Support Data

Not applicable

Complaints, Investigations and Prosecutions

No complaints were received, or investigated or prosecutions undertaken during the 2022–23 reporting period.

Statement of Interpretation of the Information

Not applicable

Local Government Data

Local Government data for 2020–21 is available at wasteauthority.wa.gov.au. Data for 2022–23 will be available from June 2024.

South Australia

Report to the NEPC on the implementation of the National Environment Protection (Used Packaging Materials) Measure for South Australia by the Hon. Susan Close, Minister for Climate, Environment and Water for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- In 2022–23, South Australia continued to work with the Australian Packaging Covenant Organisation (APCO), the Commonwealth and other jurisdictions to pursue national consistency in the attainment of the goal of the NEPM.
- The Environment Protection Authority (EPA) with the Government Officials Group (GOG) continued to address the findings of the NEPM review which resulted in commencement of the Packaging Regulatory Reform project including:
  - Following the independent review of the NEPM the co-regulatory scheme was found to be ineffective and inefficient, with significant free-riders and inadequate compliance and enforcement action with the NEPM.
  - The implementation of a Packaging Regulatory Reform working group (PRRWG) including regular meetings throughout 2022–23 to commence work on moving toward a mandatory regulatory scheme.
  - The PRRWG will develop and implement a roadmap for a co-designed model for a nationally consistent reformed scheme with a timeline for the revised regulation being implemented by the end of 2025.
  - The EPA provided feedback to APCO on the National Packaging Targets Review Report.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

- During 2022–23 South Australia has continued to work with APCO and the GOG to encourage brand owners to become signatories to the Australian Packaging Covenant resulting in an increase in the number of South Australian brand owners becoming signatories to the Covenant.

Reporting Year	Number of covenant signatories
2021–22	109
2022–23	115

Recovery Data

- There are currently no brand owners reporting to the EPA in South Australia and, therefore, no requirements for audits under clause 16.

Supporting Data

- The work conducted by the PRRWG on a co-designed model for a nationally consistent reformed scheme during 2022–23 will provide a more effective way forward for pursuing brand owners identified under APCO's Brand Owner Audit.

Complaints, Investigations and Prosecutions

- No complaints were received, investigations undertaken, or prosecutions mounted pursuant to the NEPM during this reporting period.

Statement of Interpretation of the Information

- South Australia continues to work with APCO, the Commonwealth and other jurisdictions to provide advice and support for the development and implementation of a co-designed model for a nationally consistent packaging regulatory reform scheme to be implemented by the end of 2025 following the review of the NEPM.

Local Government Data

- Available at 2022–23 NEPM Annual Report – Local Government Data (https://www.epa.sa.gov.au/environmental_info/waste_recycling/waste-management) from April 2024 or on request from the EPA.

Tasmania

Report to the NEPC on the implementation of the National Environment Protection (Used Packaging Materials) Measure for Tasmania by Hon Nick Duigan Minister for Parks and Environment for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In Tasmania, the National Environment Protection (Used Packaging Materials) Measure (NEPM) is a State Policy under the *State Policies and Projects Act 1993*.

Implementation Issues Arising

Nil.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Reporting Year	Number of covenant signatories
2021–22	20
2022–23	19

Recovery Data

No recovery data to report under Clause 16 of the NEPM.

Supporting Data

No surveys pursuant to clause 18 were completed during the reporting period.

Complaints, Investigations and Prosecutions

No complaints regarding brand owners or Covenant signatories were received in the reporting period, and no investigations or prosecutions were initiated.

Statement of Interpretation of the Information

Not applicable.

Local Government Data

Table 1: Amounts of materials collected at the kerbside, sent for secondary use/energy recovery and contamination (waste) disposed of to landfill 1 July 2022—30 June 2023

Material Types collected at kerbside	Kerbside recycling collected (in tonnes)	Kerbside recycling sold or sent for secondary use including energy recovery by material type (in tonnes)	Kerbside recycling residual waste (contaminants) disposed of to landfill (only report total tonnes)
Total packaging paper i.e. cardboard and liquid paper board		21,154	
Total non packaging paper i.e. paper mixed, paper white office, newspaper and magazines		4,288	
Total glass		14,155	
Total plastic		2,496	
Total aluminium (cans)		723	
Total steel (cans, tins etc.)		819	
TOTAL	**52,499**	**43,635**	**8,864**

Australian Capital Territory

Report to the NEPC on the implementation of the National Environment Protection (Used Packaging Materials) Measure for the Australian Capital Territory by Ms Rebecca Vassarotti MLA for the reporting year ended 30 June 2023

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The *Waste Management and Resource Recovery Act 2016* (the Waste Act) provides a legislative framework for managing waste activities in the ACT. The Waste Act provides the ACT Government with the powers to develop subordinate legislation relating to how waste is managed.
- In September 2020, the *Waste Management and Resource Recovery (Environment Protection – Used Packaging Materials) Code of Practice 2020* (the Code of Practice) came into force as a code of practice established under the Waste Act to give legislative force to the *National Environment Protection (Used Packaging Materials) Measure* in the ACT.
- The introduction of the Code of Practice meets the ACT's obligations under the *National Environmental Protection Council Act 1994*. The introduction of the Code of Practice allows the ACT Government to regulate non-compliant brand owners.
- To promote the implementation of the Code of Practice and raise awareness of the Brand Owners' responsibilities under the National Environment Protection Measure – Used Packaging Materials (UPM NEPM), the ACT Government, in conjunction with the Australian Packaging Covenant Organisation (APCO), developed a webinar. This is available on the Transport Canberra and City Services Directorate (TCCS) website and remains available as a resource for brand owners seeking information about the UPM NEPM.
- The ACT Government participates in the Government Officials Group (GOG) and Behavioural Change and Compliance Processes working groups. As part of this, the ACT has been involved in reviewing letters to send to liable parties for the upcoming 2023 brand owner audit process facilitated by APCO.
- In addition, the ACT has participated in early consultation with the Commonwealth Government on a reformed packaging scheme, in line with the recent commitment from Environment Ministers to reform the regulation of packaging by 2025.
- The ACT is of the view that:
  - A reformed system for packaging should focus on avoidance, design, and other circular economy principles like designing out waste
  - Industry should fund the costs of the operation and administration as they generate the waste stream
  - Centralising the administration of the scheme would be best done as a single piece of legislation under a Commonwealth framework.
- The ACT has also taken significant steps to reduce plastic waste through the *Plastic Reduction Act 2021*. Banned single-use plastics include drink stirrers, cutlery, straws, expanded polystyrene containers for serving food and beverages, cotton buds with plastic sticks and oxo-degradable plastics, plastic microbeads in rinse-off personal care and cleaning products, single-use plastic plates and bowls, expanded polystyrene loose fill packaging and expanded polystyrene trays. From 1 January 2024, heavyweight and boutique plastic bags will also be banned.
- The ACT Container Deposit Scheme (CDS) continues to support the recovery of beverage containers in the ACT with the aim of reducing litter. The ACT Government carried out a twelve-week consultation with the community, which commenced on 30 May 2023 in relation to potentially expanding the scope of the scheme to include more types of drink containers.
- The ACT Government has committed to building the circular economy. To that end, a draft ACT Circular Economy Strategy was released in October 2022, followed by the release of a final Strategy and Action Plan in August 2023. To complement the Strategy, a Circular Economy Bill was introduced into the Legislative Assembly in August 2023. Both of the Strategy and legislation may present opportunities to explore how the impacts of packaging could be reduced further in the ACT.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Reporting Year	Number of covenant signatories
2021–22	0
2022–23	0

Recovery Data

No information has been gathered from brand owners as no audits have been undertaken by the ACT.

Supporting Data

No retailer survey of packaged products was conducted in the ACT in 2022–23.

Complaints, Investigations and Prosecutions

No complaints, investigations, prosecutions or enforcement actions were recorded, and no non-compliant signatories were referred to the ACT Government in 2022–23.

Statement of Interpretation of the Information

In 2022–23 the ACT continued to work with the community and industry to encourage waste avoidance and increase recycling and resource recovery rates.

Through complementary activities such as implementing the phase out of certain single-use and problematic plastic products through the *Plastic Reduction Act 2021* and the ongoing packaging recovery activities through the CDS, the ACT is achieving improved outcomes for the management of packaging.

Local Government Data

Data for the ACT will be provided on the TCCS website as it becomes available at https://www.cityservices.act.gov.au/recycling-and-waste/waste-strategies/reports-audits. Relevant data is published in TCCS annual reports. The 2021–22 annual report is available at https://www.cityservices.act.gov.au/about-us/annual_report.

Northern Territory

Report to the NEPC on the implementation of the National Environment Protection (Used Packaging Materials) Measure for Northern Territory by the Minister for Environment, Climate Change and Water Security for the reporting year ended 30 June 2023.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The Environment Protection (Beverage Containers and Plastic Bags) Act 2011 (the Act) regulates the supply of single use, non-biodegradable plastic bags and established a plastic bag ban from September 2011 that prohibits retailers from providing customers with lightweight polyethylene shopping bags with handles. The Act also established the container deposit scheme (CDS) to reduce beverage container waste and increase resource recovery, reuse and recycling. The CDS commenced in January 2012. The NT is progressing with reforms to both the CDS and Single Use Plastics (SUPs) bans in accordance with the National agenda.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

There are six brand-owners identified in the Northern Territory that would have obligations under the NEPM. There has been no reporting under clause 16 of the NEPM.

Major contributors to the waste stream are brand-owners not based in the Northern Territory. Brand-owners who are signatories to the Australian Packaging Covenant are able to meet their national targets more cost effectively in other more populous jurisdictions where well-established recycling infrastructure and high volumes of recyclable materials are available. The Northern Territory continues to be committed to the NEPM goal and desired environmental outcomes through its existing programs.

Of the 17 councils within the Northern Territory, only two provided kerbside recycling services – City of Darwin and Palmerston. Recycling activities in other areas face significant barriers and costs. Voluntary local drop-off recycling schemes are in place in a number of remote communities.

The Container Deposit Scheme provides the most accurate and reliable indication of recovery and recycling of beverage containers in the NT.

Reporting Year	Number of covenant signatories
2021–22	1
2022–23	0

Recovery Data

A total of 128,821,922 permitted beverage containers were sold in the Northern Territory during 2022–23. Of these, 100,026,175 containers were returned by a collection depot to a CDS coordinator. This equates to 78% of all containers sold were returned, recycled and reused through the CDS and were thereby diverted from landfill and litter. This is a 3% increase in return rate over the 2021–22 period.

Supporting Data

Landfill recovery data includes where the landfill also operates a transfer station. Waste types are collected in dedicated bins and diverted from landfill into recycling and recovery. In 2022–23, 401 tonnes of cardboard were recovered and recycled by landfills in the NT. This data relates to licensed landfills which service over 80% of the NT.

In addition, 5703 tonnes of material was recovered and recycled through the NT's CDS including 4412 tonnes of glass (table 2).

Table 2. Volume of material returned in the NT's container deposit scheme

Annual Summary		
Container material	**Weight returned (tonnes)**	**Return rate (%)**
Aluminium	741	87
PET	480	58
HDPE	26	25
Glass	4,412	101
LPB	38	41
Steel	3	27
Other	3	0
Total	**5703**	**78**

Complaints, Investigations and Prosecutions

Nil

Statement of Interpretation of the Information

N/A

Local Government Data

See above.

National Environment Protection Council
GPO Box 3090
Canberra ACT 2601
Email: NEPC@dcceew.gov.au