



Annual Report 2015–2016

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Front cover:

Top to bottom, left to right: “Rivers of carbon” Biodiversity fund project at Yeumburra by Andrew Tatnell; Solar Array at Lajamanu by Dragi Markovic; Coorong Spoonbills by Paul Wainright; Loy Yang Power Station by Michelle McAulay; Traffic flowing well on the Cahill Expressway by Arthur Mostead.

Back cover:

Top to bottom, left to right: Electronic Waste Collection by Dragi Markovic; Port Kembla Refinery by Michelle McAulay; Tarkine Wilderness Area Tasmania by Melinda Brouwer.

Chair's Foreword

It is my privilege to be the Chair of the National Environment Protection Council. I would like to acknowledge and thank my predecessor, the Hon Greg Hunt MP, who headed the Council for this reporting year of 2015–16.

I look forward to working with the Council to ensure that appropriate environmental measures remain in place to protect the Australian people now and into the future. The National Environment Protection Measures, as nationally consistent environmental standards, goals, or protocols relating to air, water, noise, site contamination, hazardous waste and recycling, are a key means of achieving this goal.

The recent variation to the Ambient Air Quality National Environment Protection Measure reflects the latest research in health impacts on the Australian community. Over the next 12–18 months, work on investigating the new Ambient Air Quality Measure standards for sulfur dioxide, ozone, nitrogen dioxide and carbon monoxide will continue. New standards will assist in achieving cleaner air and better health outcomes for all Australians.

The post 2016–17 work program will continue to see the Council play an important role in planning, developing, and revising National Environment Protection Measures as necessary to assist in the protection of the Australian environment and the health and wellbeing of the community.



Josh Frydenberg
Chair
National Environment Protection Council



Members of the National Environment Protection Council

From 1 July 2015 to 30 June 2016

Jurisdiction	Member	Duration of membership
Commonwealth	The Hon. Greg Hunt MP Minister for the Environment	Full year
New South Wales	The Hon Mark Speakman MP NSW Minister for the Environment	Full year
Victoria	The Hon Lily D'Ambrosio MP Minister for Energy, Environment and Climate Change	23 May 2016–30 June 2016
	The Hon Lisa Neville MP Minister for Environment, Climate Change, and Water	1 July 2015–23 May 2016
Queensland	The Hon Steven Miles MP Minister for Environment and Heritage Protection; Minister for National Parks and the Great Barrier Reef	Full year
Western Australia	The Hon Albert Jacob MLA Minister for Environment; Heritage	Full year
South Australian	The Hon Ian Hunter MLC Minister for Sustainability, Environment and Conservation	Full year
Tasmania	The Hon Matthew Groom MP Tasmanian Minister for Environment, Parks, and Heritage	Full year
Australian Capital Territory	Mr Simon Corbell MLA Minister for the Environment	Full year
Northern Territory	The Hon Gary John Higgins MLA Minister for the Environment	Full year

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Executive Officer's Report

It is two years since the operational functions of the now abolished National Environment Protection Council (NEPC) Service Corporation were brought wholly into the Commonwealth Environment portfolio.

In 2015–16 work continued on projects that help to ensure Australians enjoy the benefits of equivalent national protection for air, water, soil, noise, site contamination, and the movement of hazardous waste, as well as used packaging. The most significant policy change was the variation to the Ambient Air Quality National Environment Protection Measure (NEPM), particularly in relation to the standards for $PM_{2.5}$ and PM_{10} particles, which came in to force in January 2016.

The Ambient Air Quality NEPM continues to be valuable in the management and assessment of air quality in Australia, with a marked improvement in data capture levels allowing for more consistent and comparable results across jurisdictions. The monitoring results show that standards are mostly being met and Australia's air quality is generally good compared with international standards. However, bushfires, controlled burning and windblown dust continue to cause exceedances of particulate matter standards particularly in eastern and southern Australia.

The Commonwealth also renewed its Memorandum of Understanding with each state and territory for the operation of the National Pollutant Inventory, and agreed to provide \$200,000 towards the review of the National Pollutant Inventory in 2016–17.

The Assessment of Site Contamination NEPM (amended in 2013) is almost fully implemented by all jurisdictions. The amendments have been well supported by environmental auditors and others in the site assessment industry. The consistency of site assessments and human health risk assessments continues to improve across the country. However, jurisdictions did note that the NEPM needs to be more responsive to new or updated standards and emerging chemicals, including contaminants PFOS and PFOA (collectively PFAS).

All NEPC business and administrative matters (including financial, legal, project funding, procurement and personnel) are undertaken by the NEPC Business Services Team. These matters are governed by the Commonwealth Government's policies and frameworks. The team has finalised the transition into the Commonwealth's financial framework and has continued to provide jurisdictions with effective legal, procurement and financial advice. The team continues to operate on contributions received from all jurisdictions including the Commonwealth.

To improve the efficiency of project management the team also trialled the use of a Commonwealth funding agreement at a jurisdictional level. This offers significant advantages to jurisdictions in regards to material and financial control as well as satisfying Commonwealth governance requirements.

I would like to thank all stakeholders for their ongoing support during the last reporting year, and look forward to working with jurisdictions to achieve effective environmental outcomes in the most efficient manner possible.



Dr David Swanton
NEPC Executive Officer

Overview

About the National Environment Protection Council

The National Environment Protection Council (NEPC) is a statutory body with law-making powers established under the *National Environment Protection Council Act 1994* (Commonwealth), and corresponding legislation in other Australian jurisdictions.

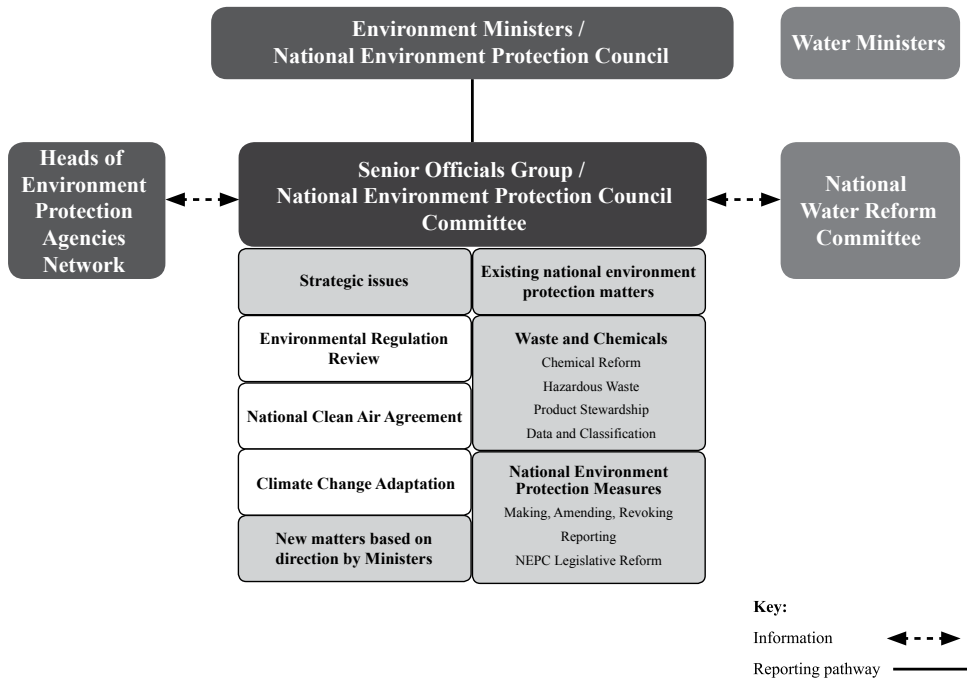
The NEPC has two primary functions:

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

Inter-jurisdictional Relationships

The Council of Australian Governments decided in 2013 that where there are important areas of Commonwealth and state and territory cooperation required in portfolio areas outside its Council system, ministers may meet on an ad hoc basis. The Meeting of Environment Ministers (MEM) is now the primary multi-jurisdictional forum in which national environmental issues are considered. As the membership of NEPC consists of all Australian environment ministers, the MEM meetings may also be held in conjunction with the NEPC meetings.

Governance structure for NEPC and the Meeting of Environment Ministers (MEM)



The following streamlined approach to multi-jurisdictional environmental work was agreed by Environment Ministers:

- Meetings of environment ministers are to occur on an ad hoc basis and run concurrently with meetings of NEPC as required. Agendas are to be focused on issues requiring multi-jurisdictional collaboration or decision.
- Meetings of the heads of jurisdictional environment agencies (Senior Officials Group) to be held on a regular basis—at least annually, and concurrently with NEPC Committee meetings.

- Matters under consideration will be organised into three key streams of work:
 - strategic issues
 - key existing projects relating to waste and chemicals and the National Plan for Clean Air until their completion
 - ongoing priorities relating to responsibilities under the National Environment Protection Council Acts, such as National Environment Protection Measures.
- ongoing communication between the Senior Officials/NEPC Committee groups and the Heads of Environmental Protection Agencies (HEPA) network. Where relevant, HEPA 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 representation by invitation when relevant subject matter is to be discussed.

About National Environment Protection Measures

The *National Environment Protection Council Act 1994* (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, can be used to establish nationally consistent environmental standards, goals, guidelines or protocols in relation to 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.

NEPMs provide a single national framework to address one or more environmental issues, with the flexibility for local implementation to take into account variability 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.

Currently, there are seven NEPMs:

Air Toxics—sets out a nationally consistent approach to collection of data on toxic air pollutants (such as benzene) in order 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 pollutants such as carbon monoxide, lead and particulates. A variation to this NEPM took effect in January 2016.

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 has been highly effective in providing 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 of the Environment's policies and procedures and are reported against in that department's annual report. The NEPC Business Services Team operates on contributions received from all jurisdictions including the Commonwealth.

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

Financial Performance

Detailed financial matters are contained in the financial statements within the Department of the Environment's Annual Report 2015–16.

Procurement and Consultancies

All such activities are undertaken in accordance with relevant Commonwealth laws, policies and procedures. The NEPC Business Services Team strived to ensure the core principle of value for money in all of the NEPC procurement activities.

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).

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 against the evaluation criteria for this NEPM.

PART 2—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

This part provides a summary of jurisdictional reports on implementation and the Council's overall assessment of the implementation of the NEPM.

Legislative, regulatory and administrative framework

Table 1: Summary of implementation frameworks

Jurisdiction	Summary of implementation frameworks
Commonwealth	<ul style="list-style-type: none"> The NEPM is implemented administratively.
New South Wales	<ul style="list-style-type: none"> The NEPM is implemented under the Protection of the Environment Operations (Clean Air) Regulation 2010 and the <i>Protection of the Environment Operations Act 1997</i>.
Victoria	<ul style="list-style-type: none"> The key legislative instrument is the State Environment Protection Policy (Air Quality Management).
Queensland	<ul style="list-style-type: none"> The NEPM is implemented under the <i>Environmental Protection Act 1994</i>, the Environmental Protection Regulation 1998, and the Environmental Protection (Air) Policy 2008.
Western Australia	<ul style="list-style-type: none"> The NEPM is implemented under the <i>National Environment Protection Council (Western Australia) Act 1996</i>, the <i>Environmental Protection Act 1986</i> and by programs in the Perth Air Quality Management Plan.
South Australia	<ul style="list-style-type: none"> The NEPM operates as an <i>Environment Protection Policy under the Environmental Protection Act 1993</i>.
Tasmania	<ul style="list-style-type: none"> The NEPM is a State Policy under the <i>State Policies and Projects Act 1993</i>. The management of air toxics is included in the Tasmanian Air Quality Strategy 2006. Implementation is through the Environment Protection Policy (Air Quality) 2004 and the <i>Environmental Management Pollution Control Act 1994</i>.
Australian Capital Territory	<ul style="list-style-type: none"> The NEPM is implemented under the <i>Environment Protection Act 1997</i>.
Northern Territory	<ul style="list-style-type: none"> The key legislative instruments are the <i>Waste Management and Pollution Control Act 1998</i> and the <i>National Environment Protection Council (Northern Territory) Act 2004</i>.

Implementation issues arising

Table 2 summarises the implementation issues that arose throughout the 2015 reporting year (this NEPM has a calendar year reporting requirement). For implementation activities refer to jurisdictional reports as listed in Part 5.

Table 2: Summary of implementation issues arising

Jurisdiction	Summary of implementation issues arising
Commonwealth	<ul style="list-style-type: none"> No monitoring undertaken because the NEPM is implemented administratively. No issues reported.
New South Wales	<ul style="list-style-type: none"> No issues reported.
Victoria	<ul style="list-style-type: none"> No issues reported.
Queensland	<ul style="list-style-type: none"> Non-NEPM compliant monitoring undertaken.
Western Australia	<ul style="list-style-type: none"> Non-NEPM compliant monitoring undertaken.
South Australia	<ul style="list-style-type: none"> No issues reported.
Tasmania	<ul style="list-style-type: none"> No issues reported.
Australian Capital Territory	<ul style="list-style-type: none"> Previous desktop analysis has shown that air toxics are not an issue for the ACT airshed and no monitoring sites have been identified.
Northern Territory	<ul style="list-style-type: none"> Previous desktop analysis has shown that air toxics are not an issue for the NT airshed and no monitoring sites have been identified..

PART3—JURISDICTIONAL REPORT ON ACTIVITIES UNDER THE NEPM

Identification of sites

No jurisdiction identified any new sites in the reporting period.

Reporting of monitoring of air toxics

Queensland continued monitoring of polycyclic aromatic hydrocarbons (including benzo[*a*]pyrene) at the Stage 2 Woolloongabba roadside monitoring site, as well as selected air toxics using open path DOAS instrumentation at Springwood in South East Queensland and in central Gladstone during the 2015–16 reporting period.

Western Australia published the Kwinana Background Air Quality Study Phase 4—2013 to 2014 report in August 2015. The study investigated levels of certain volatile organic compounds using an open path fourier transform infrared spectrometer (OP-FTIR) within urban areas adjacent to the Kwinana Industrial Area over a total of 69 sampling days. The report is available on the DER website www.der.wa.gov.au.

All monitoring results were below the NEPM monitoring investigation levels.

No other jurisdictions undertook monitoring during the reporting period.

Reporting on assessment and action if any planned or taken to manage air toxics

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.

Repeat identification of stage 1 and stage 2 sites

No new monitoring sites were identified during the reporting period.

PART4—ASSESSMENT OF NEPM EFFECTIVENESS

The monitoring investigation levels continue to provide a nationally consistent benchmark for assessing and comparing the concentration of ambient air toxics from diverse monitoring sites.

Most jurisdictions agree that the NEPM has been effective in providing an impetus to investigate available data and in identifying locations most likely to experience significant population exposure to elevated levels of air toxics.

PART 5—REPORTING ON IMPLEMENTATION BY JURISDICTIONS

The annexes to this report are in Appendix 1 at page 41.

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)

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:

The National Environment Protection Goal of this Measure is to achieve the National Environment Protection Standards as assessed in accordance with the monitoring protocol (Part 4) within ten years from commencement to the extent specified in Schedule 2 column 5.

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 allows for the adequate protection of human health and well-being.

Evaluation criteria

The effectiveness of the National Environment Protection (Ambient Air Quality) Measure has been assessed against the evaluation criteria for this NEPM.

PART 2 — IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

This part provides a summary of jurisdictional reports on implementation and the Council’s overall assessment of the implementation of the NEPM.

Legislative, regulatory and administrative framework

Table 1: Summary of implementation frameworks

Jurisdiction	Summary of implementation frameworks
Commonwealth	<ul style="list-style-type: none">• The Commonwealth implements the NEPM administratively. However, it is not required by the NEPM to undertake monitoring as it does not have authority over regions with a population of 25 000 or more.
New South Wales	<ul style="list-style-type: none">• The NEPM is implemented under the <i>Protection of the Environment Operations Act 1997</i>, the Protection of the Environment Operations (General) Regulation 2009 and the Protection of the Environment Operations (Clean Air) Regulation 2010.
Victoria	<ul style="list-style-type: none">• The key legislative instruments are the State Environment Protection Policy (Ambient Air Quality) and the State Environment Protection Policy (Air Quality Management) made under the <i>Environment Protection Act 1970</i>.

Jurisdiction	Summary of implementation frameworks
Queensland	<ul style="list-style-type: none"> The NEPM is implemented under the <i>Environmental Protection Act 1994</i>, the <i>Environmental Protection Regulation 1998</i>, and the <i>Environmental Protection (Air) Policy 2008</i>.
Western Australia	<ul style="list-style-type: none"> The NEPM is implemented under the <i>National Environment Protection Council (Western Australia) Act 1996</i>, the <i>Environmental Protection Act 1986</i> and by programs under the <i>Perth Air Quality Management Plan</i>.
South Australia	<ul style="list-style-type: none"> The transitional provisions in the <i>Environment Protection (Miscellaneous) Amendment Act 2005</i> enable the NEPM to continue to operate as an <i>Environment Protection Policy</i>.
Tasmania	<ul style="list-style-type: none"> The NEPM is implemented under through the <i>Environmental Management Pollution Control Act 1994</i>, the <i>Environment Protection Policy (Air Quality) 2004</i>, the <i>Environmental Management and Pollution Control (Distributed Atmospheric Emissions) Regulations 2007</i> and the <i>Tasmanian Air Quality Strategy 2006</i>. The NEPM is a state policy under the <i>State Policies and Projects Act 1993</i>.
Australian Capital Territory	<ul style="list-style-type: none"> The NEPM is implemented by the <i>Environment Protection Regulation 1997</i> under the <i>Environment Protection Act 1997</i>.
Northern Territory	<ul style="list-style-type: none"> The key legislative instruments are the <i>Waste Management and Pollution Control Act 1998</i> and the <i>National Environment Protection Council (Northern Territory) Act 2004</i>.

Implementation issues arising

Table 2 summarises the implementation issues that arose throughout the 2015 reporting year (this NEPM has a calendar year reporting requirement). For implementation activities please refer to jurisdictional reports as listed in Part 5.

Table 2: Summary of implementation issues arising

Jurisdiction	Summary of implementation issues arising
Commonwealth	<ul style="list-style-type: none"> No monitoring undertaken because the NEPM is implemented administratively. No issues reported.
New South Wales	<ul style="list-style-type: none"> No issues reported.
Victoria	<ul style="list-style-type: none"> No issues reported.
Queensland	<ul style="list-style-type: none"> Data capture targets were not achieved at Springwood and for sulfur dioxide at Stuart in Townsville.
Western Australia	<ul style="list-style-type: none"> No issues reported.
South Australia	<ul style="list-style-type: none"> No issues reported.
Tasmania	<ul style="list-style-type: none"> No issues reported.
Australian Capital Territory	<ul style="list-style-type: none"> No issues reported.
Northern Territory	<ul style="list-style-type: none"> No issues reported.

PART 3—JURISDICTIONAL REPORT ON ACTIVITIES UNDER THE NEPM

Detailed monitoring data are available in jurisdictional compliance reports which are available from www.nepc.gov.au.

During 2015, jurisdictions continued to work on a variation to the NEPM particle standards, which was agreed to by Environment Ministers in December 2015, and further work on updating the standards for the other NEPM pollutants. Jurisdictions also worked on emissions reduction projects including developing product standards for wood heaters and non-road spark ignition engines.

Most jurisdictions continued to focus on programs that reduce emissions from motor vehicles and wood heaters, with several jurisdictions reporting improvements in winter particulate levels as a result. A number of jurisdictions continued to investigate the sources, dispersal and management of emissions from mining, industry and planned burns to reduce their impact on local communities.

PART 4—ASSESSMENT OF NEPM EFFECTIVENESS

The NEPM continues to be valuable in the management and assessment of air quality in Australia. It provides a nationally consistent framework for the monitoring and reporting of air quality and nationally consistent benchmarks against which to assess air quality.

There was a marked improvement in the data capture levels this reporting year, allowing for more consistent and comparable results across and between jurisdictions.

Monitoring results show that NEPM standards are mostly being met and that Australia's air quality is generally good compared with international standards. Most jurisdictions consistently meet the standards and goals for nitrogen dioxide, carbon monoxide and sulfur dioxide (except in some areas with smelting activities).

Meeting the AAQ NEPM standards for ozone and particulates continues to be a significant challenge for larger metropolitan areas in a number of jurisdictions given pressures from a growing population, urban expansion, increased economic activity and the associated increase in motor vehicle use. Bushfires, controlled burning and windblown dust continue to cause exceedances of particulate levels in a number of jurisdictions, particularly those in eastern and southern Australia.

PART 5—REPORTING ON IMPLEMENTATION BY JURISDICTIONS

The annexes to this report are in Appendix 2 at page 59.

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)

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 against the evaluation criteria for this NEPM.

PART 2—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

This part provides a summary of jurisdictional reports on implementation and the Council's overall assessment of the implementation of the NEPM.

Legislative, regulatory and administrative framework

Table 1: Summary of implementation frameworks

Jurisdiction	Summary of implementation frameworks
Commonwealth	<ul style="list-style-type: none"> The NEPM is implemented administratively.
New South Wales	<ul style="list-style-type: none"> The NEPM operates under guidelines issued under the <i>Contaminated Land Management Act 1997</i> (amendment commenced on 1 July 2009).
Victoria	<ul style="list-style-type: none"> The key legislative instruments for administering the NEPM are: <ul style="list-style-type: none"> the State Environment Protection Policy (Prevention and Management of Contamination of Land) the State Environment Protection Policy (Groundwaters of Victoria) the Industrial Waste Management Policy (Prescribed Industrial Waste) the <i>Planning and Environment Act 1987</i>. The Environmental Audit System (Contaminated Land) provides the administrative framework for assessing site contamination.
Queensland	<ul style="list-style-type: none"> The <i>Sustainable Planning Act 2009</i> and the <i>Environment Protection Act 1994</i> are the key legislative instruments. The NEPM is applied through the Guidelines for the Assessment and Management of Contaminated Land in Queensland, May 1998. The Contaminated Land Auditor system under the <i>Environmental Protection Act 1994</i> provides a statutory framework for assessing site contamination.
Western Australia	<ul style="list-style-type: none"> The NEPM is implemented through the <i>Contaminated Sites Act 2003</i> and the Contaminated Sites Regulations 2006 and associated relevant technical guidelines.
South Australia	<ul style="list-style-type: none"> The <i>Environment Protection Act 1993</i> provides a legislative framework to manage site contamination, including prescribed technical guidelines.
Tasmania	<ul style="list-style-type: none"> The NEPM is a state policy under the <i>State Policies and Projects Act 1993</i>. The NEPM is implemented under the <i>Environmental Management and Pollution Control Act 1994</i>, the Environmental Management and Pollution Control (Underground Petroleum Storage Systems) Regulations and associated guidelines.
Australian Capital Territory	<ul style="list-style-type: none"> The NEPM is implemented by the Contaminated Sites Environment Protection Policy made under the <i>Environment Protection Act 1997</i>.
Northern Territory	<ul style="list-style-type: none"> The NEPM is implemented by audits of contaminated sites required under the NT planning process, legislative directive environmental audits as well as voluntary audits.

Implementation issues arising

The NEPM was amended in May 2013 and much jurisdictional activity in 2015–16 remained focused on implementing these amendments.

There was also work to fix an administrative error made during the drafting of Schedule B3 to the NEPM which resulted in information regarding acetone/hexane being omitted from the table in section 10.2.8.

The emerging contaminants, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) [collectively PFAS] are becoming prominent across all jurisdictions. A uniform and consistent approach to assessment and remediation of this contamination is needed, particularly as there are major landowners and operators who are responding to contamination risks in multiple jurisdictions. Amending the NEPM to include these contaminants is desirable.

For detailed implementation activities, please refer to jurisdictional reports as listed in Part 5.

Table 2: Summary of implementation issues arising

Jurisdiction	Summary of implementation issues arising
Commonwealth	<ul style="list-style-type: none"> No issues reported.
New South Wales	<ul style="list-style-type: none"> Identified the limited number of EILs for contaminants and the need for a consistent framework for the derivation and adoption of new EILs.
Victoria	<ul style="list-style-type: none"> Noted flow on implications for other policy areas, such as soil characterisation, onsite storage and landfilling, which had been reliant on the original NEPM approaches and values. Questioned the adequacy of the Health Investigation Levels (HILs) for lead in soil for the protection of human health following the release of the NHMRC Statement: Evidence on the effects of lead on human health in May 2015.
Queensland	<ul style="list-style-type: none"> Since 30 September 2015 it has been mandatory for contaminated land investigation documents, including site investigation reports, validation reports and draft site management plans to be certified by an approved auditor before being submitted.
Western Australia	<ul style="list-style-type: none"> Noted the limited number of EILs provided in the NEPM is a major limitation to consistency in implementation.
South Australia	<ul style="list-style-type: none"> Identified the need for issues, such as the protectiveness of the current HIL for lead and the ESL for benzo[a]pyrene, which arise before the required 10 year review of the NEPM, to be appropriately identified and addressed
Tasmania	<ul style="list-style-type: none"> Identified a need for additional clarity in assessing petroleum vapour intrusion at operating petrol stations as well as guidance on volatile organic chlorinated compounds.
Australian Capital Territory	<ul style="list-style-type: none"> No issues reported.
Northern Territory	<ul style="list-style-type: none"> As well as PFAS, asbestos and herbicides and pesticides (including Mirex) are emerging contaminants of concern in the NT.

PART 3—JURISDICTIONAL REPORT ON ACTIVITIES UNDER THE NEPM

Most jurisdictions have amended their implementation frameworks to fully meet the requirements of the amended NEPM.

All jurisdictions continue to report a high level of compliance with the guidelines as set out in the NEPM in the assessment and management of their contaminated sites.

Jurisdictions continued to undertake a range of activities dealing with contamination of groundwater and sediments with persistent organic pollutants, such as perfluorinated compounds such as PFOS and PFOA, primarily from firefighting training activities.

Clause 9 of the NEPM sets out the information that jurisdictions are required to report. Please refer to jurisdictional reports in Part 5.

PART 4—ASSESSMENT OF NEPM EFFECTIVENESS

The NEPM, which was amended in May 2013 and is now almost fully implemented by all jurisdictions, continues to provide consistent, consolidated guidance to professional practitioners in assessing site contamination.

Amendments have been well supported by environmental auditors and others in the site assessment industry and the consistency of site assessments and human health risk assessments submitted to agencies continues to improve across the country.

Jurisdictions identified the need for the NEPM to be more responsive to new and/or updated standards, and emerging chemicals.

PART 5—REPORTING ON IMPLEMENTATION BY JURISDICTIONS

The annexes to this report are in Appendix 3 at page 101.

NEPC Report on the Implementation of the
National Environment
Protection (Diesel Vehicle
Emissions) Measure

National Environment Protection (Diesel Vehicle 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)

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 for this NEPM.

Part 2 — Implementation of the NEPM and any significant issues

This part provides a summary of jurisdictional reports on implementation and the Council's overall assessment of the implementation of the NEPM.

Legislative, regulatory and administrative framework

Table 1: Summary of implementation frameworks

Jurisdiction	Summary of implementation frameworks
Commonwealth	<ul style="list-style-type: none"> The NEPM is implemented administratively. The NEPM is supported by the Australian Design Rules under the <i>Motor Vehicle Standards Act 1989</i>, <i>Fuel Quality Standards Act 2000</i> and fuel tax credit arrangements.
New South Wales	<ul style="list-style-type: none"> The key legislative instruments are the <i>Protection of the Environment Operations Act 1997</i> and the Protection of the Environment Operations (Clean Air) Regulation 2010 The NEPM is implemented by Environment Protection Authority and Department of Roads and Maritime Services programs.

Jurisdiction	Summary of implementation frameworks
Victoria	<ul style="list-style-type: none"> The primary legislative tools are the Environment Protection (Vehicle Emissions) Regulations 2013 under the <i>Environment Protection Act 1970</i>. These Regulations no longer deal with heavy vehicles over 4.5 tonnes due to the introduction of the Heavy Vehicle National Law that was agreed by COAG in 2009. Compliance with this Law is overseen by VicRoads.
Queensland	<ul style="list-style-type: none"> The NEPM is implemented by the <i>National Environment Protection Council (Queensland) Act 1994</i>. The Department of Transport and Main Roads is responsible for implementing and reporting on the Diesel NEPM.
Western Australia	<ul style="list-style-type: none"> The NEPM is implemented by the <i>National Environment Protection Council (Western Australia) Act 1996</i>, the <i>Environmental Protection Act 1986</i>. Vehicle emissions in Western Australia are regulated under the <i>Road Traffic (Vehicles) Act 2012</i> and Road Traffic (Vehicles) Regulations 2014, administered by the Department of Transport.
South Australia	<ul style="list-style-type: none"> The transitional provisions in the <i>Environment Protection (Miscellaneous) Amendment Act 2005</i> enable the NEPM to continue to operate as an Environment Protection Policy. Vehicle emissions in South Australia are regulated under Road Traffic (Vehicle Standards) Rules 1999, administered by the Department of Planning, Transport and Infrastructure.
Tasmania	<ul style="list-style-type: none"> The NEPM is a state policy under the <i>State Policies and Projects Act 1993</i>. The Department of State Growth uses the 'ten second rule' to target smoky motor vehicles.
Australian Capital Territory	<ul style="list-style-type: none"> The key legislative instrument is the Road Transport (Vehicle Registration) Regulation 2000, implemented by Access Canberra.
Northern Territory	<ul style="list-style-type: none"> Vehicle performance standards are enforced under the <i>Motor Vehicles Act (NT) 1996</i> implemented by the Department of Transport.

Implementation issues arising

Table 2 summarises the implementation issues that arose throughout the 2015–16 reporting year. For implementation activities refer to jurisdictional reports as listed in Part 5.

Table 2: Summary of implementation issues arising

Jurisdiction	Summary of implementation issues arising
Commonwealth	<ul style="list-style-type: none"> No issues reported.
New South Wales	<ul style="list-style-type: none"> No issues reported.
Victoria	<ul style="list-style-type: none"> No issues reported.
Queensland	<ul style="list-style-type: none"> No issues reported.
Western Australia	<ul style="list-style-type: none"> No issues reported.
South Australia	<ul style="list-style-type: none"> No issues reported. The Regency Park Emissions Test Facility remained closed during the reporting period due to high maintenance costs and low throughput of vehicles. Private sector involvement is being sought to provide alternative services.
Tasmania	<ul style="list-style-type: none"> No specific issues were reported, however the NEPM is of limited relevance because diesel vehicles are not major contributors to air emissions in urban areas.
Australian Capital Territory	<ul style="list-style-type: none"> No specific issues were reported, however the NEPM is of limited relevance because diesel vehicles are not major contributors to air emissions in the ACT airshed.
Northern Territory	<ul style="list-style-type: none"> No specific issues were reported, however the NEPM is of limited relevance because diesel vehicles are not major contributors to air emissions in urban areas.

PART3—JURISDICTIONAL REPORT ON ACTIVITIES UNDER THE NEPM

In October 2015, The Australian Government announced a whole of government review of vehicle emissions through the establishment of a Ministerial Forum on Vehicle Emissions. Government decisions on new vehicle emissions measures are expected in 2017. The Australian Government completed a statutory review of the *Fuel Quality Standards Act 2000* in April 2016 and is currently reviewing the legislative instruments (including fuel standards) made under the Act.

Jurisdictions continue to run a number of programs to monitor and reduce emissions from their diesel fleets. Most jurisdictions run a smoky vehicle reporting program, with the exception of the Commonwealth, South Australia and the Australian Capital Territory.

New South Wales continued to run diesel retrofit programs for both on- and off-road vehicles. New South Wales, Victoria, Queensland and Western Australia operated diesel vehicle emission testing and repair or maintenance programs.

For details of individual programs and initiatives, please refer to jurisdictional reports as listed in Part 5 below.

PART 4—ASSESSMENT OF NEPM EFFECTIVENESS

While there are some limitations on the ability to quantify the overall effectiveness of the NEPM based initiatives implemented to date, jurisdictions report that the NEPM continues to help reduce emissions from diesel vehicles across Australia and is a useful component of the broader framework to manage vehicle emissions.

A number of jurisdictions continued to note increases in the numbers of registered on- and off-road diesel vehicles resulting in them becoming an increasingly higher proportion of their in-service fleets. Fleet turnover, combined with the introduction of more stringent vehicle emissions regulations, means considerable progress is being made toward achieving NEPM goals through national initiatives including the Australian Design Rules and fuel quality standards, particularly for smaller vehicles.

PART 5—REPORTING ON IMPLEMENTATION BY JURISDICTIONS

The annexes to this report are in Appendix 4 at page 113.

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

PART1 — 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)

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 for this NEPM.

PART 2—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

This part provides a summary of jurisdictional reports on implementation and the Council's overall assessment of the implementation of the NEPM.

Legislative, regulatory and administrative framework

Table 1: Summary of implementation frameworks

Jurisdiction	Summary of implementation frameworks
Commonwealth	<ul style="list-style-type: none"> The NEPM is implemented administratively.
New South Wales	<ul style="list-style-type: none"> The key legislative instruments are the <i>Protection of the Environment Operations Act 1997</i> and the <i>Protection of the Environment Operations (Waste) Regulation 2014</i>.
Victoria	<ul style="list-style-type: none"> The key legislative instruments are the <i>Environment Protection Act 1970</i>, the <i>Environment Protection (Industrial Waste Resource) Regulations 2009</i>, and the <i>Waste Management Policy (Movement of Controlled Waste between States and Territories) 2001</i>.
Queensland	<ul style="list-style-type: none"> The key legislative instrument is the <i>Environmental Protection Act 1994</i>. Requirements for the licensing of controlled waste transporters are included in the <i>Environmental Protection Regulation 2008</i>.
Western Australia	<ul style="list-style-type: none"> The primary legislative instruments are the <i>Environmental Protection Act 1986</i> and the <i>Environmental Protection (Controlled Waste) Regulations 2004</i>.
South Australia	<ul style="list-style-type: none"> The NEPM is implemented by the <i>Environment Protection (Movement of Controlled Waste) Policy 2014</i> under the <i>Environment Protection Act 1993</i>.
Tasmania	<ul style="list-style-type: none"> The NEPM is a state policy under the <i>State Policies and Projects Act 1993</i>. The NEPM is implemented under the <i>Environmental Management and Pollution Control Act 1994</i>.
Australian Capital Territory	<ul style="list-style-type: none"> The key legislative instruments are the <i>Environment Protection Act 1997</i> and the <i>Environment Protection Regulations 2005</i>.
Northern Territory	<ul style="list-style-type: none"> The key legislative instruments are the <i>Waste Management and Pollution Control Act 1998</i> and the <i>Dangerous Goods (National Uniform Legislation) Act (NT)</i>.

Implementation issues arising

No implementation issues were reported by jurisdictions.

PART 3—JURISDICTIONAL REPORT ON ACTIVITIES UNDER THE NEPM

The Commonwealth continued work towards a single, nationally consistent electronic tracking system for inter- and intrastate movements of hazardous and controlled wastes.

A number of jurisdictions focused on the transportation of industrial waste between states to both limit the possibility of the improper movement of waste and ensure its disposal at permitted facilities.

There continues to be close consultation between state and territory agencies, established under the NEPM agreement.

The tables below provide a national summary of the data for quantities of each waste category transported. The waste categories group the 73 waste streams and constituents listed in Schedule A of the NEPM into 15 broader types.

Table 2: Summary of total movements of controlled waste within Australia, imports by states and territories for the period 1 July 2015–30 June 2016

Code	Description	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ex-Terr ^a	Total
A	Plating & heat treatment	6.00	17.56	110.00	68.00	0.50	0.00	0.00	0.00	n/a	202.06
B	Acids	10921.33	73.63	20.00	0.00	43.00	6.00	0.00	0.00	n/a	11063.96
C	Alkalis	176.83	124.34	1146.00	0.00	556.08	0.20	0.00	0.00	n/a	2003.45
D	Inorganic chemicals	27385.51	7891.77	4210.00	108.01	121723.96	8761.37	0.00	0.00	n/a	170080.62
E	Reactive chemicals	0.00	3.27	544.00	0.00	10.65	0.02	0.00	0.00	n/a	557.94
F	Paints, resins, inks, organic sludges	2266.40	4430.66	474.00	1.00	3597.05	32.00	0.00	0.00	n/a	10801.11
G	Organic solvents	322.55	1920.05	2935.00	0.00	162.17	30.00	0.00	0.00	n/a	5369.77
H	Pesticides	58.81	835.23	176.00	118.00	16.00	0.00	0.00	0.00	n/a	1204.04
J	Oils	3042.24	4566.96	16809.00	86.00	3373.30	65.00	512.25	535.70	n/a	28990.45
K	Putrescible/organic waste	9789.68	3000.79	3869.00	0.00	0.00	92.00	0.00	0.00	n/a	16751.47
L	Industrial wastewater	0.00	1155.78	0.00	0.00	0.00	0.00	0.00	0.00	n/a	1155.78
M	Organic chemicals	372.46	916.82	5026.00	0.00	13.02	0.00	0.00	0.00	n/a	6328.3
N	Soil/sludge	3357.25	1901.40	8446.00	0.00	21598.66	37.50	180.33	0.00	n/a	35521.14
R	Clinical & pharmaceutical	375.15	1632.12	82.00	0.00	3344.59	0.60	240.85	0.00	n/a	5675.31
T	Misc.	659.51	369.34	128.00	0.00	87.72	3.50	0.00	0.00	n/a	1248.07
	Total (tonnes)	58733.72	28839.72	43975.00	381.01	154526.7	9028.19	933.43	535.7	n/a	296953.47

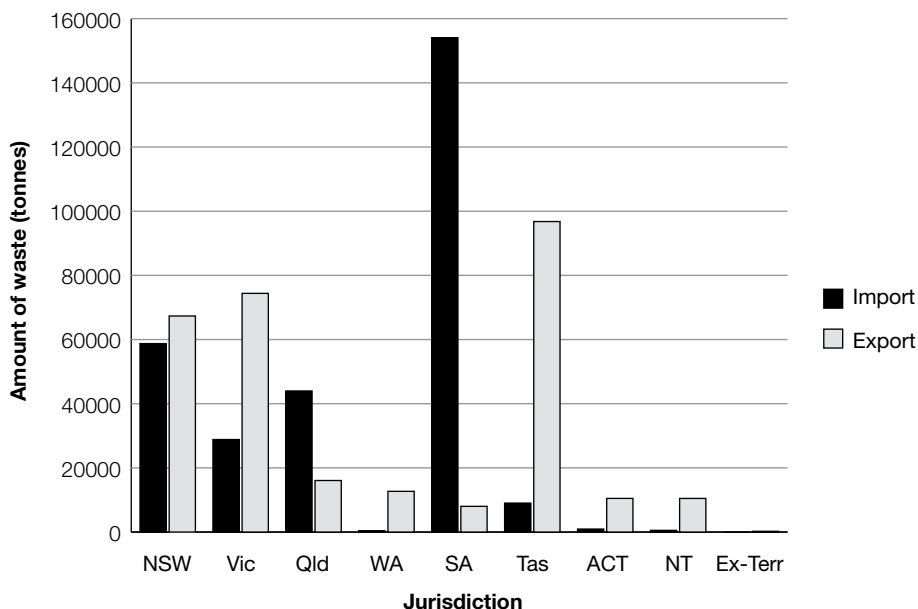
^aNote: Information regarding External Territories (Ex-Terr^a) has been provided only since the reporting year 2009–10.

Table 3: Summary of total movements of controlled waste within Australia, exports by states and territories for the period 1 July 2015–30 June 2016

Code	Description	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ex-Terr*	Total
A	Plating & heat treatment	111.00	0.00	0.00	0.00	0.00	16.20	0.00	68.50	0.00	202.06
B	Acids	26.90	0.00	10.40	26.35	20.00	36.30	0.00	16.65	6.00	11063.96
C	Alkalis	1176.20	0.00	48.00	17.44	28.90	18.50	0.00	537.44	0.20	2003.45
D	Inorganic chemicals	16263.60	24497.86	100.10	5204.51	1355.41	93604.33	234.00	984.50	1.37	170080.62
E	Reactive chemicals	544.00	10.65	0.00	0.00	0.20	3.10	0.00	0.00	0.02	557.94
F	Paints, resins, inks, organic sludges	3454.56	1310.59	1083.30	503.85	196.80	29.80	0.00	1923.95	2.00	10801.11
G	Organic solvents	3726.06	59.55	269.30	242.76	83.00	634.60	0.00	0.00	30.00	5369.77
H	Pesticides	261.50	7.00	276.70	398.00	67.10	0.60	0.00	134.00	0.00	1204.04
J	Oils	18775.24	1391.34	985.00	1901.68	506.90	261.80	0.00	2061.27	65.00	28990.45
K	Putrescible/organic waste	6578.80	0.00	0.00	0.00	291.00	0.00	0.00	0.00	92.00	16751.47
L	Industrial washwater	956.80	0.00	48.00	19.00	56.00	76.00	0.00	0.00	0.00	1155.78
M	Organic chemicals	5291.30	31.02	428.10	0.00	56.30	120.20	29.00	0.00	0.15	6328.3
N	Soil/sludge	8937.56	21223.62	237.70	216.22	318.90	923.10	0.00	269.29	37.50	35521.14
R	Clinical & pharmaceutical	981.95	0.00	432.00	62.00	340.00	153.21	0.00	3330.38	0.60	5675.31
T	Misc.	247.70	3.00	0.00	4.40	111.60	133.30	0.00	85.02	3.50	1248.07
	Total (tonnes)	67333.17	48534.63	3918.6	8596.21	3432.11	96011.04	263.00	9411.00	238.19	296953.47

Note: Information regarding External Territories (Ex-Terr) has been provided only since the reporting year 2009–10.

Figure 1: Tonnage of controlled waste moved within Australia 2015–16*



*Note: Information regarding Australia's External Territories has been provided only since the reporting year 2009–10 (and in Figure 1, the scale of the vertical axis does not allow for the 239.19 tonnes of waste exported from Australia's External Territories to be visually represented).

Figure 2: Tonnage of controlled waste moved within Australia 1999–2016

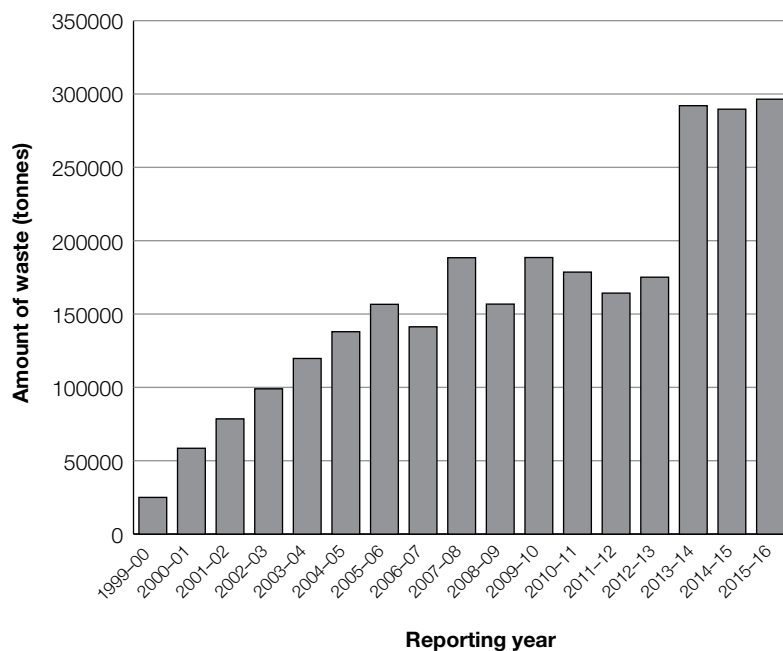
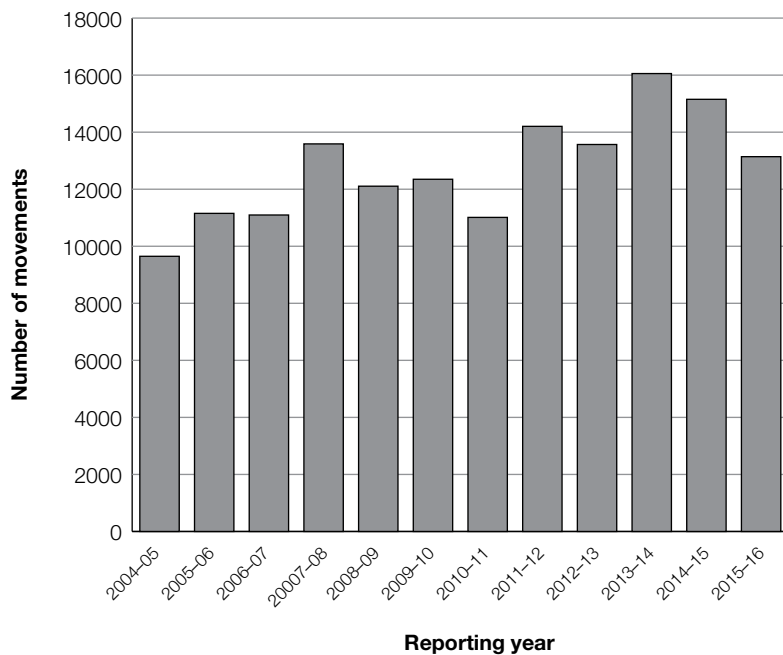


Figure 3: Number of movements of controlled waste within Australia 2004–16*



*Note: Information regarding number of movements has been provided only since the reporting year 2004–05.

PART 4—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. There remains a high level of communication and cooperation between jurisdictions for this NEPM, particularly regarding the appropriateness of issuing consignment authorisations and discrepancies in wastes moving between states and territories.

PART 5—REPORTING ON IMPLEMENTATION BY JURISDICTIONS

The annexes to this report are in Appendix 5 at page 135.

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.

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 for this NEPM.

PART 2—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

This part provides a summary of jurisdictional reports on implementation and the Council's overall assessment of the implementation of the NEPM.

Legislative, regulatory and administrative framework

Table 1: Summary of implementation frameworks

Jurisdiction	Summary of implementation frameworks
Commonwealth	<ul style="list-style-type: none"> The NEPM is implemented administratively.
New South Wales	<ul style="list-style-type: none"> The key legislative instrument is the Protection of the Environment Operations (General) Regulation 2009 under the Protection of the Environment Operations Act 1997.
Victoria	<ul style="list-style-type: none"> The key legislative instrument is the Waste Management Policy (National Pollutant Inventory) 2012 under the Environment Protection Act 1970.
Queensland	<ul style="list-style-type: none"> The NEPM is implemented under the Environmental Protection Act 1994 and the Environmental Protection Regulation 2008.
Western Australia	<ul style="list-style-type: none"> The key legislative instrument is the Environmental Protection (NEPM–NPI) Regulations 1998 under the Environmental Protection Act 1986.
South Australia	<ul style="list-style-type: none"> The NEPM operates as an Environment Protection Policy under the Environment Protection Act 1993.
Tasmania	<ul style="list-style-type: none"> The NEPM is a state policy under the State Policies and Projects Act 1993 and is implemented through the Environmental Management and Pollution Control Act 1993.
Australian Capital Territory	<ul style="list-style-type: none"> The key legislative instrument is the Environment Protection Act 1997.
Northern Territory	<ul style="list-style-type: none"> The NEPM is implemented by the Environment Protection (National Pollutant Inventory) Objective established under the Waste Management and Pollution Control Act 1998.

Implementation issues arising

A summary of implementation issues arising during 2014–15 (the NPI NEPM reporting year is a year behind the current annual report year) can be found in Table 2. For implementation activities refer to jurisdictional reports as listed in Part 5.

Table 2: Summary of implementation issues arising

Jurisdiction	Summary of implementation issues arising
Commonwealth	<ul style="list-style-type: none"> There was an increase in the number of complaints related to defects in the behaviour of the NPI database
New South Wales	<ul style="list-style-type: none"> The National Pollutant Inventory 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, emission factors for non-standard fuels, improved fugitive emission estimation methods, and interactive on-line training program.
Victoria	<ul style="list-style-type: none"> The NPI NEPM continues to be effectively implemented in Victoria through the Waste Management Policy (National Pollutant Inventory) 2012.
Queensland	<ul style="list-style-type: none"> Noted that opportunities exist to improve the effectiveness and implementation of the National Pollutant Inventory (NPI) through a strategic review. Queensland supports investigating these opportunities through the detailed review of the current National Environmental Protection (NPI) Measure.

Jurisdiction	Summary of implementation issues arising
Western Australia	<ul style="list-style-type: none"> The implementation of the NEPM continues to be successful in Western Australia. DER has identified opportunities for enhanced administration of the NPI NEPM through the collection and reporting of aggregated emissions data.
South Australia	<ul style="list-style-type: none"> A decrease in NPI staff at the Commonwealth has contributed to reduced external communication of the programme, issues with the database user interface and limited updates to emission estimation technique manuals, which has been a concern for industry in particular. However South Australia made its subset of the NPI emission data available on www.data.sa.gov.au during 2015–16 year, as has been done for the previous two reporting years.
Tasmania	<ul style="list-style-type: none"> Ongoing training and site visits to assist reporters required as high level of staff turnover reduces understanding of NPI reporting requirements.
Australian Capital Territory	<ul style="list-style-type: none"> As in last year's report there was a continued need for training of reporters to use the online reporting system due to staff turnover.
Northern Territory	<ul style="list-style-type: none"> A reduction in Commonwealth funding has led to a reduction in administration of the NPI, the validation of reports and the performance of AED (aggregate emissions data) modelling as required by the NEPM before submission to the Commonwealth.

PART 3—ASSESSMENT OF NEPM EFFECTIVENESS

Memoranda of Understanding (MoUs) have been signed at heads of agency level between each jurisdiction and the Commonwealth. An MOU is in place until June 2018.

The MoUs set out those NEPM matters to be agreed by individual jurisdictions and the Commonwealth.

Website and Public Awareness

Reporting information is available on the NPI website at www.npi.gov.au. The number of visitors to the NPI website increased from 242,112 in 2013–14 to 274,066 in 2014–15.

The free phone line and the public email box have been used to inform the public. 132 calls were received and responses to 213 emails received were provided.

On-line reporting

The Commonwealth continued to maintain the NPI website and database search engine. This work ensured that relevant and up to date information is accessible to the public and other key stakeholders.

There was a slight decrease (59) in the number of online reporters in 2014–15. While the online reporting system training has been well received, it is acknowledged that further training is essential.

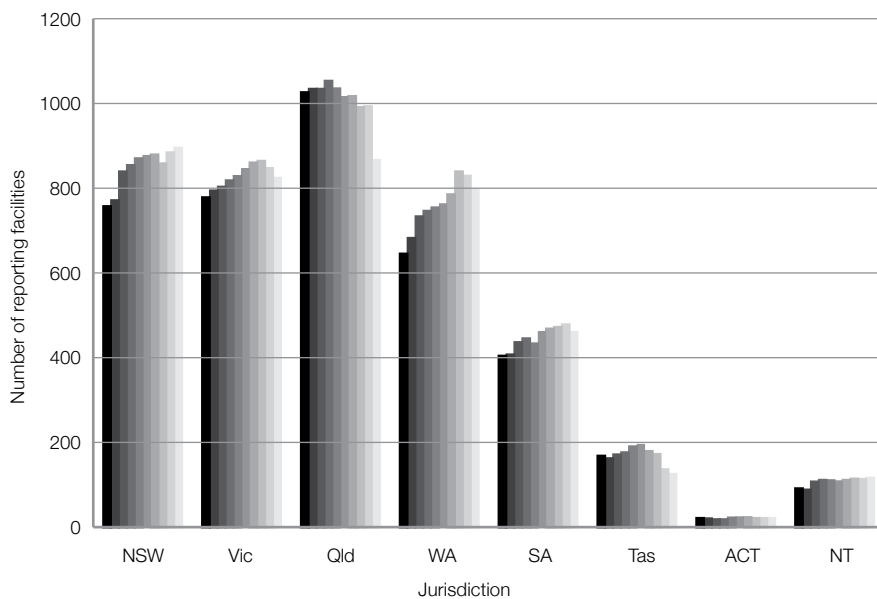
Most jurisdictions have conducted industry training programs to assist reporters to use the Online Reporting System. These training programs vary from one-on-one sessions with new reporters to more formal group sessions. The high level of turnover in industry, new small business enterprises and staff within jurisdictions are the main reasons for the need for continued training.

Industry facility reporting

The number of facilities reporting to the National Pollutant Inventory (NPI) fell from 4,306 in 2013–2014 to 4,104 in 2014–15.

Figure 1 below shows that the number of facilities reporting to the NPI in all jurisdictions over the past ten years.

Figure 1: NPI facility reports received by jurisdictions 2004–05



PART 4—REPORTING ON IMPLEMENTATION BY JURISDICTIONS

The annexes to this report are in Appendix 6 at page 155.

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

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 for this NEPM.

PART 2 — IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

This part provides a summary of jurisdictional reports on implementation and the Council's overall assessment of the implementation of the NEPM.

Legislative, regulatory and administrative framework

Table 1: Summary of implementation frameworks

Jurisdiction	Summary of implementation frameworks
Commonwealth	<ul style="list-style-type: none"> The Commonwealth's implementing legislation applies only to its jurisdictional territories and to brand owner companies with over 50% government ownership such as Australia Post.
New South Wales	<ul style="list-style-type: none"> The NEPM is implemented by the Protection of the Environment Operations (Waste) Regulation 2005.
Victoria	<ul style="list-style-type: none"> The NEPM is implemented by the Waste Management Policy (Used Packaging Materials) 2006, under the <i>Environment Protection Act 1970</i>.

Jurisdiction	Summary of implementation frameworks
Queensland	<ul style="list-style-type: none"> The NEPM is implemented by the Waste Reduction and Recycling Regulation 2011.
Western Australia	<ul style="list-style-type: none"> The NEPM is implemented by the Environmental Protection NEPM–UPM) Regulations 2013 under the <i>Environmental Protection Act 1986</i>.
South Australia	<ul style="list-style-type: none"> The NEPM is legally enforced by the Environment Protection (Used Packaging Materials) Policy 2012.
Tasmania	<ul style="list-style-type: none"> The NEPM is implemented under the <i>Environmental Management and Pollution Control Act 1994</i>. The NEPM is a state policy under the <i>State Policies and Projects Act 1993</i>.
Australian Capital Territory	<ul style="list-style-type: none"> The NEPM is implemented by the Used Packaging Materials Industry Waste Reduction Plan under the <i>Waste Minimisation Act 2001</i>.
Northern Territory	<ul style="list-style-type: none"> The NT Government is not a signatory to the Australian Packaging Covenant, and there are no known major brand owners based in the NT who are likely to have obligations under the NEPM. There is provision under the <i>Waste Management and Pollution Control Act 1998</i> to enforce the NEPM if needed.

Implementation issues arising

Table 2 summarises the implementation issues that arose throughout the 2015–16 reporting year. For detailed implementation activities refer to jurisdictional reports as listed in Appendix 7.

In August 2015, a meeting of jurisdictions and industry resolved that jurisdictions would not carry out the brand owner audit during the reporting period, and that industry would take responsibility for brand owner audits from 1 July 2016.

Table 2: Summary of implementation issues arising

Jurisdiction	Summary of implementation issues arising
Commonwealth	No issues reported.
New South Wales	No issues reported.
Victoria	No issues reported.
Queensland	No issues reported.
Western Australia	No Issues reported.
South Australia	No issues reported.
Tasmania	No issues reported.
Australian Capital Territory	No issues reported.
Northern Territory	No issues reported.

PART 3—JURISDICTIONAL REPORT ON ACTIVITIES UNDER THE NEPM

The NEPM sets out the information that jurisdictions are required to report on. This information has been provided by jurisdictions in their individual reports listed in Part 5.

A number of jurisdictions increased their NEPM advice, collaboration and compliance activities, while others focused on projects either funded by the Australian Packaging Covenant or under state-based waste reduction or recycling programs.

The NEPM contributes to better environmental outcomes by providing a regulatory safety net for the Australian Packaging Covenant.

Figure 1: Australian Packaging Covenant signatories at 30 June 2016.

Jurisdiction	Number of signatories
ACT	5
NSW	414
QLD	70
SA	55
TAS	17
VIC	372
WA	47
TOTAL	980

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.

Further information is available in jurisdictional reports as listed in Appendix 7.

Complaints, investigations and prosecutions

There were no complaints regarding brand owners or Covenant signatories were received in the reporting period, and no investigations or prosecutions were necessary.

PART 4—ASSESSMENT OF NEPM EFFECTIVENESS

At the end of June 2016, there were 984 covenant signatories, of which 89% compliant.

Covenant signatories showed continued improvement in all key performance reporting indicators, particularly in the areas of developing policies for buying products made from recycled packaging and reducing litter in the waste stream.

The NEPM remains a less effective mechanism in the Northern Territory as the major contributors to the waste stream are brand-owners not based in the Territory. Only 2 of the 17 NT councils have kerbside recycling.

PART 5—REPORTING ON IMPLEMENTATION BY JURISDICTIONS

The annexes to this report are in Appendix 7 see page 171.

Appendices

Appendix 1: Jurisdictional Reports on the Implementation and Effectiveness of the Air Toxics NEPM

Commonwealth

Report to the NEPC on the implementation of the National Environment Protection (Air Toxics) Measure for the Commonwealth by the Hon Greg Hunt MP, Minister for the Environment, for the reporting year ended 30 June 2016.

PART 1 — IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The Commonwealth implements the National Environment Protection (Air Toxics) Measure administratively and ensures that its obligations under the *National Environment Protection Act 1994* are met.
- In 2015–16 the Commonwealth identified no Commonwealth sites on which there was a potential for significant population exposure to elevated levels of air toxics.
- At their meeting on 15 December 2015, Australia’s environment ministers endorsed the National Clean Air Agreement. The agreement will deliver actions to reduce air pollution and establishes a process for jurisdictions to work cooperatively to address emerging air quality issues—ensuring Australians continue to enjoy clean air into the future.
- Ministers also strengthened air quality reporting standards for particles and work is underway to review sulfur dioxide, nitrogen dioxide and ozone standards.
- In 2015–16, the Commonwealth in collaboration with the states and territories continued to progress work to reduce emissions from nationally significant sources. The Commonwealth-led initiatives focused on wood heaters, which are a source of particulate matter (PM₁₀) emissions, and non-road spark ignition engines and equipment, such as gardening equipment and marine outboard engines, which emit high levels of PM₁₀, nitrogen dioxide and chemicals that lead to ozone formation.

PART 2 — ASSESSMENT OF NEPM EFFECTIVENESS

The Air Toxics NEPM provides a framework for assessing the ambient levels of specified air toxics in a range of locations and improving the information base regarding ambient air toxics in Australia.

New South Wales

Report to the NEPC on the implementation of the National Environment Protection (Air Toxics) Measure for New South Wales by the Hon. Mark Speakman, Minister for the Environment for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

Legislative, regulatory and administrative framework

The implementation of the National Environment Protection (Air Toxics) Measure (NEPM) in New South Wales is coordinated by the Environment Protection Authority. 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* and the Protection of the Environment Operations (Clean Air) Regulation 2010 provide the regulatory framework for action to address air emissions including managing air toxics in New South Wales.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

New South Wales has 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. The monitoring demonstrated that the five NEPM air toxics are within monitoring investigation levels at all monitoring sites.

Reporting of monitoring of air toxics

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

The Turella 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 (www.scew.gov.au/system/files/resources/ee20bb51-e1cd-82b4-559c-699771b152e7/files/nepc-annual-report-09-10.pdf) and reproduced at Attachment A, 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 per cent of the NEPM monitoring investigation level.

Attachment A: NSW Air Toxics Monitoring Results 2008–2009

Tables 1–5: Monitoring results for benzene, benzo(α)pyrene as a marker for polycyclic aromatic hydrocarbons, formaldehyde, toluene and xylenes 2008–2009. Reproduced from the NSW Report to the National Environment Protection Council (NEPC) on the implementation of the National Environment Protection (Air Toxics) Measure, for the reporting year ended 30 June 2010.

Table 1: Monitoring Results—Benzene

	Rozelle	Turrella
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(α)pyrene as a marker for Polycyclic Aromatic Hydrocarbons

	Turrella
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
Annual average concentration (as arithmetic mean)	0.21
Arithmetic Standard Deviation of 24-hour average concentrations	0.10
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
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
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
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 Lisa Neville, Minister for Environment, Climate Change and Water (until 23 May 2016) and the Hon Lily D'Ambrosio, Minister for Energy, Environment and Climate Change (from 23 May 2016) for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In Victoria the NEPM is implemented by the State Environment Protection Policy (Air Quality Management), subordinate legislation made under the *Environment Protection Act 1970*.

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 2015, 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 2015, no monitoring was carried out 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. Steven Miles MP, Minister for Environment and Heritage Protection and Minister for National Parks and the Great Barrier Reef for the reporting year ended 30 June 2016.

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 2008, and the Environmental Protection (Air) Policy 2008, with the NEPM monitoring investigation levels incorporated as air quality objectives.
- In the 2015–16 reporting period monitoring of polycyclic aromatic hydrocarbons (including benzo[*a*]pyrene) continued at the Stage 2 Woolloongabba roadside monitoring site.
- The Department continued to monitor selected air toxics using open path DOAS instrumentation at Springwood in South East Queensland and in central Gladstone in the 2015–16 reporting period. 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 the Department's knowledge of ambient concentrations of most toxic pollutants in Schedule 1 of the AT NEPM.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The Air Toxics NEPM has been effective in Queensland as an impetus for investigation of available air toxics data, such as the National Pollutant Inventory and the Air Emissions Inventory for South East Queensland, and for the identification of locations where significant population exposure to elevated ambient concentrations of air toxics are most likely to occur.

Identification of Sites

The analysis for identification and prioritisation of Stage 1 and Stage 2 sites, as required by the NEPM, was limited to densely populated areas of South East Queensland.

In South East Queensland, two types of locations were identified as having the most potential for significant population exposure to elevated concentrations of air toxics: built-up residential areas close to busy roads with significant congestion problems (e.g. Woolloongabba) and built up residential areas close to major petrochemical industries (e.g. Wynnum).

Table 1: Stage 2 Sites and Proposed Monitoring Program

Location of Stage 2 Sites	Air toxics with possible elevated levels	Air toxics to be monitored	Proposed timeframe for monitoring	Estimate of size of population likely to be exposed and identification of susceptible groups
Woolloongabba (Ipswich Road)	Benzene, toluene, xylene, formaldehyde, benzo[<i>a</i>]pyrene	Benzene, toluene, xylene, formaldehyde, benzo[<i>a</i>]pyrene	2013–14*	Residential population of 4,700; employed population of 10,000; inner city close to major roads and freeway
Wynnum	Benzene, toluene, xylene, formaldehyde, benzo[<i>a</i>]pyrene	Benzene, toluene, xylene, formaldehyde, benzo[<i>a</i>]pyrene	2017	Residential population of 12,200; close to major petrochemical industries

* benzo[*a*]pyrene monitoring commenced in 2013–14, monitoring of other air toxics still to commence

Reporting of Monitoring of Air Toxics

Air toxics monitored in the 2015–16 reporting period at Stage 2 sites in South East Queensland were limited to polycyclic aromatic hydrocarbons (including benzo[*a*]pyrene) at the Woolloongabba roadside monitoring site.

An alternative differential optical absorption spectroscopy (DOAS) technique was used to monitor levels of benzene, toluene, xylenes and formaldehyde at the ambient air quality monitoring network sites of Springwood in South East Queensland and central Gladstone.

Motor vehicles were the primary source of air toxics emissions at the South East Queensland sites of Woolloongabba and Springwood. In the Gladstone region, primary air toxics emission sources include industrial facilities, such as metals processing and power generation, and a major port.

Monitoring results from these three monitoring sites for the 2015 calendar year are provided in Tables 2–6 below. These results indicate that levels of air toxics at the Stage 2 site at Woolloongabba, and in Springwood and Gladstone, are well below the AT NEPM investigation levels.

Table 2: Monitoring Results for Benzene

Site	Springwood	Central Gladstone
Monitoring method	DOAS	DOAS
Period of monitoring	1/1/15 to 31/12/15	1/1/15 to 31/12/15
Number of valid results	274	261
Maximum 24-hour average concentration	0.0011 ppm	0.0019 ppm
Annual average concentration (as arithmetic mean)	0.0009 ppm	0.0015 ppm
Arithmetic Standard Deviation of 24-hour average concentrations	0.0001 ppm	0.0002 ppm
Number of times monitoring investigation level exceeded*	0	0

* must be evaluated as “not demonstrated” if no monitoring or assessment has taken place

Table 3: Monitoring Results for Toluene

Site	Springwood	Central Gladstone
Monitoring method	DOAS	DOAS
Period of monitoring	1/1/15 to 31/12/15	1/1/15 to 31/12/15
Number of valid results	298	316
Maximum 24-hour average concentration	0.0129 ppm	0.0029 ppm
Annual average concentration (as arithmetic mean)	0.0045 ppm	0.0019 ppm
Arithmetic Standard Deviation of 24-hour average concentrations	0.0015 ppm	0.0004 ppm
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 for Xylenes

Site	Springwood	Central Gladstone
Monitoring method	DOAS	DOAS
Period of monitoring	1/1/15 to 31/12/15	1/1/15 to 31/12/15
Number of valid results	299	317
Maximum 24-hour average concentration	0.0117 ppm	0.0183 ppm
Annual average concentration (as arithmetic mean)	0.0065 ppm	0.0101 ppm
Arithmetic Standard Deviation of 24-hour average concentrations	0.0015 ppm	0.0020 ppm
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 for Formaldehyde

Site	Springwood	Central Gladstone
Monitoring method	DOAS	DOAS
Period of monitoring	1/1/15 to 31/12/15	1/1/15 to 31/12/15
Number of valid results	295	324
Maximum 24-hour average concentration	0.0228 ppm	0.0039 ppm
Annual average concentration (as arithmetic mean)	0.0088 ppm	0.0024 ppm
Arithmetic Standard Deviation of 24-hour average concentrations	0.0029 ppm	0.0004 ppm
Number of times monitoring investigation level exceeded*	0	0

* must be evaluated as “not demonstrated” if no monitoring or assessment has taken place

Table 6: Monitoring Results for Benzo[a]pyrene

Site	Woolloongabba
Monitoring method	TO-13A
Period of monitoring	1/1/15 to 31/12/15
Number of valid results‡	12
Maximum monthly average concentration‡	0.051 ng/m ³
Annual average concentration (as arithmetic mean) ‡	0.027 ng/m ³
Arithmetic Standard Deviation of monthly average concentrations‡	0.017 ng/m ³
Number of times monitoring investigation level exceeded*	0

‡ monthly, rather than 24-hour, sampling was conducted at Woolloongabba

* must be evaluated as “not demonstrated” if no monitoring or assessment has taken place

Reporting on Assessment and Action if any Planned or Taken to Manage Air Toxics

Improvement of baseline information regarding ambient air toxics levels in Queensland has occurred by various methods. These methods include desktop analysis, identifying sites likely to have the highest population exposure to air toxics, monitoring ambient benzene, toluene, xylenes and formaldehyde concentrations in South East Queensland and Gladstone, and monitoring ambient polycyclic aromatic hydrocarbons (including benzo[*a*]pyrene) concentrations in South East Queensland. The monitoring results for the 2015–16 reporting period, in addition to past results, do not suggest a problem with air toxics concentrations at these sites.

Repeat Identification of Stage 1 and Stage 2 Sites

The analysis for identification and prioritisation of Stage 1 and Stage 2 sites, as required by the NEPM, was limited to densely populated areas of South East Queensland. From this analysis, the following sites were identified as Stage 2 sites representative of locations with the most potential for significant population exposure to air toxics:

- Ipswich Road, Woolloongabba—representative of a medium density residential area with potential for significant population exposure to air toxics from motor vehicle emissions; and
- Wynnum North Road, Wynnum North—representative of a low–medium density residential area with potential for significant population exposure to air toxics from industrial emissions.

Western Australia

Report to the NEPC on the implementation of the National Environment Protection (Air Toxics) Measure for Western Australia by Hon Albert Jacob MLA, Minister for Environment; Heritage for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

Legislative, regulatory and administrative framework

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

Air toxics emissions are also managed through the Perth Air Quality Management Plan (AQMP), a non-statutory mechanism established by the Western Australian Government. The objective of the AQMP is to ensure that clean air is achieved and maintained throughout the Perth metropolitan region. The AQMP identifies that, to achieve an overall improvement in Perth's air quality, further studies are required to determine major sources and concentrations of air toxics in the Perth metropolitan region. The initiatives within the AQMP are complementary to the Air Toxics NEPM.

Implementation issues arising

In August 2015 DER published the Kwinana Background Air Quality Study Phase 4—2013 to 2014 report. The study investigated levels of certain volatile organic compounds including benzene, toluene, ethylbenzene and xylenes using an open path fourier transform infrared spectrometer (OP-FTIR) within urban areas adjacent to the Kwinana Industrial Area over a total of 69 sampling days. The advantage of the OP-FTIR is that it allows simultaneous monitoring of a range of volatile organic compounds at a higher temporal resolution than passive sampling or NEPM-compliant monitoring. The report is available on the DER website www.der.wa.gov.au.

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 to 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 a number of objectives to be satisfied when developing and implementing the monitoring programs. As a consequence, the NEPM monitoring protocol has not always been followed. The monitoring results from these studies are invaluable when assessing ambient air toxic concentrations across Western Australia.

An updated emissions inventory is currently being developed for the Perth Metropolitan Region. This inventory will include air toxics and will give Western Australia better information in identifying and prioritising air toxic 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 DER website www.der.wa.gov.au. Owing to these findings, 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 indicated.

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 met the ranking criteria for polycyclic aromatic hydrocarbons Stage 1 sites. No Stage 1 sites were identified for benzene, toluene or xylene. Two priority categories (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. Ian Hunter MLC, Minister for Sustainability, Environment and Conservation, for the reporting year ended 30 June 2016.

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 Matthew Groom, Minister for Environment, Parks and Heritage for the reporting year ended 30 June 2016.

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 which have been passed by both Houses of Parliament.
- The National Environment Protection (Air Toxics) Measure (Air Toxics NEPM) is put into effect under the Environment Protection Policy (Air Quality) 2004 (Air EPP) and the Tasmanian Air Quality Strategy 2006.
- The Air Toxics NEPM is implemented primarily through EPA Tasmania in the Department of Primary Industries, Parks, Water and the Environment (DPIPWE).
- Extensive preliminary screening monitoring of air toxics was undertaken in Tasmania between 2008 and 2011. Monitoring was discontinued in 2011. No air toxics monitoring was undertaken in Tasmania during the reporting year ending 30 June 2016.

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, fourteen stage 2 sites were identified in a Desktop Analysis conducted in accord with the Air Toxics NEPM Desktop Analysis protocol.

Monitoring was conducted at 9 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 (eg 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:

- domestic wood smoke emissions;
- motor vehicle emissions, in Hobart; and
- 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.

Reporting of Monitoring of Air Toxics

Air Toxics monitoring undertaken to date in Tasmania was conducted predominantly using non-reference passive sampling techniques. Passive sampling allows for the possibility of longer sampling periods. As the levels of air toxic pollutants are likely to be low in Tasmania, the extended deployment period associated with passive samplers increased the likelihood of detection of these species.

The results of active sampling for polycyclic aromatic hydrocarbons at two sites was reported in 2011. A program of active sampling at peak sites, for benzene, toluene, xylenes and formaldehyde was completed in 2011 and the results were included in the 2011–2012 annual implementation report.

No air toxics monitoring was conducted in Tasmania during the 2015–2016 period. Consequently, the monitoring requirements for the Air Toxics NEPM must be evaluated as “not demonstrated” for the 2015 calendar year.

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 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 2-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, fourteen 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 Australian Capital Territory by Mr Simon Corbell MLA, Minister for the Environment for the reporting year ended 30 June 2016.

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 the Northern Territory by the Minister for Environment and Natural Resources for the reporting year ended 30 June 2016.

PART 1 — IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The Northern Territory Environment Protection Authority is responsible for 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 2004*.
- The Northern Territory 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 (ortho, meta and para), well below the investigation levels set by the NEPM.
- No further implementation activities were conducted in 2015–16. Reassessment of Stage 1 and Stage 2 sites may be required in the future, taking into account industrial development in the Darwin region. 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 Northern Territory. Monitoring in 2005–06 has provided baseline data for further consideration.

In the year 2015–16 no sites were evaluated or selected and no analyses were performed.

Appendix 2: Jurisdictional Reports on the Implementation and Effectiveness of the Ambient Air Quality NEPM

Commonwealth

Report to the NEPC on the implementation of the National Environment Protection (Ambient Air Quality) Measure for the Commonwealth by the Hon Greg Hunt MP, Minister for the Environment, for the reporting year ended 30 June 2016.

PART 1 — IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The Commonwealth implements the National Environment Protection (Ambient Air Quality) Measure administratively and ensures that its obligations under the *National Environment Protection Act 1994* are met.
- The Commonwealth is not required to undertake any direct monitoring as there are currently no non self governing Commonwealth territories or Commonwealth regions with a population above the 25,000 Ambient Air Quality NEPM protocol threshold. The monitoring plan for the Commonwealth is available from www.environment.gov.au/atmosphere/airquality/publications/cmp.html.
- At their meeting on 15 December 2015, Australia's environment ministers endorsed the National Clean Air Agreement. The agreement will deliver actions to reduce air pollution and establishes a process for jurisdictions to work cooperatively to address emerging air quality issues—ensuring Australians continue to enjoy clean air into the future.
- Taking into account the latest scientific evidence of health impacts, Ministers agreed to strengthen national ambient air quality reporting standards for airborne particulate matter (PM). Ministers agreed to adopt reporting standards for annual average and 24-hour PM_{2.5} of 8µg/m³ and 25µg/m³ respectively, aiming to move to 7µg/m³ and 20µg/m³ respectively by 2025. Ministers also agreed to establish an annual average standard for PM₁₀ of 25µg/m³. These amendments came into effect in March 2016.
- Further work, being led by Victoria, to review the ambient air quality standards for ozone, nitrogen dioxide and sulfur dioxide is underway under the agreement. This review will consider new evidence on the health effects of air pollution, and Ministers will consider this work following further consultation and development.
- In 2015–16, the Commonwealth in collaboration with the states and territories continued to progress work to reduce emissions from nationally significant sources. The Commonwealth-led initiatives focused on wood heaters, which are a source of PM₁₀ emissions, and non-road spark ignition engines and equipment, such as gardening equipment and marine outboard engines, which emit high levels of PM₁₀, nitrogen dioxide and chemicals that lead to ozone formation.
- On 31 October 2015, the Commonwealth announced a whole of government review of vehicle emissions through the establishment of a Ministerial Forum on Vehicle Emissions. Government decisions on new vehicle emissions measures are expected in 2017. The forum is looking at:
 - introducing light vehicle fuel efficiency standards to reduce CO₂ emissions
 - moving from the Euro 5/V standard to Euro 6/VI to reduce noxious emissions from light/heavy vehicles
 - fuel quality standards needed to support reductions in emissions and air pollution
 - other measures, including consumer information programs, Australian Government fleet purchasing, testing standards, and initiatives to support the adoption of alternative fuels, electric vehicles and intelligent transport systems.
- The Commonwealth monitors fuel quality at all stages of the fuel supply chain to ensure it complies with the *Fuel Quality Standards Act 2000*. The objects of the Act are to:
 - a) regulate the quality of fuel supplied in Australia in order to:
 - i. reduce the level of pollutants and emissions arising from the use of fuel that may cause environmental and health problems
 - ii. facilitate the adoption of better engine technology and emission control technology
 - iii. allow the more effective operation of engines
 - b) ensure that, where appropriate, information about fuel is provided when the fuel is supplied.
- In 2015–16, authorised fuel inspectors visited 455 sites and tested 1602 samples for compliance with the Act.

- A statutory review of the Act was completed in April 2016. The review sought to determine the efficiency, effectiveness and appropriateness of the Act in achieving its objects, and advise on options for improvement. It found that the Act has met its objectives, and recommended that the Act be retained, with amendments. The review report is available at www.environment.gov.au/protection/fuel-quality/legislation/review-2015. The Department is currently undertaking a review of the legislative instruments (including fuel standards) made under the Act.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The Ambient Air Quality NEPM provides a nationally consistent framework for the monitoring, reporting and assessment of ambient air quality in Australia.

A review of the NEPM, completed in May 2011, found that it lead to a greater understanding of air quality in Australia which resulted in an improved understanding of the health impacts of air pollution on the community. The review made 23 recommendations for changes to help minimise risk to population health from air pollution. Some of these recommendations were addressed through the amendment of the NEPM in 2016 and others are being considered as part of the review of sulfur dioxide, nitrogen dioxide and ozone reporting standards.

The data collected by participating jurisdictions for the six criteria pollutants listed in the NEPM (carbon monoxide, nitrogen dioxide, photochemical oxidants as ozone, sulfur dioxide, lead and PM₁₀) remain essential for monitoring Australia's ambient air quality. This is a valuable resource for informing the development of the National Clean Air Agreement and its work plan, and for developing strategic approaches to manage Australia's air quality into the future.

Data collected through the NEPM has previously informed significant reports including the *State of the air in Australia 1998–2008* report and *Australia State of the Environment 2011*. Ambient Air Quality NEPM data will also inform the *Australia State of the Environment 2016* report.

New South Wales

Report to the NEPC on the implementation of the National Environment Protection (Ambient Air Quality) Measure for New South Wales by Mark Speakman, Minister for the Environment for the reporting year ended 30 June 2016.

PART 1 – IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The National Environment Protection (Ambient Air Quality) Measure (NEPM) is implemented under the *Protection of the Environment Operations Act 1997*, the Protection of the Environment Operations (Clean Air) Regulation 2010 and the Protection of the Environment Operations (General) Regulation 2009.

The *Protection of the Environment Operations Act 1997* sets the statutory framework for managing air quality in NSW.

The Protection of the Environment Operations (Clean Air) Regulation 2010 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 2009 establishes the licensing scheme for major industrial premises and economic incentives for licensed businesses and industry to reduce pollution, including emissions to air.

In New South Wales, the Office of Environment and Heritage and the Environment Protection Authority work together to reduce impacts of air pollution. The Office of Environment and Heritage operates a comprehensive air quality monitoring network. The Environment Protection Authority develops and implements regulation, policies and programs to improve compliance with NEPM goals and protect public health.

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

Air Quality Management in the Greater Metropolitan Region and Regional New South Wales

The Environment Protection Authority delivers a number of 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.

The following is an outline of the key mechanisms for managing air quality and the activities implemented in 2015–16.

Air emissions inventory

The Air Emissions Inventory for the NSW Greater Metropolitan Region (GMR) is a detailed snapshot of major sources of air pollution. It estimates emissions of over 1,000 substances released to the atmosphere from natural and human-made sources within the NSW GMR. Detailed inventory data are available in a series of technical reports on the 2008 Calendar Year Air Emissions Inventory webpage. Compilation of an updated Inventory for the 2013 calendar year continued through 2015, with publication planned in 2017.

The community can access air emissions inventory information about local sources of air pollution via the Air Emissions in my Community web tool. The tool presents aggregated data and charts for different geographic areas down to local council and postcode level.

Health research

In 2015, the NSW Environment Protection Authority and Ministry of Health commissioned new health research under a Memorandum of Understanding with the Independent Centre for Air Quality and Health Research and Evaluation (CAR). CAR undertook a comprehensive review of international and Australian evidence related to the health effects of exposure to outdoor (ambient) particulate matter from a range of sources.

The Review of the health impacts of emission sources, types and levels of particulate matter in air pollution in ambient air in NSW, published in December 2015, found that exposure to levels of particles that currently exist in NSW will have measurable adverse impacts on health, particularly in vulnerable people such as individuals with chronic respiratory and cardiovascular diseases, the elderly, and children, and that exposure of the NSW population to all particle pollution, regardless of source, should be minimised by reducing ambient particle levels as low as possible.

Industry emissions

In 2015–16, the Environment Protection Authority continued to implement its regulatory responsibilities, including licensing scheduled industry activities and conducting compliance and enforcement programs. The *Protection of the Environment Operations Act 1997*, the Protection of the Environment Operations (Clean Air) Regulation 2010 and the Protection of the Environment Operations (General) Regulation 2009 set the framework for managing air pollution from major industries in NSW.

Under the Protection of the Environment Operations (General) Regulation 2009, the Environment Protection Authority commenced a risk-based licensing system on 1 June 2015. A risk-based approach ensures that all environment protection licensees receive a level of regulation based on the level of risk they pose to human health and the environment.

The Environment Protection Authority's Load Based Licensing (LBL) scheme sets limits on the pollutant loads emitted by holders of environment protection licences and links licence fees to pollutant emissions. In 2015–16, the EPA continued to progress a review of the Load LBL scheme, which aims to improve the scheme's efficiency and effectiveness.

Non-road diesel and marine emissions

The Environment Protection Authority's Diesel and marine emissions management strategy, released in February 2015, sets out NSW actions to address emissions from non-road diesel equipment used in Environment Protection Authority-licensed activities such as coal mining, equipment used by government agencies or their contractors, diesel locomotives operating in NSW, and containerised and bulk cargo and cruise shipping at NSW ports.

• *Non-road diesel equipment and plant*

In December 2015 the Environment Protection Authority released the final report NSW Coal Mining Benchmarking Study—Best-practice measures for reducing non-road diesel exhaust emissions. This project assessed practices at Environment Protection Authority-licensed coal mines to manage non-road diesel equipment particle emissions and considered the costs and benefits of options available to reduce emissions. The report recommended that Pollution Reduction Programs be issued to all 64 licensed coal mines in NSW, requiring a best practice determination of measures to reduce particle emissions. A draft Pollution Reduction Program was presented to a stakeholder workshop held in Muswellbrook in June 2016. The Environment Protection Authority is continuing to work with the coal mining industry to finalise the requirements of the Pollution Reduction Program to address issues raised.

The NSW Environment Protection Authority partnered with the Infrastructure Sustainability Council of Australia (ISCA) in 2015 to develop case studies for best-practice approaches to manage diesel emissions and improve air quality for those who live and work near construction projects. Government and private sector case studies were published on the Environment Protection Authority's website in May 2016. Actions showcased included procuring low emission equipment, retrofitting in-service equipment with technology to reduce diesel emissions, and providing driver awareness training.

Throughout 2015–16 the Environment Protection Authority supported the implementation of the NSW Government Resource Efficiency Policy (GREP), administered by NSW Office of Environment and Heritage. The Policy includes requirements to address non-road diesel engine emissions through government procurement and contracts.

• *Locomotives*

In March 2016, the Environment Protection Authority held a workshop to report back to stakeholders on the results of the joint Environment Protection Authority and industry Diesel locomotive emissions upgrade project undertaken in 2015. The testing results demonstrated PM and NO_x emissions reduction conformant with US Tier 0+ emission standards for remanufactured locomotives, and will inform policy development for management of emissions from locomotives operating in NSW.

• *Review of regulatory framework for the NSW operational rail sector*

Consultation was ongoing in 2015–16 for the review of regulatory options for the NSW operational rail sector. An assessment of options concluded that the most effective and practical approach to regulating environmental impacts from rail operations is to license both railway system operators and rolling stock operators, under the *Protection of the Environment Operations Act 1997*, for the activities under their respective control. This would make rolling stock operators, including the operators of diesel locomotives, directly accountable to the Environment Protection Authority for their environmental performance.

• *Shipping*

Following the NSW Government's introduction in 2015 of new requirements for cruise ships to use low sulfur fuel while operating in Sydney Harbour, the Australian Government subsequently amended the *Protection of the Sea (Prevention of Pollution from Ships) Act 1983*, rendering the NSW low sulfur requirements for cruise ships inoperative. NSW is working with the Commonwealth and seeking amendments to the *Protection of the Sea (Prevention of Pollution from Ships) Act 1983* to allow NSW low sulfur requirements to operate. Cruise lines whose ships regularly visit Sydney Harbour have agreed to comply voluntarily with the NSW low sulfur fuel requirements whilst at berth in Sydney Harbour.

Vehicle and fuel emissions

• *Smoky vehicle program*

The Environment Protection Authority operates a smoky vehicle compliance program that targets vehicles emitting excessive air impurities. In 2015–16, Environment Protection Authority officers issued approximately 90 penalty notices to the owners of vehicles found to be emitting excessive air impurities. In addition, the Environment Protection Authority issued over 780 letters to the owners of vehicles reported by members of the community, advising the vehicle owners to have the vehicles inspected and repaired if necessary.

• *Diesel vehicle retrofit and repair program*

During 2015–16 NSW Roads and Maritime Services completed the M5 East Tunnel Diesel Retrofit and Repair Initiative. This initiative was a three year program that started on 1 March 2013 and was completed on 29 February 2016.

The aim of the initiative was to reduce the level of PM₁₀ present in the M5 East tunnel, by removing PM₁₀ exhaust emissions at their source through the installation of exhaust after-treatment devices and performing engine repairs on heavy vehicles that have been identified as smoky through the use of camera technology.

The M5 East Tunnel Diesel Retrofit and Repair Initiative was designed to be complementary to smoky vehicle legislation amendments that also came into effect on 1 March 2013 introducing an increase to the smoky vehicle penalty in the M5 East tunnel from \$400 to \$2,000 and a three-month vehicle registration suspension on the third proven offence. The target vehicle group was large heavy diesel vehicles which are assumed to be the primary source of the particulate loading within the M5 East tunnel.

Between 1 July 2015 and 29 February 2016 there were 57 vehicles detected emitting more than 10 seconds of visible smoke in the M5 East tunnel. This resulted in 44 penalty notices and 53 invitation letters to join the repair and retrofit initiative being sent to the operators of the identified vehicles.

Participation in the initiative was voluntary. It was a co-contribution program with Roads and Maritime Services contributing up to a capped amount on a 50/50 cost sharing basis to cover the supply and installation of retrofit devices and any engine repairs necessary to ensure optimum effectiveness of the retrofit device.

By the end of the program, there was a significant reduction in the number of smoky vehicles using the tunnel. The smoky vehicle detection rate was approximately 40 vehicles per month at the start of the program and this had reduced to approximately 5 vehicles per month by the end of the program.

• *Vapour recovery at service stations*

The Environment Protection Authority manages the implementation of Vapour Recovery (VR) requirements at service stations in the Newcastle, Central Coast, Sydney and Wollongong Metropolitan Areas, and Illawarra and Lower Hunter regions. Around 1,130 service stations were required to install or upgrade Stage 1 vapour recovery equipment (VR1), which captures vapours displaced from underground storage tanks when they are refilled, by 1 January 2015. Approximately 96 per cent of these service stations have installed VR1 technology.

By 1 January 2017, medium to large service stations with a petrol throughput of 3.5 to 12 million litres per year, located in the Sydney Metropolitan Area, and/or any 'new or modified' service stations, must install Stage 2 equipment, which captures vapours when vehicles are re-filled at the dispenser. Eleven large service stations in the greater metropolitan area with a petrol throughput of more than 12 million litres per year have installed both VR1 and VR2 control equipment. Over 2015–16, the Environment Protection Authority continued to work with industry stakeholders and target compliance action to maximise uptake of VR2 technology by 1 January 2017.

Once fully implemented, vapour recovery is expected to reduce VOC emissions in the Greater Metropolitan Region by approximately 5,000 tonnes per year.

- ***Summer low-volatility petrol***

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 Environment Protection Authority on batch volatility. The petrol volatility limits reduce VOC emissions in the Sydney region by about 4,000 tonnes each summer.

- ***National vehicle and fuel standards***

The Commonwealth Government is responsible for national fuel and vehicle emission standards. NSW supports early adoption of Euro 6/VI standards (light vehicle/heavy vehicle standards) to reduce motor vehicle pollution and harmonising Australian fuel quality standards with European standards to reduce levels of sulfur in fuel. In 2015, NSW made a submission on the Fuel Quality Standards Act Review to provide evidence of the benefits of tighter fuel standards for NSW.

Wood smoke management

Following public consultation in 2015, the Environment Protection Authority proposes to introduce the Protection of the Environment Operations (Clean Air) Amendment (Solid Fuel Heaters) Regulation 2016, to mandate new national efficiency and updated emissions standards from 1 November 2016.

In 2015, the Environment Protection Authority undertook the Upper Hunter Wood Smoke Community Research Project, to understand residents' attitudes towards wood heaters, with the final report released in April 2016. The research has informed the 2016 winter wood smoke reduction program in Muswellbrook and Singleton. The program includes community education and provides incentives to replace old wood heaters with alternative forms of heating and flue cleaning.

Hunter Region air quality management

In 2015–16, the Environment Protection Authority continued its Dust Stop program to reduce dust from coal mining activities. This program is estimated to have reduced wheel-generated PM₁₀ emissions from open-cut mines by 20,000 tonnes a year.

The Lower Hunter Particle Characterisation Study was designed to provide the local community with robust information about the composition and sources of fine particles in the lower Hunter region, and of particles as PM_{2.5} and PM₁₀ in areas near the Port of Newcastle. It was complemented by the Lower Hunter Dust Deposition Study, conducted in cooperation with the community to improve knowledge of coarser dust particles that settle out of the air. Findings of both studies are available on the Environment Protection Authority Lower Hunter Air Quality Studies web page.

The Environment Protection Authority also continued to engage with Hunter stakeholders and community about air quality issues through the Newcastle Community Consultative Committee on the Environment (NCCCE) and the Upper Hunter Air Quality Advisory Committee.

Investigation of emissions in the Hunter rail corridor continued in 2015–16. Professor Louise Ryan reported on further analysis of Australian Rail Track Corporation (ARTC) data on particulate emissions in the rail corridor. She found elevated particle levels associated with trains were likely due to particles on the tracks being stirred up by passing trains. In September 2015, the Government asked the NSW Chief Scientist and Engineer to review rail coal dust emissions management practices in the NSW coal chain. She presented her Initial Report in November 2015 and her final report, recommending further locally focussed monitoring, in August 2016.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The New South Wales Air Quality Monitoring Program is the largest in Australia, with a comprehensive monitoring network operated by the Office of Environment and Heritage. The NEPM network is a sub-set of the entire Air Quality Monitoring Network operated by the Office of Environment and Heritage.

During 2015 NEPM standards were met for carbon monoxide, nitrogen dioxide and sulfur dioxide which all remain well below NEPM standards. Note that monitoring for lead as a regional pollutant ceased in New South Wales from January 2005 due to the extremely low concentrations of lead now found in ambient air.

During 2015 NEPM standards were not met for ozone and particles as PM_{10} (10 microns and smaller in diameter) and as $PM_{2.5}$ (2.5 microns and smaller in diameter). Two stations in the Sydney region recorded annual average $PM_{2.5}$ levels above the $PM_{2.5}$ standard. These exceedances are summarised below:

Ozone

During 2015, Wyong, Kembla Grange and Wollongong exceeded the NEPM standard for ozone. A rare early season coastal ozone event on 6 October resulted in ozone exceedances, for the 4 hour standard, at the coastal monitoring sites of Wyong and Wollongong. Photochemical activity (as ozone) typically occurs during the summer months (January, November and December). The other ozone exceedance was at Kembla Grange on 19 December 2015 where the 1 hour standard was exceeded.

Particles

In 2016, AAQ NEPM introduced the following additional air quality standards:

- Annual average for PM_{10} of $25.0\mu\text{g}/\text{m}^3$.
- Annual average for $PM_{2.5}$ of $8.0\mu\text{g}/\text{m}^3$ (previously an Advisory Reporting Standard)
- Daily average for $PM_{2.5}$ of $25.0\mu\text{g}/\text{m}^3$ (previously an Advisory Reporting Standard)

In 2016, AAQ NEPM introduced and changed the following air quality goals:

- Particles as PM_{10} and $PM_{2.5}$ shall have no allowable exceedances for the daily and yearly standard.

In 2016, AAQ NEPM introduced a definition for an exceptional event which can be used for the purpose of reporting compliance against PM_{10} and $PM_{2.5}$ standards and goals.

***Exceptional event** means a fire or dust occurrence that adversely affects air quality at a particular location, and causes an exceedance of 1 day average standards 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.*

- To attain NEPM standards for particles as PM_{10} , no exceedance days of the 24-hour standard are allowed, unless identified as an exceptional event. During 2015, Wagga Wagga North and Newcastle did not attain the NEPM standard, each recording a 1 day exceedance above the goal. In 2015, a state-wide dust storm on 5 and 6 May, and Hazard Reduction Burns throughout the year, were the major influences on elevated PM_{10} levels throughout NSW. All monitoring sites met the NEPM PM_{10} annual average standard of $25.0\mu\text{g}/\text{m}^3$.
- To attain the NEPM standards for particles as $PM_{2.5}$, no exceedance days of the 24-hour standard are allowed, unless identified as an exceptional event. During 2015, the NEPM 24 hour standard was not met at Liverpool and Earlwood, each site recorded 1 day each above the goal. Liverpool and Earlwood also exceeded the NEPM $PM_{2.5}$ annual average standard of $8\mu\text{g}/\text{m}^3$.

The NEPM standards for ozone and particles were met for most NEPM monitoring stations during 2015, including in Sydney. However meeting the NEPM standards for ozone remains a challenge for Sydney in summer in most years, given pressures from increasing economic activity; growing population and urban expansion; increased motor vehicle use; and emissions of volatile organic compounds (which are precursors of ozone) from sources such as paints, solvents, aerosols and small engines.

The particle goals (as PM_{10} and as $PM_{2.5}$) present a similar challenge in Sydney and some regions of New South Wales where relatively high use of solid fuel heaters produces elevated levels of particles in autumn and winter. Elevated particle levels can also result in rural population centres near coal mining and agricultural activities (e.g. Wagga Wagga North), due to the effects of these emission sources combined with the local climate and topography.

Informed by air quality monitoring, the air emissions inventory and other research studies, New South Wales has a range of programs in place which target the primary emission sources of ozone and particle pollution. Data from NEPM monitoring stations are presented 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. For averaging times shorter than one year, NEPM standards and goals are met 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} and $PM_{2.5}$, for which no exceedance days are allowed.);
- at least 75 per cent of data are captured in each quarter of the year.

Hourly updated data from the total New South Wales Air Quality Monitoring Network are reported at www.environment.nsw.gov.au/AQMS/ajq.htm.
Current and historical data is searchable and downloadable from www.environment.nsw.gov.au/AQMS/search.htm.
The New South Wales Air Quality Monitoring Plan is located at www.environment.nsw.gov.au/air/nepm/index.htm.

CO

Carbon monoxide

(NEPM standard: 8 hours = 9.0ppm)

Station	Number of exceedences	NEPM goal compliance
Sydney		
Camden	0	Met
Campbelltown West	0	Met
Chullora	0	Met
Liverpool	0	Met
Prospect	0	Met
Rozelle	0	Met
Central Coast		
Wyong	0	Met
Illawarra		
Wollongong	0	Met
Lower Hunter		
Newcastle	0	Met

During 2015 compliance with the Ambient Air Quality NEPM for carbon monoxide was demonstrated at all sites in the Sydney, Illawarra, Central Coast and Lower Hunter regions.



Nitrogen dioxide

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

Station	1 hour		1 year	
	Number of exceedences	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Sydney				
Bringelly	0	Met	0.004	Met
Camden	0	Met	0.004	Met
Campbelltown West	0	Met	0.010	Met
Chullora	0	Met	0.013	Met
Liverpool	0	Met	0.010	Met
Prospect	0	Met	0.011	Met
Richmond	0	Met	0.004	Met
Rozelle	0	Met	0.011	Met
Central Coast				
Wyong	0	Met	0.005	Met
Illawarra				
Albion Park Sth	0	Met	0.003	Met
Wollongong	0	Met	0.008	Met
Lower Hunter				
Newcastle	0	Met	0.007	Met
Wallsend	0	Met	0.008	Met

During 2015 compliance with the Ambient Air Quality NEPM for nitrogen dioxide was demonstrated at all sites in the Sydney, Illawarra, Central Coast and Lower Hunter regions.



Ozone

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

Station	1 hour		4 hours	
	Number of exceedences	NEPM goal compliance	Number of exceedences	NEPM goal compliance
Sydney				
Bringelly	0	Met	0	Met
Camden	0	Met	0	Met
Campbelltown West	0	Met	0	Met
Chullora	0	Met	0	Met
Liverpool	0	Met	0	Met
Oakdale	0	Met	0	Met
Prospect	0	Met	0	Met
Richmond	0	Met	0	Met
Rozelle	0	Met	0	Met
St Marys	0	Met	0	Met
Central Coast				
Wyong	0	Met	1	Met
Illawarra				
Albion Park Sth	0	Met	0	Met
Kembla Grange	1	Met	0	Met
Wollongong	0	Met	1	Met
Lower Hunter				
Newcastle	0	Met	0	Met
Wallsend	0	Met	0	Met

Ozone levels above the 1 hour and 4 hour standards were recorded at the Central Coast and the Illawarra during 2015. A rare early season coastal ozone event on 6 October resulted in ozone exceedences, for the 4 hour standard, at the coastal monitoring sites of Wyong and Wollongong. Photochemical activity (as ozone) typically occurs during the summer months (January, November and December). The other ozone exceedance was at Kembla Grange on 19 December 2015 where the 1 hour standard was exceeded.

Ozone levels in the Sydney and the Lower Hunter remained below the standards throughout 2015.



Sulfur dioxide

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

Station	1 hour		1 day		1 year	
	Number of exceedences	NEPM goal compliance	Number of exceedences	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Sydney						
Bringelly	0	Met	0	Met	0.000	Met
Campbelltown West	0	Met	0	Met	0.000	Met
Chullora	0	Met	0	Met	0.001	Met
Prospect	0	Met	0	Met	0.001	Met
Richmond	0	Met	0	Met	0.000	Met
Central Coast						
Wyong	0	Met	0	Met	0.001	Met
Illawarra						
Albion Park Sth	0	Met	0	Met	0.001	Met
Wollongong	0	Met	0	Met	0.001	Met
Lower Hunter						
Newcastle	0	Met	0	Met	0.001	Met
Wallsend	0	Met	0	Met	0.001	Met

During 2015 compliance with the Ambient Air Quality NEPM for sulfur dioxide was demonstrated at all sites in the Sydney, Illawarra, Central Coast and Lower Hunter regions.

PM₁₀ Particles as PM₁₀ (NEPM standard: 1 day = 50µg/m³)

Station	Number of exceedences	NEPM goal compliance
Sydney		
Bringelly	1	Met
Camden	1	Met
Campbelltown West	1	Met
Chullora	1	Met
Liverpool	1	Met
Oakdale	1	Met
Prospect	1	Met
Richmond	0	Met
Rozelle	1	Met
Central Coast		
Wyang	1	Met
Illawarra		
Albion Park South	0	Met
Kembla Grange	1	Met
Wollongong	0	Met
Lower Hunter		
Beresfield	2	Met
Newcastle	3	Not Met
Regional		
Albury	2	Met
Bathurst	2	Met
Tamworth	1	Met
Wagga Wagga North	7	Not Met

In 2015, a statewide dust storm on 5 and 6 May, and Hazard Reduction Burns throughout the year, were the major influences on elevated PM₁₀ levels throughout NSW and resulted in 16 monitoring stations exceeding the national 1 day standard of 50µg/m³. Wagga Wagga North and Newcastle did not comply with the NEPM goal of zero exceedences. All other exceedences were linked to exceptional events. All monitoring sites complied with the NEPM PM₁₀ annual average standard of 25.0 µg/m³.

PM_{2.5}

Particles as PM_{2.5}
(NEPM standard: 1 day = 25µg/m³, 1 year = 8µg/m³)

Station	Number of exceedences of daily standard	Annual average (µg/m ³)
Sydney		
Camden	0	6.2
Chullora	1	8.0
Earlwood	2	8.5
Liverpool	2	8.5
Richmond	0	7.7
Central Coast		
Wyong	0	5.2
Illawarra		
Wollongong	0	7.6
Lower Hunter		
Beresfield	0	7.3
Wallsend	0	7.3

In 2015, Hazard Reduction Burns on 21 August were the major influence on elevated PM_{2.5} levels throughout NSW and resulted in five monitoring stations exceeding the national 1 day standard of 25µg/m³. Liverpool and Earlwood did not comply with the NEPM goal of zero exceedances and also did not comply with the NEPM PM_{2.5} annual average standard of 8.0 µg/m³.

Victoria

Report to the NEPC on the implementation of the National Environment Protection (Ambient Air Quality) Measure for Victoria by the Hon Lisa Neville, Minister for Environment, Climate Change and Water (until 23 May 2016) and the Hon Lily D'Ambrosio, Minister for Energy, Environment and Climate Change (from 23 May 2016) for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

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.

Data capture was high. Most station parameters are recording a higher than 90% capture rate. This is well above the target of 75%.

There were no other significant implementation issues.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The 2015 report applies the new standards for particles as PM₁₀ and PM_{2.5} as per the varied AAQ NEPM in place since February 2016.

Victoria's air quality in 2015 was generally good, with some parameters shown to be improving over time. Monitoring in 2015 showed the AAQ NEPM goals and standards were met for carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃) and sulfur dioxide (SO₂). There were some exceedances for particles. In general, exceedances were attributed to local dust, fire or urban emissions.

There were 10 days when particles as PM₁₀ exceeded the daily standard at NEPM stations in the Port Phillip Region at the Geelong, Richmond and Footscray stations. These events are attributed to localised dust, regional dust or bushfires.

A significant exceedance—five times the daily PM₁₀ standard—was recorded once at the Geelong station caused by significant vehicle traffic in an unsealed car park associated with the crowd attending a Geelong horse race meeting.

There were two days when the PM_{2.5} daily standard was exceeded at the Alphington station, which can be linked to an increased contribution of pollution from domestic wood heaters in the colder months.

The results from issue-specific monitoring stations in Brooklyn¹ and the Latrobe Valley² are covered in separate reports. Since work began to seal two roads within the Brooklyn Industrial Precinct during autumn 2015, the frequency of days exceeding the PM₁₀ air quality standard in the neighbouring residential area has more than halved. During the 12 month period (May 2015–April 2016) since the roads began to be sealed, the PM₁₀ standard was exceeded on a total of eight days. These are the best air quality results in Brooklyn since EPA began air monitoring in the suburb during 2009.

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 PM₁₀, which may be exceeded no more than five days per year) and at least 75% of data are captured in each quarter.

¹ www.epa.vic.gov.au/~media/Publications/1627.pdf

² www.epa.vic.gov.au/our-work/publications/publication/2015/june/1601

CO

Carbon monoxide

(NEPM standard: 8 hours = 9.0ppm)

Station	Number of exceedences	NEPM goal compliance
Alphington	0	Met
Geelong South	0	Met
Richmond*	ND	Not demonstrated

* Monitoring for carbon monoxide at Richmond ceased in 2015.

NO₂

Nitrogen dioxide

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

Station	1 hour		1 year	
	Number of exceedences	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Alphington	0	Met	0.010	Met
Brighton*	ND	Not demonstrated	0.005	Not demonstrated
Footscray	0	Met	0.011	Met
Geelong South	0	Met	0.006	Met
Point Cook*	ND	Not demonstrated	0.004	Not demonstrated
Traralgon	0	Met	0.006	Met

* Monitoring for nitrogen dioxide at Brighton and Point Cook ceased in 2015

O₃

Ozone

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

Station	1 hour		4 hours	
	Number of exceedences	NEPM goal compliance	Number of exceedences	NEPM goal compliance
Alphington	0	Met	0	Met
Brighton	0	Met	0	Met
Dandenong	0	Met	0	Met
Footscray	0	Met	0	Met
Geelong South	0	Met	0	Met
Melton	0	Met	0	Met
Mooroolbark	0	Met	0	Met
Point Cook	0	Met	0	Met
Traralgon	0	Met	0	Met



Sulfur dioxide

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

Station	1 hour		1 day		1 year	
	Number of exceedences	NEPM goal compliance	Number of exceedences	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Alphington	0	Met	0	Met	0.001	Met
Altona North	0	Met	0	Met	0.002	Met
Geelong South	0	Met	0	Met	<0.001	Met
Traralgon	0	Met	0	Met	0.001	Met



Lead

(NEPM standard: 1 year = 0.50µg/m³)

Station	Annual average (µg/m ³)	NEPM goal compliance
N/A	N/A	N/A

- Following the phasing-out of leaded petrol, concentrations at the peak station, Collingwood, were below the level specified for discontinuing monitoring. Monitoring of lead in Melbourne ceased at the end of 2004. All other regions meet screening criteria as set out in the monitoring plan and all regions are assessed as complying with the standard and goal.



Particles as PM₁₀

(NEPM standard: 1 day = 50µg/m³)

Station	Number of exceedences	NEPM goal compliance
Alphington	0	Met
Brighton	0	Not demonstrated
Dandenong	0	Not demonstrated
Footscray	3	Not met
Geelong South	10	Not met
Mooroolbark	0	Not demonstrated
Richmond	1	Not met
Traralgon	0	Met

Monitoring for PM₁₀ at Brighton and Mooroolbark ceased in 2015.

There was insufficient data capture at Dandenong to demonstrate compliance with the goal

PM_{2.5}

Particles as PM_{2.5}
(NEPM standard: 1 day = 25µg/m³, 1 year = 8µg/m³)

Station	1 year	
	Number of exceedences	Annual average (µg/m ³)
Alphington	0	6.9
Alphington (Beta Attenuation)	2	8.3
Footscray (Partisol)	0	6.4
Footscray (Beta Attenuation)	0	7.5

Queensland

Report to the NEPC on the implementation of the National Environment Protection (Ambient Air Quality) Measure for Queensland by Hon. Steven Miles MP, Minister for Environment and Heritage Protection and Minister for National Parks and the Great Barrier Reef for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- In Queensland, the Ambient Air Quality NEPM is implemented under the *Environmental Protection Act 1994* (EP Act), the Environmental Protection Regulation 2008, and the Environmental Protection (Air) Policy 2008, with the NEPM standards incorporated as air quality objectives.
- In the 2015–16 reporting period, monitoring was conducted in five of the ten regions identified in the Monitoring Plan: South East Queensland, Gladstone, Mackay, Townsville and Mount Isa. Eleven of the nineteen sites nominated in the monitoring plan, and two additional reporting sites, were operational. Monitoring at four of the eight remaining sites concluded prior to 2015–16 due to completion of campaign monitoring or site closure following termination of the monitoring site lease by the property owner.
- Collection of PM_{2.5} data using Tapered Element Oscillating Microbalance (TEOM) instrumentation continued at two sites in South East Queensland (Rocklea and Springwood) and one site in Gladstone (South Gladstone) during 2015.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

- The results of Queensland's ambient air quality monitoring in 2015 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 sulfur dioxide and PM₁₀ in Mount Isa.
- Although industrial emission sources in Mount Isa have significantly reduced total sulfur dioxide emissions to air in recent years through capture and conversion to sulfuric acid, compliance with the NEPM one-hour sulfur dioxide standard was unlikely to be achieved under existing regulatory controls.
- In May 2008, the Queensland Government amended legislation regulating Mount Isa smelter emissions to bring these operations under the stricter controls within the EP Act. In December 2011, the Queensland Government issued the smelter operator an Environmental Authority (EA) applying contemporary environmental conditions to the site. In April 2012, a Transitional Environmental Program (TEP) under the provisions of the EP Act was approved, recognising that the smelter operations could only achieve contemporary air quality standards following considerable investment and further work. The TEP listed a staged program of works, including the closure of the copper smelter in 2016, designed to bring the site into compliance with AAQ NEPM air quality standards by 2016.
- In September 2015 the Queensland Government issued the smelter operators with an amended EA to allow operation of the copper smelter to continue until 2022. Consequently, the TEP was cancelled in February 2016. While still progressively reducing emissions to air at the site, the amended EA allows for one-hour average sulfur dioxide levels in excess of the AAQ NEPM goal.
- The AAQ NEPM PM₁₀ 24-hour standard (the numerical threshold) was exceeded in 2015 at Springwood in South East Queensland and at The Gap in Mount Isa. PM₁₀ concentrations at The Gap in Mount Isa did not meet the NEPM goal of no more than five exceedences in a year. The exceedences in Mount Isa were all caused by windblown dust during dry conditions, with minimal or no contribution from industrial activities. At Springwood the single exceedence of the PM₁₀ 24-hour standard was caused by localised dust-generating activities.
- The AAQ NEPM ozone one-hour and four-hour standards were exceeded on one day during 2015 at Rocklea and Flinders View in South East Queensland. These exceedences were due to added ozone precursor pollutant emissions from vegetation fires in South East Queensland.

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 PM₁₀, 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 2015 air monitoring report available at www.qld.gov.au/environment/pollution/monitoring/air-reports.

The monitoring plan for Queensland is available from www.qld.gov.au/environment/pollution/monitoring/air-reports.

CO Carbon monoxide

(NEPM standard: 8 hours = 9.0ppm)

Station	Number of exceedences	NEPM goal compliance
South East Queensland		
Woolloongabba	0	Met

NO₂ Nitrogen dioxide

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

Station	1 hour		1 year	
	Number of exceedences	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
South East Queensland				
Mountain Creek	0	Met	0.003	Met
Deception Bay	0	Met	0.005	Met
Rocklea	0	Met	0.006	Met
Springwood	0	Not demonstrated*	0.005	Not demonstrated*
Flinders View	0	Met	0.006	Met
Gladstone				
South Gladstone	0	Met	0.005	Met
Townsville				
Pimlico	0	Met	0.004	Met

* not demonstrated due to insufficient data (i.e. less than 75 per cent) in one or more quarters



Ozone

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

Station	1 hour		4 hours	
	Number of exceedences	NEPM goal compliance	Number of exceedences	NEPM goal compliance
South East Queensland				
Mountain Creek	0	Met	0	Met
Deception Bay	0	Met	0	Met
Rocklea	0	Met	1	Met
Springwood	0	Not demonstrated*	0	Not demonstrated*
Flinders View	0	Met	1	Met
Townsville				
Pimlico	0	Met	0	Met

* not demonstrated due to insufficient data (i.e. less than 75 per cent) in one or more quarters



Sulfur dioxide

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

Station	1 hour		1 day		1 year	
	Number of exceedences	NEPM goal compliance	Number of exceedences	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
South East Queensland						
Springwood	0	Not demonstrated*	0	Not demonstrated*	0.001	Not demonstrated*
Flinders View	0	Met	0	Met	0.000	Met
Gladstone						
South Gladstone	0	Met	0	Met	0.002	Met
Townsville						
Pimlico	0	Met	0	Met	0.001	Met
Stuart	0	Not demonstrated*	0	Not demonstrated*	Insufficient data	Not demonstrated*
Mount Isa						
Menzies	30	Not Met	2	Not Met	0.006	Met
The Gap	21	Not Met	0	Not Met	0.004	Met

* not demonstrated due to insufficient data (i.e. less than 75 per cent) in one or more quarters

Pb**Lead**(NEPM standard: 1 year = 0.50µg/m³)

Station	Annual average (µg/m ³)	NEPM goal compliance
Townsville		
Coast Guard	0.16	Met
Mount Isa		
The Gap	0.09	Met

PM₁₀**Particles as PM₁₀**(NEPM standard: 1 day = 50µg/m³)

Station	Number of exceedences	NEPM goal compliance
South East Queensland		
Mountain Creek	0	Met
Rocklea	0	Met
Springwood	1	Not demonstrated*
Flinders View	0	Met
Gladstone		
South Gladstone	0	Met
Mackay		
West Mackay	0	Met
Townsville		
Pimlico	0	Met
Mount Isa		
The Gap	6	Not met

PM_{2.5} Particles as PM_{2.5}

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

Station	1 year	
	Number of exceedences	Annual average (µg/m ³)
South East Queensland		
Rocklea ^a	0	7.3
Springwood ^b	0	Insufficient data
Gladstone		
South Gladstone ^a	0	4.3

^a monitoring by TEOM Model 1405 instrumentation fitted with Filter Dynamics Measurement System (FDMS)

^b monitoring by TEOM Model 1400 instrumentation in accordance with Technical Paper on Monitoring for Particles as PM_{2.5}

Western Australia

Report to the NEPC on the implementation of the National Environment Protection (Ambient Air Quality) Measure for Western Australia by Hon Albert Jacob MLA, Minister for Environment; Heritage for the reporting year ended 30 June 2016.

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 Environment Regulation (DER) under the *National Environment Protection Council (WA) Act 1996* and the *Environmental Protection Act 1986*.

Implementation activities may be viewed in two categories:

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

In the first category, DER has:

- continued to liaise with local governments and other organisations as required to facilitate the positioning and repositioning of fixed ambient monitoring stations;
- maintained monitoring of PM_{2.5} to facilitate the development of compliance NEPM standards for this pollutant.

In the second category, DER 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. Implementation of a number of priority actions within the AQMP has commenced in addition to a number of ongoing programs. There continues to be a major focus on managing emissions from motor vehicles and wood heaters, via the CleanRun and BurnWise programs, respectively; and
- 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 areas, particularly where these areas may be impacted by industrial emissions maintained community access to the regularly updated air quality NEPM via DER's website (www.der.wa.gov.au/your-environment/air)

PART2—ASSESSMENT OF NEPM EFFECTIVENESS

The 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 strategies and a useful benchmark against which air quality management can be assessed.

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. Sulfur dioxide and lead have been effectively controlled by industry regulatory means. 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 and PM₁₀ remain pollutants of concern in the Perth Region and are the focus of attention within the AQMP, particularly the management of domestic PM₁₀ sources. In other regions, PM₁₀ is the pollutant of most significance with respect to the NEPM standards.

The data presented below, shows that Western Australia has met the NEPM goals for all pollutants except for PM₁₀ at Collie in 2015.

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 PM₁₀, 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 Annual Western Australia Air Monitoring Report available on the DER web site, along with the Western Australian monitoring plan, at www.der.wa.gov.au/your-environment/air.

CO

Carbon monoxide

(NEPM standard: 8 hours = 9.0ppm)

Station	Number of exceedences	NEPM goal compliance
Perth		
North East Metro	0	Met
North Metro	0	Met
South East Metro	0	Met

NO₂

Nitrogen dioxide

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

Station	1 hour		1 year	
	Number of exceedences	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Perth				
North Metro	0	Met	0.006	Met
North East Metro	0	Met	0.006	Met
Outer North Coast	0	Met	0.003	Met
South Coast	0	Met	0.005	Met
Outer East Rural	0	Met	0.002	Met
South East Metro	0	Met	0.007	Met
Inner West Coast	0	Met	0.005	Met



Ozone

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

Station	1 hour		4 hours	
	Number of exceedences	NEPM goal compliance	Number of exceedences	NEPM goal compliance
Perth				
North East Metro	1	Met	1	Met
Outer North Coast	0	Met	0	Met
South Coast	0	Met	0	Met
Outer East Rural	1	Met	1	Met
South East Metro	0	Met	0	Met
Inner West Coast	0	Met	0	Met



Sulfur dioxide

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

Station	1 hour		1 day		1 year	
	Number of exceedences	NEPM goal compliance	Number of exceedences	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Perth						
South Metro	0	Met	0	Met	0.002	Met
South Coast	0	Met	0	Met	0.001	Met
South East Metro	0	Met	0	Met	0.002	Met



Lead

(NEPM standard: 1 year = 0.50µg/m³)

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.

PM₁₀

Particles as PM₁₀
(NEPM standard: 1 day = 50µg/m³)

Station	Number of exceedences	NEPM goal compliance
Perth		
North East Metro ¹	0	Met
North Metro ¹	1	Met
South East Metro ¹	2	Met
South-west		
Albany ¹	2	Met
Bunbury ¹	3	Met
Collie ¹	10	Not met
Mid-west		
Geraldton ¹	5	Met

¹ Tapered Element Oscillating Microbalance (TEOM) operating continuously (unadjusted for temperature) and includes the manufacturers recommended equivalency factor of 1.03x + 3.00.

PM_{2.5}

Particles as PM_{2.5}
(NEPM standard: 1 day = 25µg/m³, 1 year = 8µg/m³)

Station	1 year	
	Number of exceedences	Annual average (µg/m³)
Perth		
North East Metro ¹	5	8.5
North Metro ¹	3	8.4
Outer North Coast ¹	2	8.3
South East Metro ¹	5	8.8
South-west		
Bunbury ¹	9	9.3
Busselton ¹	4	8.6

¹—Tapered Element Oscillating Microbalance (TEOM) operating continuously (unadjusted for temperature) and includes the manufacturers recommended equivalency factor of 1.03x + 3.00.

Relationship between location descriptors and monitoring station location/names

Location descriptor	Station location	Location descriptor	Station location
North East Metro	Caversham	Outer East Rural	Rolling Green
North Metro	Duncraig	South Coast	Rockingham
Outer North Coast	Quinns Rocks	Inner West Coast	Swanbourne
South East Metro	South Lake	South Metro	Wattleup

South Australia

Report to the NEPC on the implementation of the National Environment Protection (Ambient Air Quality) Measure for South Australia by the Hon. Ian Hunter, Minister for Sustainability, Environment and Conservation, for the reporting year ended 30 June 2016.

PART 1 — IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- NEPM standards and goals for CO, NO₂ and O₃ were met at all stations
- NEPM goal for PM₁₀ was met at all metropolitan and Spencer Gulf stations.
- NEPM standard and goal for PM_{2.5} were met at both Netley and North Haven stations.
- NEPM standard and goal for lead were met at both monitoring stations in Port Pirie.
- NEPM standards and goals for 1-hour SO₂ standard were not met at Port Pirie Oliver Street station with 68 exceedences. There were 3 exceedences of the 24-hour SO₂ standard. However the 1-year SO₂ standard was met.
- Five PM_{2.5} monitors were acquired for deployment at Le Fevre 1, North Haven, Netley and Elizabeth.

PART 2 — ASSESSMENT OF NEPM EFFECTIVENESS

Data for South Australia shows that air quality was generally good during 1 January to 31 December 2015. The following observations were made for this period:

- For CO the standard and goal were achieved at Elizabeth Downs station.
- For NO₂ the 1-hour and 1-year standards and goals were met at all Adelaide monitoring stations.
- For O₃ the 1-hour and 4-hour standards and goals were met at all Adelaide monitoring stations.
- For SO₂ the 1-hour, 1-day and 1-year standards and goals were met at the Adelaide metropolitan stations. The 1-year standard and goal were met at Port Pirie Oliver street station, however there were 68 exceedences of the 1-hour and 4 exceedences of the 1-day so the 1-hour and 1-day standards and goals were not achieved.
- For Pb the goal was achieved at both NEPM monitoring stations in Port Pirie.
- For PM₁₀ there was 1 exceedence of the standard at Netley, Kensington and North Haven, 3 exceedences at Elizabeth. In the Spencer region, there was 1 exceedence of the standard at Oliver Street. The NEPM goal allows for 5 exceedences per year therefore the goal was achieved at all monitoring stations.
- For PM_{2.5} the advisory reporting standard was met at Netley and North Haven stations.
- The new PM_{2.5} monitors will be added onto the monitoring network to comply with the 2016 NEPM standard requirements.

The EPA along with Nyrstar smelter is looking for continued reduction in lead in air and SO₂ emissions. It is anticipated that the transformation project will significantly reduce lead in air and SO₂ concentrations 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. 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 PM₁₀, which may be exceeded no more than five days per year) and at least 75% of data are captured in each quarter.

CO

Carbon monoxide

(NEPM standard: 8 hours = 9.0ppm)

Station	Number of exceedences	NEPM goal compliance
Adelaide		
ELI01—Elizabeth Downs	0	Met

NO₂

Nitrogen dioxide

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

Station	1 hour		1 year	
	Number of exceedences	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Adelaide				
ELI01—Elizabeth Downs	0	Met	0.004	Met
NOR01—Northfield	0	Met	0.007	Met
NET01—Netley	0	Met	0.007	Met
KEN01—Kensington Gardens	0	Met	0.005	Met
CHD01—Christie Downs	0	Met	0.004	Met
NHV01—North Haven	0	Met	0.006	Met



Ozone

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

Station	1 hour		4 hours	
	Number of exceedences	NEPM goal compliance	Number of exceedences	NEPM goal compliance
Adelaide				
ELI01—Elizabeth Downs	0	Met	0	Met
NOR01—Northfield	0	Met	0	Met
NET01—Netley	0	Met	0	Met
KEN01—Kensington Gardens	0	Met	0	Met
CHD01—Christie Downs	0	Met	0	Met
NHV01—North Haven	0	Met	0	Met



Sulfur dioxide

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

Station	1 hour		1 day		1 year	
	Number of exceedences	NEPM goal compliance	Number of exceedences	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Adelaide						
NOR01—Northfield	0	Met	0	Met	0.000	Met
NHV01—North Haven	0	Met	0	Met	0.000	Met
Spencer						
PTP01—Pt Pirie Oliver Street	68	Not met	3	Not met	0.012	Met

Pb**Lead**(NEPM standard: 1 year = $0.50\mu\text{g}/\text{m}^3$)

Station	Annual average ($\mu\text{g}/\text{m}^3$)	NEPM goal compliance
Spencer		
PTP01—Pt Pirie Oliver Street	0.23	Met
PTP05—Pt Pirie Frank Green Park	0.08	Met

PM₁₀**Particles as PM₁₀**(NEPM standard: 1 day = $50\mu\text{g}/\text{m}^3$)

Station	Number of exceedences	NEPM goal compliance
Adelaide		
ELI01—Elizabeth Downs	3	Met
NET01—Netley	1	Met
CHD01—Christie Downs	0	Met
KEN01—Kensington Gardens	1	Met
NHV01—North Haven	1	Met
Spencer		
WHY07—Whyalla Schultz Park	0	Met
PTP01—Pt Pirie Oliver Street	1	Met

PM_{2.5}**Particles as PM_{2.5}**(NEPM standard: 1 day = $25\mu\text{g}/\text{m}^3$, 1 year = $8\mu\text{g}/\text{m}^3$)

Station	1 year	Annual average (µg/m³)
	Number of exceedences	
Adelaide		
NET01—Netley	0	7.2
NHV01—North Haven	0	7.7

Tasmania

Report to the NEPC on the implementation of the National Environment Protection (Ambient Air Quality) Measure for Tasmania by Matthew Groom, Minister for Environment, Parks and Heritage for the reporting year ended 30 June 2016.

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 which have been passed by both Houses of Parliament.
- The National Environment Protection (Ambient Air Quality) Measure (Air NEPM) is put into effect under the Environment Protection Policy (Air Quality) 2004 (Air EPP), the Environmental Management and Pollution Control (Distributed Atmospheric Emissions) Regulations 2007 and the Tasmanian Air Quality Strategy 2006.
- The Air NEPM is implemented primarily through EPA Tasmania in the Department of Primary Industries, Parks, Water and the Environment (DPIPWE).
- The Air EPP 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's website at www.epa.tas.gov.au.
- 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 2006, a 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 regions of the State with poor air quality.
- The Environmental Management and Pollution Control (Distributed Atmospheric Emissions) Regulations 2007 provide a legal framework for programs to reduce the emission of domestic wood smoke through controls on the import, sale and installation of wood heaters. The regulations also make the emission of excessive smoke from chimneys an offence and they restrict back-yard burning on suburban allotments.
- In 2009, EPA Tasmania established a State-wide network of indicative level air monitoring stations referred to as the BLANkET (Base-Line Air Network of EPA Tasmania) network. In 2015–16 this network consisted of 30 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's web site.
- Since 2009 planned burning activities undertaken by the forestry industry and by the Parks and Wildlife Service 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 EPA Tasmania's 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 their ability to make more informed decisions concerning smoke movement and dispersion is facilitated by the BLANkET air quality monitoring network and the data analyses carried out by EPA Tasmania.
- In response to the growing understanding that poor winter-time air quality is widespread in many Tasmanian towns and urban areas EPA Tasmania initiated the Domestic Smoke Management Program (DSMP) 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 EPA Tasmania 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. A feature of winter 2015 was an intensive series of smoke surveys undertaken in Launceston, which provided new insights into the spatial distribution of winter-time woodsmoke in that city.

- 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.
- Reference level air monitoring stations are located in Hobart, Launceston and Devonport, the latter of which was commissioned in December 2012. Stations are equipped with gravimetric air samplers for reference measurements of daily averaged $PM_{2.5}$ and PM_{10} particulate concentrations, as well as Tapered Element Oscillating Microbalances (TEOMs) to provide hourly-averaged $PM_{2.5}$ and PM_{10} data.
- A reference level peak carbon monoxide (CO) monitoring station was established in Macquarie Street, Hobart at the end of 2010. Regular monitoring commenced in February 2011, and continued until the station was decommissioned in February 2013. No exceedences of the NEPM standard for CO were recorded in this interval.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Particulates ($PM_{2.5}$ and PM_{10})

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 programmes 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}

No exceedences of the 24 hour PM_{10} standard of $50 \mu\text{g}/\text{m}^3$ were measured in Launceston in 2015. Data capture rates for the four quarters of 2015 were 98%, 100%, 91% and 98% respectively, giving an annual rate of 97%. Compliance with the PM_{10} standard was therefore demonstrated.

$PM_{2.5}$

The 24-hour $PM_{2.5}$ advisory reporting standard of $25 \mu\text{g}/\text{m}^3$ was exceeded on 12 days in Launceston in 2015. This is comparable with results from recent years (11 in 2014, 12 in 2013, 16 in 2012; 6 in 2011; 11 in 2010; and 12 in 2009). Overall, the 2015 result is a considerable improvement on the 35 exceedence days observed when $PM_{2.5}$ monitoring was introduced in 2006. The annual average $PM_{2.5}$ concentration in 2015, of $7.8 \mu\text{g}/\text{m}^3$ meets the $PM_{2.5}$ advisory standard of less than $8 \mu\text{g}/\text{m}^3$, and comparable with annual averages from the past few years (8.7 in 2014; $8.1 \mu\text{g}/\text{m}^3$ in 2013; $8.4 \mu\text{g}/\text{m}^3$ in 2012; $7.5 \mu\text{g}/\text{m}^3$ in 2011; $8.3 \mu\text{g}/\text{m}^3$ in 2010; and $7.5 \mu\text{g}/\text{m}^3$ in 2009).

Hobart

PM_{10}

Ambient air quality in Hobart continued to meet Air NEPM PM_{10} goal in 2015, with no exceedences of the 24-hour PM_{10} standard. Data capture rates were 100% in each quarter and annually. The validated data demonstrates, in accordance with the requirements of the Air NEPM, that Hobart met the PM_{10} goal of no more than five exceedences of the PM_{10} standard in 2015.

$PM_{2.5}$

The $25 \mu\text{g}/\text{m}^3$ advisory reporting standard for $PM_{2.5}$ was exceeded in Hobart on one winter day in 2015. In 2014 and 2013 there were 3 days above the standard, 3 in 2012 and none in 2011. The annual average $PM_{2.5}$ concentration of $5.8 \mu\text{g}/\text{m}^3$ was similar to but lower than that of the recent years ($6.7 \mu\text{g}/\text{m}^3$ in 2014; $6.1 \mu\text{g}/\text{m}^3$ in

2013; 6.5 $\mu\text{g}/\text{m}^3$ in 2012; and 6.2 $\mu\text{g}/\text{m}^3$ in 2011), and met the annual average $\text{PM}_{2.5}$ advisory standard of 8 $\mu\text{g}/\text{m}^3$ for the eighth consecutive year since $\text{PM}_{2.5}$ monitoring started at the New Town station.

Devonport

PM_{10}

2015 was the third full year of operation of the Devonport air monitoring station. No exceedences of the 24 hour PM_{10} standard were measured in this year. The validated data demonstrates, in accordance with the requirements of the Air NEPM, that Devonport met the PM_{10} goal of no more than five exceedences of the PM_{10} standard in 2015.

$\text{PM}_{2.5}$

The 24-hour $\text{PM}_{2.5}$ concentrations measured in Devonport did not exceed the advisory reporting standard of 25 $\mu\text{g}/\text{m}^3$ on any day during 2015. The annual average $\text{PM}_{2.5}$ concentration of 6.2 $\mu\text{g}/\text{m}^3$ met the advisory standard of 8 $\mu\text{g}/\text{m}^3$.

Carbon monoxide

The peak urban CO monitoring site in Macquarie Street, Hobart was closed in February 2013, after almost two years continuous operation. During this period, the highest hourly CO concentration measured at this high traffic CBD site never exceeded 4 ppm and the highest 8 hour average was 1.8 ppm. These data indicate that CO concentrations, generated by urban traffic in Tasmania, are unlikely to exceed the Air NEPM 8 hour CO standard of 9 ppm in the foreseeable future.

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 Tasmanian Air Monitoring Report 2015, Compliance with the National Environment Protection (Ambient Air Quality) Measure for 2015.

The monitoring plan for Tasmania is available from www.epa.tas.gov.au.

CO

Carbon monoxide

(NEPM standard: 8 hours = 9.0ppm)

Station	Number of exceedences	NEPM goal compliance
Hobart		
CBD—Macquarie Street	Station closed February 2013	Not demonstrated

NO₂

Nitrogen Dioxide

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

Station	1 hour		1 year	
	Number of exceedences	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Not monitored for NEPM purposes in Tasmania				



Ozone

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

Station	1 hour		4 hours	
	Number of exceedences	NEPM goal compliance	Number of exceedences	NEPM goal compliance
Not monitored for NEPM purposes in Tasmania				



Sulphur dioxide

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

Station	1 hour		1 day		1 year	
	Number of exceedences	NEPM goal compliance	Number of exceedences	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Not monitored in Tasmania						



Lead

(NEPM standard: 1 year = 0.50µg/m³)

Station	Annual average (µg/m ³)	NEPM goal compliance
Monitoring discontinued in 1998		



Particles as PM₁₀

(NEPM standard 1 day = 50µg/m³)

Station	Number of exceedences	NEPM goal compliance
Hobart		
Metro—New Town	0	Met
Launceston		
Metro—Ti Tree Bend	0	Met
Devonport		
Metro—Devonport TAFE	0	Met

PM_{2.5}

Particles as PM_{2.5}

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

Station	1 year	
	Number of exceedences	Annual average (µg/m ³)
Hobart		
Metro—New Town	1	5.8
Launceston		
Metro—Ti Tree Bend	12	7.8
Devonport		
Metro—Devonport TAFE	0	6.2

Australian Capital Territory

Report to the NEPC on the implementation of the National Environment Protection (Ambient Air Quality) Measure for Australian Capital Territory by Mr Simon Corbell MLA, Minister for the Environment for the reporting year ended 30 June 2016.

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 (NEPM) Technical Papers and ACT Health's National Association of Testing Authorities' accreditation.

The NEPM monitoring network in the ACT consisted of three monitoring stations in 2015.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Monitoring results demonstrate that Canberra's air quality in 2015 was excellent, with no exceedences of the AAQ NEPM standards for carbon monoxide, nitrogen dioxide and photochemical oxidants as ozone. The major impacts on Canberra's air quality in 2015 came from the accumulation of combustion particles from wood heaters. Once during 2015, air quality was also impacted by a dust storm in the region.

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 PM₁₀, which may be exceeded no more than five days per year) and at least 75% of data are captured in each quarter.

The data is presented in greater detail in the ACT Air Quality Report 2015, available at: www.accesscanberra.act.gov.au/app/answers/detail/a_id/1320#!tabs-2.

CO

Carbon monoxide

(NEPM standard: 8 hours = 9.0ppm)

Station	Number of exceedences	NEPM goal compliance
Monash	0	Met
Florey	0	Met

NO₂

Nitrogen dioxide

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

Station	1 hour		1 year	
	Number of exceedences	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Monash	0	Met	0.004	Met
Florey	0	Not demonstrated	0.005	Met

O₃

Ozone

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

Station	1 hour		4 hours	
	Number of exceedences	NEPM goal compliance	Number of exceedences	NEPM goal compliance
Monash	0	Met	0	Met
Florey	0	Met	0	Met
Civic	0	Met	0	Met

PM₁₀Particles as PM₁₀(NEPM standard: 1 day = 50µg/m³)

Station	Number of exceedences	NEPM goal compliance
Monash	0	Met
Florey	1	Met
Civic	1	Met

PM_{2.5}Particles as PM_{2.5}(NEPM standard: 1 day = 25µg/m³, 1 year = 8µg/m³)

Station	1 year	
	Number of exceedences	Annual average (µg/m ³)
Monash	0	7.4
Florey	0	6.5

Northern Territory

Report to the NEPC on the implementation of the National Environment Protection (Ambient Air Quality) Measure for the Northern Territory by the Minister for Environment and Natural Resources for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The Northern Territory Environment Protection Authority was responsible for implementing the Air 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 1996*.
- Major pollutants in the Darwin air shed are associated with 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.
- Monitoring in Alice Springs was not conducted during the reporting period. Particulates caused by vegetation burning and in the winter months by household heating have been noted as occasional issues in the area. Particulate levels in winter have declined as natural gas pipelines have been extended throughout the town leading to reduced dependence on wood as a heat source.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

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 PM₁₀, 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 at ntepa.webhop.net/NTEPA/Default.ltr.aspx

The monitoring plan for the Northern Territory is available from [ntepa.nt.gov.au/ data/assets/pdf_file/0010/284986/monitoringplan.pdf](http://ntepa.nt.gov.au/data/assets/pdf_file/0010/284986/monitoringplan.pdf)

The NEPM PM_{2.5} variation has been adopted administratively only at this stage. An Environment Protection Objective is the most appropriate instrument under the Northern Territory *Waste Management and Pollution Control Act 1998* which is being considered for development. The NT is also seeking guidance from other jurisdictions on how they are dealing with the variation so as to adopt the best approach.

CO Carbon monoxide (NEPM standard: 8 hours = 9.0ppm)

Station	Number of exceedences	NEPM goal compliance
Palmerston	0	Met
Winnellie	0	Met



Nitrogen Dioxide

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

Station	1 hour		1 year	
	Number of exceedences	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Palmerston	0	Met	0.00238	Met
Winnellie	0	Met	0.00254	Met



Ozone

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

Station	1 hour		4 hours	
	Number of exceedences	NEPM goal compliance	Number of exceedences	NEPM goal compliance
Palmerston	0	Met	0	Met
Winnellie	0	Met	0	Met



Sulfur dioxide

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

Station	1 hour		1 day		1 year	
	Number of exceedences	NEPM goal compliance	Number of exceedences	NEPM goal compliance	Annual average (ppm)	NEPM goal compliance
Palmerston	0	Met	0	Met	0.00032	Met
Winnellie	0	Met	0	Met	0.00028	Met



Lead

(NEPM standard: 1 year = 0.50µg/m³)

Station	Annual average (µg/m ³)	NEPM goal compliance
No monitoring for lead is undertaken in the NT		

PM₁₀

Particles as PM₁₀
 (NEPM standard: 1 day = 50µg/m³)

Station	Number of exceedences	NEPM goal compliance
Palmerston	1	Met
Winnellie	2	Met

PM_{2.5}

Particles as PM_{2.5}
 (NEPM advisory standard: 1 day = 25µg/m³, 1 year = 8µg/m³)

Station	1 year	
	Number of exceedences	Annual average (µg/m ³)
Palmerston	5	7.6
Winnellie	7	7.3

Appendix 3: Jurisdictional Reports on the Implementation and Effectiveness of the Assessment of Site Contamination NEPM

Commonwealth

Report to the NEPC on the implementation of the National Environment Protection (Assessment of Site Contamination) Measure for the Commonwealth by the Hon Greg Hunt MP, Minister for the Environment, for the reporting year ended 30 June 2016.

PART 1 — IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The Commonwealth implements the NEPM as guidelines under the *National Environment Protection Council Act 1994*.

PART 2 — ASSESSMENT OF NEPM EFFECTIVENESS

- The Assessment of Site Contamination NEPM (ASC NEPM) provides a consistent national methodology which is beneficial for achieving agency goals.
- Various agencies in the Commonwealth are conducting environmental investigations, including for the chemicals perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA), in accordance with the ASC NEPM.
- The approaches in the ASC NEPM underpin the draft Commonwealth Environmental Management Guidance on Perfluorooctane Sulfonic Acid (PFOS) and Perfluorooctanoic Acid (PFOA), expected to be published by the Department of the Environment and Energy in late 2016.

New South Wales

Report to the NEPC on the implementation of the National Environment Protection (Assessment of Site Contamination) Measure for New South Wales by Mark Speakman, Minister for the Environment for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The comments and issues raised by the NSW Environment Protection Authority in the 2014–15 report to NEPC on the implementation of the National Environment Protection (Assessment of Site Contamination) Measure (the NEPM), continue to be relevant as outlined below.
- The NSW Environment Protection Authority considers the NEPM when making a decision on whether a contaminated site requires regulation under the *Contaminated Land Management Act 1997 (NSW)* and when conducting performance reviews of accredited contaminated site auditors. Overall, the NEPM has improved the efficiency of regulating contaminated sites in NSW.
- During the year ending 30 June 2016, the NSW Environment Protection Authority was notified of 40 potentially contaminated sites, finalised 110 site assessments, regulated eight new contaminated sites, and facilitated the remediation of seven sites under the *Contaminated Land Management Act 1997 (NSW)*.
- The NSW Environment Protection Authority verifies that site audits and site audit statements have been undertaken with due regard to the NEPM through its quality assurance program. Accredited site auditors have issued a total of 206 audit statements; 154 statutory audits under the *Contaminated Land Management Act 1997 (NSW)* and 52 non-statutory audits.
- The NSW Environment Protection Authority is aware of some implementation issues in relation to applying NEPM criteria for asbestos and benzo[a]pyrene (BaP), and more generally there are a limited number of ecological investigation levels (EILs) for contaminants.
- Ecological screening levels (ESLs) for BaP are considered to be of low reliability and applying the BaP ESLs may lead to an overly conservative approach to site assessment and remediation. A working group has been established to review this issue. In the meantime the South Australian Environment Protection Authority has provided guidance in relation to the application of the BaP ESLs.
- The limited number of EILs for contaminants and new EIL derivation methodology is presenting challenges where there is no EIL prescribed for a contaminant. A working group has been established to develop a consistent framework for the derivation and adoption of new EILs.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The NSW Environment Protection Authority continues to liaise and coordinate with equivalent agencies in other jurisdictions. These relationships were established during the NEPM amendment process and have continued, allowing issues relating to the assessment of land contamination to be consistently managed in all jurisdictions.

The NSW Environment Protection Authority is continuing to update relevant legislative instruments and guidance to incorporate or refer to the amendments.

The reviews of the application of the NEPM criteria are likely to improve the effectiveness of the NEPM and the assessment of site contamination in New South Wales.

Victoria

Report to the NEPC on the implementation of the National Environment Protection (Assessment of Site Contamination) Measure for Victoria by the Hon Lisa Neville, Minister for Environment, Climate Change and Water (until 23 May 2016) and the Hon Lily D'Ambrosio, Minister for Energy, Environment and Climate Change (from 23 May 2016) for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The transition period to the ASC NEPM finished in May 2014 and there now seems to be widespread acceptance and use of it, in name.

Issues of note:

- Flow on implications for other policy areas that had been reliant on the original NEPM approaches and values. For example, there is a discrepancy between soil characterisation guidance e.g. what soil/fill is acceptable to remain on individual sites (for particular land uses) and what is accepted to landfill.
- The adequacy of the Health Investigation Levels (HILs) for lead in soil for the protection of human health following the release of the NHMRC Statement: Evidence on the effects of lead on human health (the Statement) and associated publications on blood lead levels. Contaminated sites regulators are being questioned by risk assessors and contaminated site assessors and auditors in relation to the applicability of the lead HILs as screening criteria for soil and also the appropriate assumptions and inputs when deriving a site-specific clean-up target value for lead in soil.
- Administrative error during the drafting of Schedule B3 resulted in information regarding acetone/hexane being omitted from the table in section 10.2.8.

In response, Victoria has contributed to the following:

The Contaminated Environments Network, which comprises representatives of the contaminated sites regulators of Australia, has written to enHealth seeking advice on the protectiveness of the current HIL for lead provided in the NEPM.

The Contaminated Environments Network has informed the NEPM secretariat of the omission of acetone/hexane and requested it for inclusion in the errata.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The amended 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 amendments were considered likely to involve more detailed site assessments being undertaken in some cases. While these were likely to increase costs during the assessment phase, they were expected to result in overall cost savings for business as a result of more effective, timely and targeted remediation works.

Our experience continues to be that there is no evidence to suggest that the amendment has resulted in any other outcome. Indeed, the amendments to the NEPM continue to be well supported by environmental auditors and others in the site assessment industry, to the extent that there are works underway to develop a National Remediation Framework—this would not be a NEPM itself but would complement the ASC.

Queensland

Report to the NEPC on the implementation of the National Environment Protection (Assessment of Site Contamination) Measure for Queensland by Hon. Steve Miles MP, Minister for Environment and Heritage Protection and Minister for National Parks and the Great Barrier Reef for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The Department of Environment and Heritage Protection (EHP) is the central administering authority for contaminated land in Queensland under the *Environmental Protection Act 1994* (EP Act). EHP also assesses contaminated land development under the Sustainable Planning Regulation 2009 (SP Regulation).

Changes to the way contaminated land is assessed and managed in Queensland commenced on 30 September 2015, when legislative changes passed by Parliament in 2014 come into effect.

The changes affect those people or organisations seeking to investigate, manage or clean up contamination under the EP Act, including those who wish to request a change to the status of land listed on the Environmental Management Register (EMR) or Contaminated Land Register (CLR).

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

EHP has appointed 17 contaminated land auditors to perform the compliance assessment role under schedule 18 of the SP Regulation and the regulatory functions under section 568 of the EP Act.

The following relevant operational data estimates associated with NEPM implementation were collected in the reporting period 2015–16.

- 48 site assessment and validation reports, including 27 Site Investigation Reports and 21 Contaminated Land Investigation Documents, reviewed for compliance with NEPM prior to statutory decisions regarding EMR/CLR status of the subject land. All reports submitted as Contaminated Land Investigation Documents were reviewed by approved auditors.
- 169 sites were listed on the EMR for a hazardous contaminant.
- 185 sites were listed on the EMR as a notifiable activity under scheduled 3 of the EP Act.
- EHP has appointed 17 contaminated land auditors which included mutual recognition on the basis of approvals held in other jurisdictions. These auditor applications are assessed by an EHP approved technical panel who are engaged to review contaminated land auditor applications on behalf of EHP.
- 190 sites were finalised as being adequately assessed according to NEPM, decontaminated and removed from the EMR.
- 42 Site Management Plans were issued for development or use of a site, including those that were assessed and partially decontaminated with management of residual contamination for restricted land uses.
- 207 permits were issued for the transport and disposal of contaminated soil in accordance with NEPM section 6 (4).

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The NEPM (and the amended NEPM) is a central reference document for the assessment of site contamination in Queensland, supported by Queensland's guidelines on contaminated land and, in instances of surface and groundwater contamination, the Environmental Protection Water Policy 2009. 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 by EHP through the provisions of the operational policy and guidelines relating to assessment of contaminated land. All applications to EHP for statutory decisions about site contamination and changing the status of land on the EMR/CLR must demonstrate compliance with the current NEPM. This has been strengthened by the introduction of the prescribed criteria under section 389 of the EP Act, which has been used by approved auditors to evaluate if a report or plan can be certified by the auditor. These prescribed criteria are structured to ensure that all relevant activities are undertaken as part of a site assessment, remediation and management to measure compliance with best practice standards.

The NEPM as it stood in its 1999 form was used as an effective technical basis for site assessment for contaminated site professionals operating in Queensland.

The introduction of the amended NEPM has addressed previous limitations around 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 EHP in internal review of assessment reports involve a review of the practitioner's adherence to the current NEPM.

The establishment and implementation of the contaminated land auditor approval framework has successfully led to the certification of 17 auditors. The selection and approval of the persons to be auditors has been structured around Schedule B9 of the amended NEPM 1999.

In addition, the acceptance of accredited auditors from other Australian jurisdictions continues to provide an additional check of consistency between Queensland and other Australian jurisdictions.

Implementation of the general provisions of the NEPM is limited by the lack of adequate 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 Hon Albert Jacob MLA, Minister for Environment; Heritage for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The Department of Environment Regulation (DER) 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 DER 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.
- During the year ended 30 June 2016, 166 known or suspected contaminated sites were reported to DER compared with 151 in the previous year. In the same period, DER received 84 mandatory audit reports related to contaminated sites. 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 a known or suspected contaminated site.
- Compliance with the NEPM and departmental guidelines is assessed in the site classification/ reclassification process under the CS Act. DER classified 390 sites (including reclassifications) during the year, bringing the total number of classified sites to 3,282. As of 30 June 2016, 807 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, the environment and/or environmental values.
- Environmental practitioners' awareness of the amended NEPM requirements has continued to improve in WA and as a result, the assessment reports submitted to DER show more consistency in the application of the guidance.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

DER 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 is a major limitation identified in consistency in implementation. 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.

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 Ian Hunter MLC, Minister for Sustainability, Environment and Conservation for the reporting year ended 30 June 2016.

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 NEPM) in South Australia.

In South Australia, site contamination is managed through a legislative framework established under the *Environment Protection Act 1993* (the Act). The purpose and desired environmental outcome of the NEPM and the NEPM technical guidance is continued to be supported through EPA published guidelines and advice. The NEPM guidance is also used to inform EPA's site prioritisation and risk-based regulatory decision making and actions in relation to site contamination.

Selected technical guidelines are prescribed under the Act and must be taken into account in the regulation, auditing and assessment of site contamination by relevant persons including site contamination auditors and consultants.

During the 2015–2016 reporting period, the EPA recorded on its Public Register 144 notifications of site contamination that affects or threatens underground water, which is required to be kept by the EPA under the Act. In the same period, the EPA recorded 36 audit reports.

As of 30 June 2016, there were 26 site contamination auditors accredited by the EPA.

The EPA provides written and verbal guidance and information in respect to site contamination and the NEPM to accredited auditors, site contamination consultants, planning authorities, peak industry groups and the community.

Guidance which describes the NEPM is available to the public from the EPA website.

An index of site contamination information is also available to the public on the EPA website.

PART 2 — ASSESSMENT OF NEPM EFFECTIVENESS

The EPA has progressed the development of revised guidelines to support the NEPM, following its amendment in 2013. The EPA is also progressing the development of an Environment Protection Policy (EPP) under section 29 of the *Environment Protection Act 1993* to give effect to the NEPM.

Schedule B9 of the NEPM provides clear guidance on the competencies and acceptance of environmental auditors and related professionals. An important issue is that of ensuring site contamination assessments are being undertaken by suitably qualified experienced professionals with appropriate qualifications, knowledge and experience, particularly in relation to specialist areas such as human health risk assessment. Certification schemes provide greater confidence for people who need to rely on the outcomes of site contamination reports, that site contamination consultants who carry out assessment and remediation works and prepare site contamination reports have the necessary level of knowledge, expertise and skills. The EPA is progressing a proposed approach which will require certain site contamination reports being provided to the EPA or to planning authorities to be prepared or reviewed by a certified site contamination assessment practitioner.

Of the 26 site contamination auditors currently accredited by the EPA, 20 have been granted accreditation through the mutual recognition process. The national harmonisation of auditor accreditation requirements, consistent with Schedule B9 of the NEPM, would ensure a consistent technical standard across all jurisdictions and provide benefits to future applicants through improved application processes. The SA EPA continues to support the development of an agreed national harmonisation approach.

The awareness of the need for community engagement for communities affected by site contamination is becoming increasingly important and more recognised by environmental practitioners. Schedule B8 of the NEPM provides clear guidance on the principles for risk communication in relation to site contamination. The EPA continues to seek that effective and appropriate community engagement be planned and implemented by appropriate parties.

The NEPM includes an inbuilt review process and the active and ongoing review of the NEPM is considered 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.

National support and appropriate mechanisms for the jurisdictional regulatory bodies responsible for implementing the NEPM needs to be maintained, to ensure that significant issues, such as the protectiveness of the current health investigation level (HIL) for lead and the ecological screening level for benzo[*a*]pyrene, arising prior to the required 10 year review of the NEPM, can be appropriately identified and addressed.

Tasmania

Report to the NEPC on the implementation of the National Environment Protection (Assessment of Site Contamination) Measure for Tasmania by the Hon. Matthew Groom MP, Minister for Environment, Parks and Heritage for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The amended National Environment Protection (Assessment of Site Contamination) Measure (NEPM) automatically became a state policy in Tasmania under the *State Policies and Projects Act 1993*.

The NEPM is implemented in the following ways:

- Where a notice issued under the *Environmental Management and Pollution Control Act 1994* requires that an environmental site assessment is undertaken in accordance with the NEPM, the amended NEPM must be used.
- A requirement exists in legislation that any reports received under the Environmental Management and Pollution Control (Underground Petroleum Storage Systems) Regulations 2010 comply with the NEPM. UPSS Guidance for Decommissioning of storage systems was revised to bring it in line with the assessment approach provided by the amended NEPM; compliance with the guidance is mandatory under the regulations. UPSS Guideline 1 provides a list of required report content. UPSS Guideline 2 relates to sampling and risk assessment and provides minimum sampling numbers.
- Non statutory reports received by EPA Tasmania for purposes such as to satisfy Planning Authority requirements prior to redevelopment must also comply with the NEPM.
- The requirement to comply with the NEPM is further enhanced through the decision of the Director, EPA to only accept contaminated site reports for review where they have been provided by a consultant who is certified under Site Contamination Practitioners Australia. These consultants have passed a selection process in which their technical capabilities have been demonstrated.
- Efforts are ongoing to ensure stakeholders (e.g. site owners, operators, consultants and the community) are well informed in relation to the content of the NEPM.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The NEPM comprises the main standard for preparation of Environmental Site Assessments and other reports as well as screening levels for the management and remediation of contaminated sites.

Some additional clarity could be provided in the area of assessment of Petroleum Vapour Intrusion (PVI) at operating service stations. While guidance on PVI assessment for both modelling and vapour sampling is clear, some uncertainty exists as to how and when this should be applied in the context of an operating service station where fugitive vapour emissions may be far in excess of those likely from PVI.

As discussed in the 2014–15 Report to the NEPC, inclusion of guidance on volatile organic chlorinated compounds would be a welcome addition to the NEPM.

In the field of emerging contaminants, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) are becoming prominent in the Tasmanian context. A uniform and consistent approach to assessment and remediation of this contamination is required across all jurisdictions, particularly as there are major landowners and operators who are responding to contamination risks in multiple jurisdictions. Amendment of the NEPM to include these contaminants is desirable.

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 Mr Simon Corbell MLA, Minister for the Environment for the reporting year ended 30 June 2016.

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 amended National Environment Protection (Assessment of Site Contamination) Measure (the NEPM). The Environment and Planning Directorate (EPD) continues to be 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 under the *Environment Protection Act 1997* (the Act). The Contaminated Sites Environment Protection Policy (EPP), made under the Act, is the primary policy document for the assessment and management of contaminated land in the ACT. The EPP references the NEPM as the key resource for assessing contaminated land in the ACT.

EPD has made the necessary legislative and administrative changes to fully implement the NEPM in the ACT. All contaminated site assessments undertaken in the ACT must be undertaken in accordance with the amended NEPM.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The use of the NEPM, its guidance documents and calculators as primary reference tools by contaminated land practitioners in the ACT has ensured a consistent and effective approach to site assessment across the ACT.

Northern Territory

Report to the NEPC on the implementation of the National Environment Protection (Assessment of Site Contamination) Measure for the Northern Territory by the Minister for Environment and Natural Resources for the reporting year ended 30 June 2016.

PART 1 — IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- In the reporting period of 1 July 2015 to 30 June 2016 the Northern Territory has continued to implement the ASC NEPM through the following measures.
- The Northern Territory Environment Protection Authority (NT EPA) has finalised a regulatory framework for contaminated sites assessment and remediation involving applications under the Planning Act in the Northern Territory via the development of a flow chart that has been posted on the NT EPA web site.
- The NT EPA has developed draft Contaminated Sites Guidelines covering all aspects of the ASC NEPM which are currently out for public consultation with a finalisation date for late November 2016. In the long term, the consideration is being given to developing an environment protection objective under the *Waste Management and Pollution Control Act 1998* to formalise enforceable policy for contaminated sites in the Northern Territory.
- Asbestos, per and poly fluorinated alkyl substances (PFAS) and herbicides and pesticides (including Mirex) continue to be identified as emerging contaminants of concern in the NT.
- Asbestos is being addressed through the further implementation of an NT interagency asbestos committee, on-going development of an asbestos register which will form part of the contaminated sites register and is included in the Contaminated Sites Guideline. There has been collaboration between the NT EPA and the Commonwealth on issues such as asbestos assessment and remediation at the RAAF Base Darwin and Cox Peninsula.
- The NT EPA has established an interagency working group to investigate PFAS contamination issues across the NT. The working group comprises Northern Territory and Commonwealth Government agencies and includes Darwin International Airport and Air Services Australia. Initial investigations have revealed positive results for PFAS at several locations in the Darwin area. Options to further investigate the extent of contamination at a number of key sites, including the three key Defence sites of RAAF Base Tindall, Robertson Barracks and RAAF Base Darwin, are being considered.
- Herbicides and pesticides (including Mirex—defined as a Persistent Organic Pollutant) have been identified as potential contaminants associated with mango orchards, banana plantations and market gardens within the NT. The NT EPA was successful in requiring a condition in the planning approvals process to require proponents who are changing the use of former market gardens to more sensitive uses to undertake preliminary site investigations in accordance with the ASC NEPM.

PART 2 — ASSESSMENT OF NEPM EFFECTIVENESS

The NEPM has allowed for the 'level playing field' for site contamination assessment and remediation to be established in the Northern Territory. It ensures that all parties are aware of their requirements and responsibilities within the site assessment and remediation process, and assists in developing clean-up end points in relation to potential risk to environmental receptors and human health.

Further implementation of the ASC NEPM within the NT is required to ensure that all parties are clearly aware of all requirements outlined within the ASC NEPM. Progress is being made with external parties to make them aware of the requirements of the ASC NEPM. This is being achieved 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 and the community.

Appendix 4: Jurisdictional Reports on the Implementation and Effectiveness of the Diesel Vehicle Emissions NEPM

Commonwealth

Report to the NEPC on the implementation of the National Environment Protection (Diesel Vehicle Emissions) Measure for the Commonwealth by the Hon Greg Hunt MP, Minister for the Environment, for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The National Environment Protection (Diesel Vehicle Emissions) Measure is supported by the following Commonwealth legislative, regulatory and administrative framework:
- Australian Design Rules under the *Motor Vehicle Standards Act 1989*
- *Fuel Quality Standards Act 2000* and fuel quality standards
- fuel tax credit arrangements.
- The Commonwealth monitors fuel quality at all stages of the fuel supply chain to ensure it complies with the *Fuel Quality Standards Act 2000*. The objects of the Act are to:
 - a) regulate the quality of fuel supplied in Australia in order to:
 - i. reduce the level of pollutants and emissions arising from the use of fuel that may cause environmental and health problems
 - ii. facilitate the adoption of better engine technology and emission control technology
 - iii. allow the more effective operation of engines
 - b) ensure that, where appropriate, information about fuel is provided when the fuel is supplied.
- In 2015–16, authorised fuel inspectors visited 455 sites and tested 1602 samples for compliance with the Act.
- A statutory review of the *Fuel Quality Standards Act 2000* was completed in April 2016. The review sought to determine the efficiency, effectiveness and appropriateness of the Act in achieving its objects, and advise on options for improvement. It found that the Act has met its objectives, and recommended that the Act be retained, with amendments. The review report is available at www.environment.gov.au/protection/fuel-quality/legislation/review-2015. The Department is currently undertaking a review of the legislative instruments (including fuel standards) made under the Act.
- On 31 October 2015, the Commonwealth announced a whole of government review of vehicle emissions through the establishment of a Ministerial Forum on Vehicle Emissions. Government decisions on new vehicle emissions measures are expected in 2017. The forum is looking at:
 - introducing light vehicle fuel efficiency standards to reduce CO₂ emissions
 - moving from the Euro 5/V standard to Euro 6/VI to reduce noxious emissions from light/heavy vehicles
 - fuel quality standards needed to support reductions in emissions and air pollution
 - other measures, including consumer information programs, Australian Government fleet purchasing, testing standards, and initiatives to support the adoption of alternative fuels, electric vehicles and intelligent transport systems.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The Commonwealth considers the Diesel NEPM to be a component of the broader framework to manage emissions. While the Commonwealth has no airshed responsibilities in regard to NEPM goals, considerable progress has been made toward achieving these goals through national initiatives including the Australian Design Rules and fuel quality standards.

The Commonwealth is making strong progress towards reducing emissions from in-service diesel vehicles through:

- ongoing administration of the *Fuel Quality Standards Act 2000* and the *Motor Vehicle Standards Act 1989*
- proper maintenance and management of its diesel fleet
- provision of the fuel tax credit to encourage proper engine maintenance and use of cleaner diesel engine vehicles.

New South Wales

Report to the NEPC on the implementation of the National Environment Protection (Diesel Vehicle Emissions) Measure for New South Wales by Mark Speakman, Minister for the Environment for the reporting year ended 30 June 2016.

PART 1 — IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The *Protection of the Environment Operations Act 1997* (NSW) and the *Protection of the Environment Operations (Clean Air) Regulation 2010* (NSW) provide the regulatory framework for action to address emissions from the in-service diesel fleet.

In October 2011, the Commonwealth Department of the Environment, formerly the Department of Sustainability, Environment, Water, Population and Communities, advised New South Wales Roads and Maritime Services (RMS) that as the National Environment Protection (Diesel Vehicle Emissions) Measure (NEPM) Funding Agreement had expired, NEPM projects were to be placed on hold and no further funds were to be expended while the Commonwealth Department of the Environment considered options for dealing with the unspent funds.

By 30 June 2016, Roads and Maritime Services had not received any further information regarding the Funding Agreement and as a result all NEPM projects remain on hold.

PART 2 — ASSESSMENT OF NEPM EFFECTIVENESS

In New South Wales, the Environment Protection Authority and the Roads and Maritime Services continue to implement a range of New South Wales Government funded programs to reduce diesel emissions. In 2015–16, New South Wales continued the Smoky Vehicle Program, continued implementation of the Environment Protection Authority's Diesel and Marine Emissions Management Strategy, and continued the Clean Fleet Program.

New South Wales diesel fleet profile

Diesel vehicles as a percentage of total New South Wales vehicle fleet

Roads and Maritime Services registration data show that the proportion of diesel vehicles in the fleet constituted 16.95 per cent of the total New South Wales fleet at 30 June 2016 (see Table 1 below). This is compared to 18.9 per cent in 2015, 17.3 per cent in 2014 and 15.9 per cent in 2013.

Roads and Maritime Services registration data indicate that, between June 2015 and June 2016, the number of diesel vehicles registered in New South Wales increased by 101,188 or 10.5 per cent. Off-road passenger vehicles increased by 9.15 per cent over the previous year and constitute the largest sector of the diesel fleet at 37.06 per cent. Light commercial vehicles account for 36.38 per cent of the diesel fleet. Together, these categories account for 73.44 per cent of the total diesel fleet in New South Wales. Table 2 shows changes in diesel vehicles by category between June 2015 and June 2016.

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

Diesel vehicles (%)									
New South Wales June 2015	Passenger vehicles	Off-road passenger vehicles	Light commercial vehicles	Heavy trucks	Prime movers	Small buses	Buses	Other	Total
Diesels in total New South Wales fleet	2.01	6.28	6.17	1.50	0.32	0.15	0.20	0.32	16.95
Vehicles by category in diesel fleet	11.84	37.06	36.38	8.82	1.90	0.91	1.19	1.90	100

Source: Roads and Maritime Services registration data (June 2016).
Note: Calculations exclude both light and heavy registered trailers.

Table 2: Change in diesel vehicles by category

Vehicle type	No. of diesel vehicles		Change	Percentage change (%)	Proportion of total decrease (%)	Proportion of total increase (%)
	Jun 15	Jun 16				
Passenger Vehicles	108,330	126,289	17,959	16.58%		17.75%
Off-Road Passenger Vehicles	362,093	395,221	33,128	9.15%		32.74%
People movers	8,429	9,070	641	7.60%		0.63%
Small Buses	9,402	9,667	265	2.82%		0.26%
Light Trucks	343,854	388,005	44,151	12.84%		43.63%
Light Plant	1,852	1,693	-159	-8.59%	-0.16%	
Buses	12,388	12,645	257	2.07%		0.25%
Heavy Trucks	90,635	94,048	3,413	3.77%		3.37%
Prime Movers	19,320	20,287	967	5.01%		0.96%
Heavy Plant	4,002	4,015	13	0.32%		0.01%
Other	4,974	5,527	553	11.12%		0.55%
Total	965,279	1,066,467	101,188	10.48%		

Source: Roads and Maritime Services registration data (June 2016).

Diesel vehicles emissions estimates

Diesel vehicles made up 16.95 per cent of the total New South Wales fleet as at 30 June 2016, however, they contribute disproportionately to the amount of air pollution produced by on-road mobile sources.

On-road mobile sources contribute approximately 62 per cent NO_x and 13 per cent of particle emissions of PM₁₀ from all anthropogenic sources in the Sydney¹ region.

Based on projections from the 2008 Air Emissions Inventory for the New South Wales Greater Metropolitan Region, diesel vehicles currently contribute approximately 51 per cent of NO_x and 86 per cent of exhaust particle emissions (as PM₁₀) from all on-road mobile sources in the Sydney region.

The New South Wales total diesel vehicle kilometres travelled are increasing due to both the underlying total fleet vehicle kilometres travelled growth, and a trending increase in proportion of diesel vehicles in the fleet.

With the exception of NO_x emissions for the light vehicle fleet, the total per kilometre PM₁₀ and NO_x exhaust emissions from diesel vehicles, are predicted to fall significantly from 2011 to 2021, following the introduction of more stringent vehicle emissions regulations combined with fleet turnover.

- For both light and heavy duty diesels, the predicted reductions in PM₁₀ emission rates are larger than the rate of increase in vehicle kilometres travelled, resulting in decreasing total PM₁₀ emissions from the diesel fleet.
- For heavy duty diesel vehicles, NO_x emissions are predicted to decrease from 2011 to 2021 in spite of projected increases in vehicle kilometres travelled.
- For light diesel vehicles, a strong increase in the proportion of diesel vehicles is projected, resulting in large increases in both absolute NO_x emissions, and the percentage contribution to total vehicle fleet emissions.

Smoky vehicles program

In New South Wales, it is an offence for a vehicle to emit excessive air impurities for a continuous period of more than 10 seconds. In 2015–16 authorised officers issued 89 penalty notices (an average of 7 per month) to the registered owners of diesel vehicles emitting excessive air impurities.

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

Prosecutions may also occur, usually where a person issued with a penalty infringement notice elects to have the matter heard before a court, or where a smoky vehicle has previously been observed by an authorised officer on a number of occasions. In 2015–16 there were 7 prosecutions, all involving diesel vehicles.

The public may also report smoky vehicles via the Environment Protection Authority's Environment Line website or mobile phone application. An average of 125 smoky vehicle reports are received each month from the public (approximately 1,500 public reports over the year), indicating a high level of awareness in the community of the unacceptability of excessive visible emissions.

In 2015–16, the Environment Protection Authority issued 433 advisory letters to diesel vehicle owners based on public reports.

A Defective Vehicle Notice requires the vehicle owner to carry out any necessary repairs so that the vehicle no longer emits excessive smoke and to provide evidence to the Environment Protection Authority that those repairs were carried out. Failure to provide evidence that the vehicle is no longer emitting excessive smoke may result in the vehicle registration being suspended.

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.

Table 3: Smoky vehicles: actions taken

	July 06–June 07	July 07–June 08	July 08–June 09	July 09–June 10	July 10–June 11	July 11–June 12	July 12–June 13	July 13–June 14	July 14–June 15	July 15–June 16
Total number of vehicles that received fines	664	616	373	303	301	186	114	289	78	89
Diesel vehicles that received fines	527	495	351	278	286	173	109	283	76	89
Percentage of all vehicles fined that were diesel vehicles	79.3%	80%	94.1%	91.7%	95%	95%	96%	98%	97%	100%
Total number of vehicles that received advisory and warning letters	1123	755	530	740	750	556	552	891	812	782
Diesel vehicles that received advisory and warning letters	161	103	123	133	135	96	74	462	423	433
Percentage of all vehicles that received advisory and warning letters that were diesel vehicles	14.3%	14%	23.2%	17%	18%	17%	11%	52%	52%	55%

There has been a trending reduction in the number of diesel vehicles that received fines, as the Environment Protection Authority has received significantly fewer reports from Roads and Maritime Services of vehicles emitting excessive in smoke in the M5 East Tunnel at Earlwood.

Diesel vehicle emission testing and repair programs

Roads and Maritime Services is not currently operating a Diesel Vehicle Emissions Testing and Repair program.

The development of a test and repair program has been put on hold at the direction of the Commonwealth Department of the Environment, pending resolution of the funding agreement and the finalisation of Recommendation 5 of the 2007 review of the NEPM.

Audited maintenance programs for diesel vehicles

Roads and Maritime Services is currently operating an audited maintenance program known as “Clean Fleet.” This was launched in 2006 and currently has approximately 7,000 vehicles participating in the program.

Promotion to increase participation in the program and Clean Fleet training courses offered to fleet operators, vehicle maintenance technicians and auditors were put on hold, pending resolution of funding with the Commonwealth Department of the Environment. As a result there has been no significant change in Clean Fleet participation during this year.

Diesel vehicle retrofit and repair program

During 2015–16 Roads and Maritime Services completed the M5 East Tunnel Diesel Retrofit and Repair Initiative. This initiative was a three-year program that started on 1 March 2013 and was completed on 29 February 2016.

The aim of the initiative was to reduce the level of PM_{10} present in the M5 East tunnel, by removing PM_{10} exhaust emissions at their source through the installation of exhaust after treatment devices and performing engine repairs on heavy vehicles that have been identified as smoky through the use of camera technology.

The M5 East Tunnel Diesel Retrofit and Repair Initiative was designed to be complementary to smoky vehicle legislation amendments that also came into effect on 1 March 2013 introducing an increase to the smoky vehicle penalty in the M5 East tunnel from \$400 to \$2000 and a three-month vehicle registration suspension on the third proven offence. The target vehicle group was large heavy diesel vehicles which are assumed to be the primary source of the particulate loading within the M5 East tunnel.

Participation in the initiative was voluntary. It was a co-contribution program with RMS contributing up to a capped amount on a 50/50 cost sharing basis to cover the supply and installation of retrofit devices and any engine repairs necessary to ensure optimum effectiveness of the retrofit device.

By the end of the program, there was a significant reduction in the number of smoky vehicles using the tunnel. The smoky vehicle detection rate was approximately 40 vehicles per month at the start of the program and this had reduced to approximately 5 vehicles per month by the end of the program. Smoky vehicles detected by the use of camera technology in the tunnel are now referred to the EPA for action.

Non-road diesel vehicle programs

Construction Industry

In 2015–16 the Environment Protection Authority and Infrastructure Sustainability Council of Australia partnered to invite construction sector organisations to share best-practice approaches for reducing diesel emissions in the construction sector via a series of case studies. Three case studies published on the Environment Protection Authority’s website identify strategies that can be implemented in this sector to reduce diesel emissions.

See: www.epa.nsw.gov.au/air/nonroaddiesel-case-studies.htm.

During 2015–16 the NSW Office of Environment and Heritage, supported by the Environment Protection Authority, continued implementation of the NSW Resource Efficiency Policy. The Policy includes requirements to address non-road diesel engine emissions through government procurement and contracts through collation of data from government agencies about in-service non-road diesel equipment which will be used to inform weightings for cleaner machines to be included in government contracts.

Locomotives

In 2015, the Environment Protection Authority completed a pilot project with rail industry partners to evaluate the emission reduction and fuel outcomes from retrofitting emission upgrade kit technology on Electro-Motive Diesel locomotives during scheduled engine rebuilds. The impacts of emission upgrade kits were measured on two diesel locomotives operating in NSW. The results demonstrated PM and NO_x emissions reduction conformant with US Tier 0+ emission standards for remanufactured locomotives. Results of the Diesel locomotive Tier 0+ emissions upgrade project will inform policy development for management of emissions from locomotives operating in NSW.

See: www.epa.nsw.gov.au/resources/air/diesel-locomotive-emissions-report.pdf.

Victoria

Report to the NEPC on the implementation of the National Environment Protection (Diesel Vehicle Emissions) Measure for Victoria by the Hon Lisa Neville, Minister for Environment, Climate Change and Water (until 23 May 2016) and the Hon Lily D'Ambrosio, Minister for Energy, Environment and Climate Change (from 23 May 2016) for the reporting year ended 30 June 2016

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The diesel NEPM in Victoria is administered and implemented by the Environment Protection (Vehicle Emissions) Regulations 2013. These Regulations no longer deal with heavy vehicles over 4.5 tonnes due to the introduction of the Heavy Vehicle National Law that was agreed by COAG in 2009.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

While there are some limitations on the ability to quantify the overall effectiveness of the NEPM-based initiatives implemented to date, it has provided significant value in a number of areas.

The numbers of vehicles reported in EPA's smoky-vehicle program continue to provide some insight into the high level of community awareness and concern into diesel vehicle exhaust emissions. The continued decline in the number of vehicles reported since the program began in 2005/06 could indicate that there are fewer smoky vehicles being spotted on Victorian roads. Prior to the reporting of heavy vehicles to the National Heavy Vehicle Regulator, there was a significant decline in the proportion of diesel-engine vehicles greater than 1.5 GVM tonnes being reported. This could indicate that there are fewer smoky diesel vehicles in this category.

Smoky vehicles program

EPA Victoria has operated a public smoky vehicle reporting program for a number of years. This program allows members of the public to identify smoky vehicles (diesel, petrol or LPG) using the "10-second" smoke rule, and report them to EPA. EPA also operates an official smoky vehicle enforcement program where EPA or Victoria Police officers can report vehicles identified as emitting greater than 10 seconds of continuous smoke. 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. In 2015/2016, the program resulted in 1,901 smoky vehicle letters being issued for public reports and 95 cautionary letters being issued for official reports.

Infringement notices may be issued to repeat offenders with no instances recorded in 2015/16.

The following table indicates the number of smoky vehicle letters being sent in the public and official reporting programs over the past eleven years. Generally, there appears to be a downward trend in the number of vehicles being reported over recent years in both programs. The significant drop in reports between 2013–2016 may also be affected by systems improvements being made to the program that will become evident over the next couple of financial years.

Table 1: Number of smoky vehicles being reported in the public reporting program and the number of cautionary letters issued under the official smoky vehicle program over the last 11 years.

Year	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14*	2014/2015*	2015/2016*
Number of public reports	10,315	7,068	6443	5884	6177	5766	4895	3910	2012	2124	1901
Number cautionary letters	1,538	849	946	708	445	630	495	554	145	193	95

*Note: These numbers include all vehicles in the official program, not just diesel-engine vehicles. Diesel vehicle reports were not included in past reports between 2013/14–2015/16, the above table has been updated to reflect the addition of these. Diesel vehicle emission testing and repair programs

Diesel vehicle emission testing and repair programs

Victoria uses Vipac's test facility to support EPA's regulatory infrastructure. Vipac has installed a custom made Cirrus/CP Engineering AC-drive transient chassis dynamometer (which can be used in either 2WD or 4WD configuration to test emissions from trucks and buses), emissions analysis equipment and exhaust handling hardware which exceeds the analytical requirements of the DT80 diesel emission test.

Under EPA's official smoky vehicle program, diesel engine smoky vehicles registered in a defined Melbourne metropolitan area have been directed to the Vipac facility for vehicle testing. With the introduction of the new Regulations in Dec 2013, EPA ceased issuing DT80 emission test notices to vehicle over 4.5 tonnes. The initial vehicle test is paid for by EPA (from Diesel NEPM funds). Any subsequent test, if the vehicle fails the initial test, is borne by the vehicle owner (\$550 plus GST).

During 2015–2016, two vehicles were tested at the Vipac facility as part of its official smoky vehicle reporting program.

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 National Environment Protection Council (NEPC) on the implementation of the National Environment Protection (Diesel Vehicle Emissions) Measure for Queensland by the Honourable Stirling Hinchliffe, Minister for Transport, Commonwealth Games, for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The *National Environmental Protection Council (Queensland) Act 1994* provides the framework for implementing the National Environmental Protection (Diesel Vehicle Emissions) Measure (the Diesel NEPM) in Queensland. The Department of Transport and Main Roads (TMR) is responsible for implementing and reporting on the Diesel NEPM. Queensland has a number of programs in place to ensure air quality is maintained and diesel vehicle emissions are managed appropriately, as specified in the Diesel NEPM. There are no significant issues to report.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Transport is a major contributor to air pollution in Queensland. The Environmental Monitoring and Assessment Sciences Division, Department of Science, Information Technology and Innovation (DSITI) is responsible for monitoring air quality in Queensland. There is a network of testing stations around the state containing instruments capable of recording and storing meteorological and air pollutant data. Air quality remains good in Queensland with very few exceedances of air quality standards monitored in the 2015–16 reporting period.

Although general air quality is good a recent study conducted by DSITI, Brisbane tunnel study to assess the accuracy of Australian motor vehicle emission models and examine the main factors affecting prediction errors, compared transport emission modelling to in-service on road emissions. The results found a number of diesel vehicles emitting much higher than expected pollutants. A possible explanation for this is a small number of gross emitters in the Queensland heavy vehicle fleet, although this is not unusual, it is of concern and is currently being investigated further.

The Queensland Government supports the Commonwealth with the ongoing introduction of new Australian Design Rules (ADRs) to improve vehicle emission standards. In Queensland, the most significant reduction in diesel vehicle emissions has been achieved through the introduction of improved fuel quality and emission standards for new vehicles.

Diesel vehicle emissions are expected to continue to decrease moderately through fleet turnover, as higher polluting older heavy vehicles are replaced with newer, less polluting heavy vehicles. The gradual tightening of emission standards to harmonise with European Union standards is considered one of the most cost effective means to reduce diesel emissions and improve air quality.

The Commonwealth Department of Infrastructure and Regional Development released a discussion paper in February 2016 on vehicle emission standards. The paper explores issues associated with the implementation of more stringent standards for noxious air pollutant emissions and a standards regime for fuel efficiency (CO₂). The paper also looks at complementary and stand-alone measures to address vehicle emissions. It is not clear if there will be a new approach to emission standards and if complementary measures will be introduced. The new standard for heavy vehicle emissions, ADR80/03, is the equivalent to Euro VI, and although it is yet to be implemented, there are Euro VI compliant heavy vehicles in use in Queensland. The ADR will require all new heavy vehicles to comply with more stringent emission standards and will assist in further reducing the diesel emissions related to road transport in Queensland. Other programs currently in place to complement the ADRs and reduce diesel vehicle emissions are described below.

Smoky vehicles program

The Smoky Vehicle Hotline provides the community with an avenue for reporting vehicles exceeding the ten-second smoke rule, via the internet or telephone. Following a data match of the information provided, a letter is sent to the owner advising them of the report and suggesting ways to identify and remedy the problem. If the vehicle is reported three times within a four month period, the owner is issued with a Present Vehicle Order (PVO) which requires their vehicle to be checked for defects by a Transport Inspector.

For the period of 1 July 2015 to 30 June 2016, a total of 1805 vehicles were reported to TMR's Smoky Vehicle Hotline. There were 771 diesel powered vehicles reported; 344 of the total vehicles were reported by phone and 1461 vehicles were reported through the online form. This represents a significant increase with more than twice the number of diesel vehicles reported than the previous year. There is no clear explanation for this increase, however Brisbane has experienced a residential construction boom which has seen an increase in heavy vehicles in urban areas and may have contributed to more sightings of older smoky heavy vehicles. There has also been a large increase in diesel powered light vehicles, with the number of diesel vehicles registered in Australia increasing at more than twice the rate of petrol powered vehicles in 2016, according to Australian Bureau of Statistics', Motor Vehicle Census. However, the majority of these vehicles are newer models and should not emit excessive smoke. This data does not align with the previous five year trend which has shown a gradual but steady reduction in diesel vehicles reported.

TMR does not have the technology to test emissions of reported diesel vehicles, therefore there is no data retained beyond the number of diesel vehicles reported to the smoky vehicle hotline. TMR issued 192 initial warning letters and fourteen (14) secondary warning letters requesting that drivers have their vehicles checked. There were three (3) PVOs issued.

Diesel vehicle emission testing and repair programs

TMR operates a compulsory programmed inspection regime for heavy vehicles registered in Queensland. The standard of mufflers on the vehicle is checked at this inspection, and any vehicle with a faulty muffler are issued with a defect notice to have it repaired or replaced. Heavy vehicles are inspected every twelve months, prior to renewal of registration, public passenger vehicles, such as buses, are inspected every six months.

TMR inspected 53,393 heavy vehicles, while private accredited inspection stations inspected 51,011 heavy vehicles in the 2015–16 financial year. These totals include rigid heavy vehicles, prime movers and buses. The programmed inspection ensures defective engine performance, which contributes to increased diesel emissions, can be identified and repaired.

In Queensland, the Brisbane City Council (BCC) owns and operates the only facility for testing diesel powered heavy vehicles for emissions under the DT80 emission testing regime. During the 2015–16 financial year BCC tested a total of forty-four (44) diesel powered vehicles. Four (4) of the 44 diesel powered vehicles tested by BCC, were manufactured prior to January 1996 and prior to the requirements of the vehicle standard ADR/70 for vehicle emissions. The remaining forty (40) vehicles were manufactured after December 1995 and complied with ADR/70 emission standards or later. All of the diesel powered vehicles tested passed, representing one hundred percent compliance for the last two years. Of the 44 heavy vehicles tested, forty-one (41) were previously untested vehicles. Fifteen (15) of the vehicles were tested to verify compliance in order to claim credits under 'criterion 3' of the fuel tax credit scheme. The three (3) previously tested vehicles presented for either retesting after a two year period to confirm ongoing compliance in order to claim fuel tax credits, or because of participation in a comparative fuel study.

Additionally, twenty (20) of the previously untested vehicles came from BCC's own fleet. The other twenty-one (21) vehicles were made available from external operators, indicating that there continues to be limited uptake of DT80 emission testing in Queensland. The cost of a DT80 test is over \$700 per vehicle and may be a contributing factor.

Audited maintenance programs for diesel vehicles

The Queensland Government encourages owners and operators of heavy vehicles to participate in the National Heavy Vehicle Accreditation Scheme (NHVAS), now administered by the National Heavy Vehicle Regulator. The scheme gives heavy vehicle owners more responsibility for servicing their vehicles and ensuring they are compliant with maintenance accreditation requirements. Compliance with an accredited maintenance management scheme provides a concession to the requirement for an annual inspection in Queensland and the requirement to provide a Certificate of Inspection prior to registering vehicles.

There are 36,483 Queensland registered heavy vehicles currently participating in the NHVAS maintenance scheme and 825 operators accredited in Queensland, representing a 1.5% increase on last year's NHVAS accreditations. Notably, there are more heavy vehicles enrolled in 2016, but fewer operators; this may be due to fleet consolidation. The majority of vehicles participating in the NHVAS use diesel fuel.

Diesel vehicle retrofit programs

There were no diesel retrofit programs operating in Queensland during the reporting period.

Other programs

Queensland is continuing to support the introduction of innovative, higher productivity heavy vehicles through Performance Based Standards (PBS) which allow for vehicles to comply based on performance rather than prescriptive standards. PBS vehicle combinations equate to fewer heavy vehicles, less congestion and better safety outcomes on the network. Under some circumstances in Queensland, PBS heavy vehicles (A-doubles) have halved the number of trips for certain freight tasks. Increased capacity through smart PBS design is improving efficiency, increasing diesel fuel savings and reducing associated emissions.

Western Australia

Report to the NEPC on the implementation of the National Environment Protection (Diesel Vehicle Emissions) Measure for Western Australia by Hon Albert Jacob MLA, Minister for Environment; Heritage for the reporting year ended 30 June 2016.

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 Environment Regulation (DER) under the *National Environment Protection Council (WA) Act 1996* and the *Western Australian Environmental Protection (WA) Act 1986*.

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

The Government of Western Australian 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 are largely complementary to the outcomes of the Diesel NEPM.

PART 2 — ASSESSMENT OF NEPM EFFECTIVENESS

DER undertakes roadside monitoring to assess the health of the Perth vehicle fleet. 4,512 individual diesel vehicle emission measurements from a portable roadside gas analyser deployed in 2016 were analysed to determine any significant changes in the Perth vehicle fleet emissions.

Overall, diesel fleet emissions are seen to be reducing over time. Compared to 2014 roadside monitoring data:

- Median carbon monoxide emissions are 37 per cent lower;
- Median hydrocarbon emissions are 19 per cent lower;
- Median nitric oxide emissions are 2 per cent higher; and
- Median smoke emissions are the same.

The reduced carbon monoxide and hydrocarbon emissions and slightly increased nitric oxide emission suggest emissions improvements are due to improving fuel efficiency in the diesel fleet.

Western Australia does not have in-service emissions standards to compare sampling results against.

Implementation of vehicle emissions reduction initiatives of the AQMP and the CleanRun Program are the foundation of vehicle emissions reduction strategies undertaken by DER. DER will continue to work with DoT, other government agencies and industry associations to investigate and implement motor vehicle related policies and management actions where appropriate to reduce the impact of diesel vehicle emission in Western Australia.

Smoky vehicles program

In 2015/16 the Smoky Vehicle Reporting Program (SVRP) received 455 reports, which is an average of 37.9 reports per month, representing a 70 per cent increase in reports from 2014/15 (22.3 reports per month), but less than the 42.5 reports per month received over 2013/14.

Prior to contacting reported vehicles, DER and DoT verify reports by comparing reported vehicle details against the DoT vehicle registration database, discarding reports if details do not match. 372 letters were sent to reported vehicle owners in 2015/16 (81.8 per cent valid report rate).

Of the 372 letters issued, 266 responses were received (71.5 per cent return rate)². Table 1 summarises the responses received for vehicle reported from July 2015 to June 2016.

Table 1. Responses from owners of reported vehicles

Response	2014/15	2015/16
Vehicle repaired	57 (48%)	121 (45.5%)
Vehicle does not smoke	45 (38%)	84 (31.6%)
Can't afford to repair	1 (<1%)	3 (1.1%)
Disposed of vehicle	3 (2%)	8 (3.0%)
Wrong vehicle	6 (5%)	11 (4.1%)
Other	8 (7%)	39 (14.7%)
Petrol	35 (30%)	57 (21.4%)
Diesel	71 (60%)	180 (67.7%)
LPG	2 (<2%)	1 (0.4%)
Fuel type not reported	13 (11%)	28 (10.5%)

The results show that 45.5 per cent of respondents have had their vehicle repaired since receiving a report. This is 2.5 per cent less than the previous reporting period. The proportion of respondents reporting that their vehicle does not smoke in 2015/16 was 31.6 per cent, which is less than the 38 per cent reported in 2014/15 and the 43 per cent reported in 2013/14. Reported vehicles are mostly diesel (67.7 per cent).

In 2015/16 fourteen vehicles were reported on more than one occasion. One vehicle was reported four times between August 2015 and June 2016 by different reporters each time. Responses received indicated the vehicle exhaust system was being repaired. Two vehicles were reported three times, one by the same person in all instances, the other by different reporters. One of the vehicles was reported as being disposed, the other as being booked for further repairs. Of the eleven vehicle reported twice, six indicated repairs had been made or were planned, three advised their vehicle did not smoke, and two did not provide any response.

Diesel vehicle emission testing and repair programs

DER operates a portable roadside gas analyser that provides an efficient, cost effective method of characterising vehicle emissions and raising community awareness of vehicle emissions.

In February and March 2016 this remote sensing device (RSD) was deployed for twelve days across six sites in the Perth metropolitan area. Valid emissions data for 20,431 vehicles were collected, including 4,512 samples of diesel vehicles.

Results for diesel vehicles are summarised below:

- Diesel vehicle emissions are overall lower compared to 2014 and earlier RSD deployments.
- Utility vehicles (predominately diesel powered) show an increasing emissions trend compared to other vehicle body types.
- Smoke emissions from the worst performing diesel vehicles are getting worse.

Improvements in diesel emissions are attributed to the ongoing attrition of older vehicles from the fleet and the subsequent increasing representation of 'Euro 3' standard or better diesel vehicles in the fleet. The introduction of 'Euro 5 core' standards for diesel vehicles does not appear to have reduced diesel emissions to date; however, more data is required to verify this observation.

² At the time of reporting April, May and June reports had been sent to vehicle owners with the last of the responses still being received. Reported return rate will be slightly lower than actual, but still similar.

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 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 two accreditation modules—Fatigue and Vehicle Maintenance, which operators are required to incorporate into their daily work practices. Maintenance management encourages heavy vehicle operators to take responsibility for servicing their vehicles regularly and ensuring their vehicles are safe at all times. The standards for this module are similar to that required under the nationally endorsed NHVAS.

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 by law 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

Nil

Other programs

Communication

The CleanRun Program was developed to make the overall vehicle emission reduction actions immediately identifiable and to facilitate the promotion of key Diesel NEPM messages in Western Australia. Web pages, fact sheets and brochures are developed and produced to provide information on the CleanRun Program. All of these documents are available on DER's website www.der.wa.gov.au/our-work/programs/162-cleanrun. Attention continues to focus on promoting Diesel NEPM messages through established programs.

CleanRun EcoDrive

The CleanRun EcoDrive program aims to reduce diesel emissions through encouraging driver behaviour change.

CleanRun EcoDrive provides a resource package for fleet operators to reduce fuel use and related emissions by working with drivers to make small changes to their driving habits. Eco driving incorporates a number of safer, smarter driving techniques that maximise fuel economy by operating the engine as efficiently as possible.

The package includes the resources to develop an EcoDrive training program in-house, including driver training materials developed by experts in the transport industry. It is estimated that fleet operating organisations who implement the CleanRun EcoDrive program can reduce fuel use and related emissions by up to 20 per cent. All resources are available to download free-of-charge from DERs website www.der.wa.gov.au/our-work/programs/161-cleanrun-ecodrive. DER worked with industry partners to develop the resources.

South Australia

Report to the NEPC on the implementation of the National Environment Protection (Diesel Vehicle Emissions) Measure for South Australia by the Hon. Ian Hunter MLC, Minister for Sustainability, Environment and Conservation, for the reporting year ended 30 June 2016.

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 (Vehicle Standards) Rules 1999: Rule 147A—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 147 in Road Traffic (Vehicle Standards) Rules 1999 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. Arrangements are still being sought to undertake this testing within the private sector. When a testing service is identified and operational, vehicles that fail the emissions test will be defected, and then required to submit for re-testing for compliance with the Standard.

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 Planning, Transport and Infrastructure (DPTI) for the assessment of corrective actions.

South Australia was forced to suspend the use of biodiesel in its government owned public transport bus fleet with the collapse of supplier Australian Renewable Fuels in January 2016. Biodiesel use will resume if and when a cost-effective supply to the Australian Fuel Quality Standards can be achieved.

While the Environment Protection Authority has responsibility for leading South Australia's response to this NEPM, DPTI is investigating and developing relevant strategies for the management of emissions from diesel vehicles.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The Regency Park Emissions Test Facility was closed during 2013–14 financial year due to high maintenance costs and reliability issues. Private sector providers will be sought as required to provide alternative emissions testing services including diesel emissions.

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

The South Australian Government, through the Department of Planning, Transport and Infrastructure, commenced preparations for a 12 month trial of new bus technologies within the metropolitan bus fleet (to operate in the 2017 calendar year). This will include two fully electric buses and a micro-hybrid bus as well as Euro VI compliant diesels. The results will inform procurement of new buses for the fleet from 2018 onwards.

The Government, through the Department of Treasury and Finance, completed an Expression of Interest process for the supply of low emission vehicles for its own light vehicle fleet. Whilst limited by the range of low emissions models in the current Australian marketplace that are suitable for fleet use, a range of new hybrid, plug-in hybrid and small capacity petrol turbocharged vehicles will be added to the fleet. Within 3 years, 30% of the fleet will comprise these low emission vehicles.

The Government, through the Department of Premier and Cabinet, has commenced revision of the South Australian Low Emission Vehicle Strategy 2012–2016. A new Strategy with greater emphasis on electric vehicles and other zero emissions technologies such as hydrogen fuel cell vehicles is anticipated by March 2017. This recognises that (i) the substantial reduction in transport related emissions required to meet the State target of net zero emissions by 2050 will require a substantial shift to zero emission transport modes, and (ii) government intervention and support will be required in the early stages of this transition.

Electrification of both public transport and light vehicle fleets over time will significantly contribute to improved air quality outcomes in urban areas.

Tasmania

Report to the NEPC on the implementation of the National Environment Protection (Diesel Vehicle Emissions) Measure for Tasmania by Hon Matthew Groom MP, Minister for Environment, Parks and Heritage for the reporting year ended 30 June 2016.

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 which have been passed by both Houses of Parliament.
- In 2006 and 2007, a contract between the then Department of Tourism, Arts and the Environment and the 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 both training and commercial activities to test the operation and repairs of emission controls /devices on vehicles and to check the emission outputs of LNG and CNG conversions. However, the 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 2016 there were 13,081 diesel powered heavy vehicles (that is vehicles over 4.5 tonnes) and 104,472 diesel powered light vehicles registered in the State. This represents an increase of 2.4 % and an increase of 7.1 % respectively since 1 July 2015. Of the total of 587,514 vehicles registered in Tasmania on 30 June 2015, 20.0 % were diesel powered.

Smoky vehicles program

- The Department of State Growth maintains a strong focus on road safety rather than on vehicle emissions. They do not possess vehicle emission measurement facilities, and do not actively target vehicle emissions.
- They do however utilise the “ten second rule” for smoky exhausts and issue Traffic Infringement Notices requiring identified vehicles to undergo servicing to reduce smoke emissions. Traffic Infringement Notices for smoky exhausts are issued by Departmental Vehicle Inspection Officers and can also be issued by the police.
- Records are not compiled showing the number of Traffic Infringement Notices issued for smoky vehicles.

Diesel vehicle emission testing and repair programs

- The Department of State Growth do 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 for diesel vehicles in Tasmania.

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 Mr Simon Corbell MLA, Minister for the Environment for the reporting year ended 30 June 2016.

PART 1 — IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The Australian Capital Territory's (ACT) 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; and
- supporting ACT representation on the fuel standards consultative committee.

While statistics on the number of inspections and how many defects and warnings are collected, at this stage, 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 to the above, Transport Canberra has introduced 73 Euro VI buses into service in the ACTION fleet. A fleet of 70 CNG powered buses, purchased between 2004 and 2008, also remains in service.

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, if any, 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 not taken as a result of the NEPM, but 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 Minister for Environment and Natural Resources for the reporting year ended 30 June 2016.

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 are implemented to control diesel vehicle emissions in the Northern Territory. Vehicle standards are enforced through the general provisions of the *Northern Territory Motor Vehicles Act 1996* 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 61 000 diesel vehicles registered, representing around 38 per cent of the total vehicle fleet, which is much higher than the national level of diesel vehicles which is approximately 21 per cent of the vehicle fleet. Australian Bureau of Statistics data indicates that diesel vehicles registered in the Northern Territory represent approximately 1.5 per cent of all diesel vehicles in Australia.

Of the four major regions in the Territory, 70 per cent of all diesel vehicles registered in the Territory are registered in the Darwin region, while 14 per cent are registered in Alice Springs, 8 per cent in Katherine and 2 per cent in Tennant Creek.

In the Darwin region approximately 35 per cent of all registered vehicles are diesels; this is slightly lower than in Alice Springs, with diesels representing 38 per cent of the total vehicle fleet. In Katherine and Tennant Creek the diesel portion of the total fleet is 53 per cent and 54 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 10 per cent in Katherine. The distribution of light diesel vehicle registrations in the Territory differs slightly, with 71 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 minor fraction of vehicles checked as part of the vehicle registration process receive 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 action as required.

Audited maintenance programs for diesel vehicles

Vehicle roadworthy inspections are undertaken periodically for light and heavy vehicles and 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 is less than five years old and employs the latest technology in engine management systems to minimise fuel consumption. On a payload per emission basis, road trains operating line haul operations in remote Australia are considered to be some of the most environmentally 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 NEPM

Commonwealth

Report to the NEPC on the implementation of the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure for the Commonwealth by the Hon Greg Hunt MP, Minister for the Environment, for the reporting year ended 30 June 2016.

PART 1 — IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In 2015–16 the Australian Government continued to support movement towards a single, nationally-consistent, electronic tracking system to cover the inter and intra state movements of hazardous and controlled wastes. Business requirements were documented for an electronic system to receive, standardise, store and publicly report waste movement data, ahead of further design and build work on this system in 2016–17. As well as assisting with Basel reporting, this system is intended to make the annual reporting process for the controlled waste NEPM faster and easier.

Under the data and reporting theme of the reform program, a national standard for hazardous waste data and reporting was developed during 2015–16. This standard will assist in both future reporting and movement to a single controlled waste electronic tracking system.

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

PART 2 — ASSESSMENT OF NEPM EFFECTIVENESS

Not applicable for the Commonwealth.

New South Wales

Report to the NEPC on the implementation of the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure for New South Wales by Mark Speakman, Minister for the Environment for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The NEPM has been in place for more than 10 years and is operating smoothly, without any significant issues. Minor changes to the NEPM recommended following the 10 year review were implemented in NSW in October 2014 under the Protection of the Environment Operations (Waste) Regulation 2014.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The NEPM continues to provide an effective tool in minimising the potential for adverse impacts associated with the movement of controlled waste on the environment and human health. A total of 56,744 tonnes of controlled waste in 4629 movements was reported this period as having been transported into NSW (Tables 2 and 4). This is a 33% decrease on the 85,167 tonnes and a 29% decrease on the 6506 movements in 2014–15. The previous year reported a smaller decrease from 2013–14 of about 0.8% for waste tonnage and 4.5% total number of waste movements.

The amount of controlled waste received in NSW in 2015–16 is substantially lower than the 2014–15 results and the previous year 2013–14. NSW received less waste from all states except for the Northern Territory in the 2015–16 reporting period. The greatest decrease was from Victoria, followed by Queensland, Tasmania, the ACT and South Australia. Waste from the NT increased.

The major source of the reduced quantities in all of these states appears to be Inorganic Chemicals. Waste under this waste code includes lead batteries. All states other than the NT delivered less of this waste to NSW, led by Victoria (9873 tonnes less than 2014–15) and Tasmania (3977 tonnes less, or 80% less total waste from Tasmania to NSW compared to 2014–15). The NT brought in approximately 2.6 times more of this waste (949 tonnes) to NSW than the previous year.

Other waste types with reduced movements into NSW were oil waste, putrescible waste and miscellaneous waste which includes tyres and laboratory chemical wastes. Oil waste brought into NSW was reduced primarily from Victoria (approx. 75% less), and to a lesser extent Queensland and South Australia. This was offset by an increase of about 50% of the total, from the ACT. Likewise, approximately 50% less putrescible / organic waste was brought to NSW from Victoria than the previous year plus a small reduction from the ACT. There was also 80% less miscellaneous waste brought from the ACT compared to 2014–15.

There were reductions in the overall mix of controlled waste received in NSW compared to the previous year, offset by modest increases. There was an increase in waste from paints, resins, inks and organic sludges (587 tonnes), and pesticides (39 tonnes). Organic solvents and soil/sludge remained at similar quantities to 2014–15.

Substantial changes to the waste regulatory framework were introduced under the Protection of the Environment Operations (Waste) Regulation 2014. The main impact on controlled waste is the introduction of mandatory reporting for intrastate movements of waste tyres and asbestos waste. Other changes, such as restrictions on the distance waste can be transported, mostly do not apply to controlled waste due to the limited number of treatment options available and regulatory controls already being in place.

Discrepancies contribute a very low proportion of the total waste movements after data cleansing.

Table 1: Number of consignment authorisations issued by New South Wales

Reporting Year	Consignment authorisations issued
2014–15	16,988
2015–16	15,843

Table 2: Quantity of controlled waste into New South Wales for the period 1 July 2015 to 30 June 2016—Tonnes per waste category by State/Territory

Code	Description	Vic	Qld	WA	SA	Tas	ACT	NT	Ext-Terr*	Total (tonnes)
A	Plating & heat treatment	0.00	0.00	0.00	6.00	0.00	0.00	0.00	0.00	6.00
B	Acids	10850.73	14.01	0.00	55.31	0.00	1.28	0.00	0.00	10921.33
C	Alkalis	152.40	12.62	0.00	3.24	0.00	8.57	0.00	0.00	176.83
D	Inorganic chemicals	7123.53	10501.93	3715.22	4181.59	763.60	149.88	949.76	0.00	27385.51
E	Reactive chemicals	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.30
F	Paints, resins, inks organic sludges	1587.26	314.78	57.08	262.57	0.00	44.51	0.20	0.00	2266.40
G	Organic solvents	93.93	117.17	49.71	29.17	0.00	32.57	0.00	0.00	322.55
H	Pesticides	12.66	24.56	6.16	14.03	0.00	0.87	0.00	0.00	58.28
J	Oils	786.87	64.30	259.17	1.45	0.00	1845.34	85.11	0.00	3042.24
K	Putrescible/organic waste	2877.15	0.00	0.00	0.00	0.00	6912.53	0.00	0.00	9789.68
L	Industrial washwater	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
M	Organic chemicals	114.01	144.02	0.62	23.69	0.00	55.22	34.90	0.00	372.46
N	Soil/sludge	2136.49	924.03	2.70	6.93	0.00	287.10	0.00	0.00	3357.25
R	Clinical & pharmaceutical	0.69	30.50	0.00	0.00	0.00	343.96	0.00	0.00	375.15
T	Misc.	118.65	0.29	0.31	0.00	0.00	540.22	0.04	0.00	659.51
State Totals (tonnes)		25854.37	12148.21	4090.97	4583.98	763.60	10222.35	1070.01		58733.49

Table 3: Discrepancies in movements of controlled waste into New South Wales for the period 1 July 2015 to 30 June 2016—Percentage of total movements

Discrepancy Type	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr *
Consignment non-arrival		0.005						
Transport without authorisation								
Non-matching documentation								
Waste data								

Table 4: Number of movements of controlled waste into New South Wales for the period, 1 July 2014 to 30 June 2015

NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
0	1470	762	177	186	45	1936	53	0

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 Lisa Neville, Minister for Environment, Climate Change and Water (until 23 May 2016) and the Hon Lily D'Ambrosio, Minister for Energy, Environment and Climate Change (from 23 May 2016) for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The NEPM is implemented in Victoria by the Waste Management Policy (Movement of Controlled Waste between States and Territories). There continues to be close consultation between the state and territory agencies, established under the NEPM agreement. However, there continues to be a decline in compliance by the waste industry.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

In the 2015–16 reporting period, Victoria issued 351 authorisations. This is a decrease of 28 approvals from the previous year. Most authorisations were for the recycling and energy recovery of controlled waste.

The total amount of controlled waste that was brought into Victoria during the reporting year was 28839 tonnes. This was an increase of 4549 tonnes from the amount reported in 2014–15.

Due to the continuing implementation of EPA's new integrated information management system, the data for discrepancies in movements of controlled waste into Victoria in 2015–16 (refer to table 3 below) remains unavailable at the time of reporting.

Inorganic chemicals remain the largest percentage of the total tonnage transported to Victoria in 2015–16. The inorganic chemicals waste stream, consisting of metallic constituents, accounted for almost 25% of the total volume in 2015–16.

In 2015–16, EPA Victoria again focused on the transportation of industrial waste from Victoria to both limit the possibility of the movement of waste from Victoria and ensure that Victorian waste is taken to permitted facilities in Victoria. This is a multi-faceted strategy that targets generators, consignors and transporters of industrial waste. Victoria will continue to work with our counterparts in NSW and Queensland to deliver it.

Table 1: Number of consignment authorisations issued by Victoria

Reporting Year	Consignment authorisations issued
2014–15	379
2015–16	351

Table 2: Quantity of controlled waste into Victoria for the period 1 July 2015 to 30 June 2016—Tonnes per waste category by State/Territory

Code	Description	NSW	Qld	WA	SA	Tas	ACT	NT	Ex-Terr	Total (tonnes)
A	Plating & heat treatment	1.0	0	0	0	16.2	0	0	0	17.16
B	Acids	26.9	10.4	0	0	36.3	0	0	0	73.63
C	Alkalis	23.0	48.0	6.0	28.9	18.5	0	0	0	124.34
D	Inorganic chemicals	676.2	100.1	5015.7	1335.4	653.5	0	110.9	0	7891.77
E	Reactive chemicals	0	0	0	0.2	3.1	0	0	0	3.27
F	Paints, resins, inks organic sludges	2909.3	926.9	373.0	195.8	25.8	0	0	0	4430.66
G	Organic solvents	756.2	269.3	177.0	83.0	634.6	0	0	0	1920.05
H	Pesticides	219.5	276.7	336.3	2.1	0.6	0	0	0	835.23
J	Oils	3257.5	575.5	96.2	435.9	201.8	0	0	0	4566.96
K	Putrescible/organic waste	2714.8	0	0	286.0	0	0	0	0	3000.79
L	Industrial washwater	956.8	48.0	19.0	56.0	76.0	0	0	0	1155.78
M	Organic chemicals	336.3	428.1	0	22.3	114.2	16.0	0	0	916.82
N	Soil/sludge	297.9	237.7	123.8	318.9	923.1	0	0	0	1901.40
R	Clinical & pharmaceutical	659.1	432.0	62.0	340.0	131.0	0	8.0	0	1632.12
T	Misc.	236.0	0	4.4	111.6	17.3	0	0	0	369.34
State Totals (tonnes)		13070.39	3352.68	6213.39	3216.00	2851.94	16.00	118.93		28839.33

Table 3: Discrepancies in movements of controlled waste into {name of jurisdiction} for the period 1 July 2015 to 30 June 2016—Percentage of total movements

Discrepancy Type	NSW	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	n/a
Transport without authorisation	n/a	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	n/a
Waste data	n/a	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 Victoria for the period 1 July 2015 to 30 June 2016

NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
1734		230	409	467	210	3	8	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. Steven Miles MP, Minister for Environment and Heritage Protection and Minister for National Parks and the Great Barrier Reef for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The Queensland Department of Environment and Heritage Protection (EHP) 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 2008 (EP Reg)³. 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 2 of the EP Reg. The NEPM administration is integrated with intrastate tracking, controlled waste licensing and compliance activities in Queensland.

- EHP 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 the 2015/16 year was 287, which is a 3.6% increase from the 2014/15 year (277). There were a large number of applications received at the start of the 2015/16 year with 48 approvals granted in July 2015.
- There was an increase in the amount of controlled waste transported into Queensland from other Australian States and Territories. The total amount of waste transported into Queensland (Table 2) for the 2015/16 period was 43,975 tonnes which is a 30.9% increase from the 2014/15 year (33,570 tonnes). While the number of transportations (Table 4) for the 2015/16 year was 2,221 which is a 4.4% decrease on the 2,323 in 2014/15.
- During the 2015/16 year, no companies were identified as having transported controlled waste into Queensland without authorisation. However, EHP currently has an intrastate backlog for the part of the 2015/16 financial year and therefore all of the waste documentation received has not yet been verified.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Table 1: Number of consignment authorisations issued by Queensland

Reporting Year	Consignment authorisations issued
2014–15	277
2015–16	287

³ Prior to 29 August 2014, the waste tracking provisions were contained within Part 4 of the Environmental Protection (Waste Management) Regulation 2000.

Table 2: Quantity of controlled waste into Queensland for the period 1 July 2015 to 30 June 2016

Code	Description	NSW	Vic	WA	SA	Tas	ACT	NT	Ex-Terr	Total (tonnes)
A	Plating & heat treatment	110	0	0	0	0	0	0	0	110
B	Acids	0	0	0	20	0	0	0	0	20
C	Alkalies	1,146	0	0	0	0	0	0	0	1,146
D	Inorganic chemicals	3,984	0	0.00	20	206	0	0	0	4,210
E	Reactive chemicals	544	0	0	0	0	0	0	0	544
F	Paints, resins, inks organic sludges	467	3	0	0	4	0	0	0	474
G	Organic solvents	2,935	0	0	0	0	0	0	0	2,935
H	Pesticides	42	7	62	65	0	0	0	0	176
J	Oils	15,138	189	19	38	40	0	1,385	0	16,809
K	Putrescible/organic waste	3,864	0	0	5	0	0	0	0	3,869
L	Industrial washwater	0	0	0	0	0	0	0	0	-
M	Organic chemicals	4,955	18	0	34	6	13	0	0	5,026
N	Soil/sludge*	8,446	0	0	0	0	0	0	0	8,446
R	Clinical & pharmaceutical	82	0	0	0	0	0	0	0	82
T	Misc.	9	3	0	0	116	0	0	0	128
State Totals (tonnes)		41,722	220	81.00	182	372	13	1,385	0	43,975

Table 3: Discrepancies in movements of controlled waste into Queensland for the period 1 July 2015 to 30 June 2016—Percentage of total movements

Discrepancy Type	NSW	Vic	WA	SA	Tas	ACT	NT	Ext Terr
Consignment non-arrival*	0%	0%	0%	0%	0%	0%	0%	0%
Transport without authorisation**	0%	0%	0%	0%	0%	0%	0%	0%
Non-matching documentation***	0%	0%	0%	0%	0%	0%	0%	0%
Waste data****	2%	20.3%	0%	0%	13.5%	0%	4.3%	0%

† The figures stated are for the non-arrival of expired consignments as a percent of the total number of consignments approved in 2014–15. There are also * EHP did not identify any instances of non-arrival of expired consignments in 2015/16. There are also consignments which were approved in 2015/16 which remain open for the 2016/17 year.

** EHP did not identify any instances of transportation without authorisation in 2015/16. Please note that EHP have a current intrastate backlog for part of the 2015/16 financial year and there not all waste documentation received has been verified.

*** EHP did not identify any instances of non-matching documentation in 2015/16.

**** EHP identified instances where there were either discrepancies in the information received on the relevant waste transport certificate and the waste transport certificate tear-off or the information was illegible and therefore has not been entered into the database and ultimately excluded from this dataset.

Table 4: Number of movements of controlled waste into Queensland for the period 1 July 2014 to 30 June 2015

NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr
2,026	69	N/A	4	22	52	1	47	-

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 by Hon Albert Jacob MLA, Minister for Environment; Heritage for the reporting year ended 30 June 2016.

PART 1 — IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The Western Australian Department of Environment Regulation is responsible for administering the implementation of the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure (NEPM) under the *National Environment Protection Council (WA) Act 1996* and the *Environmental Protection Act 1986*.

The provisions of the Environmental Protection (Controlled Waste) Regulations 2004 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.

The Department issued four consignment authorisations for the movement of controlled waste into Western Australia during 2015/2016.

PART 2 — ASSESSMENT OF NEPM EFFECTIVENESS

Table 1: Number of consignment authorisations issued by Western Australia

Reporting Year	Consignment authorisations issued
2014–15	6
2015–16	4

Table 2: Quantity of controlled waste into Western Australia for the period 1 July 2015 to 30 June 2016—Tonnes per waste category by State/Territory

Code	Description	NSW	Vic	Qld	SA	Tas	ACT	NT	Ex-Terr	Total (tonnes)
A	Plating & heat treatment							68.00		68.00
B	Acids									0.00
C	Alkalies									0.00
D	Inorganic chemicals				0.01			108.00		108.01
E	Reactive chemicals									0.00
F	Paints, resins, inks organic sludges				1.00					1.00
G	Organic solvents									0.00
H	Pesticides							118.00		118.00
J	Oils				33.00			53.00		86.00
K	Putrescible/organic waste									0.00
L	Industrial washwater									0.00
M	Organic chemicals									0.00
N	Soil/sludge									0.00
R	Clinical & pharmaceutical									0.00
T	Misc.									0.00
State Totals (tonnes)		0.00	0.00	0.00	34.01	0.00	0.00	347.00		381.01

Table 3: Discrepancies in movements of controlled waste into Western Australia for the period 1 July 2015 to 30 June 2016—Percentage of total movements

Discrepancy Type	NSW	Vic	Qld	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 Western Australia for the period 1 July 2015 to 30 June 2016

NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
	0		n/a	4			19	

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. Ian Hunter MLC, Minister for Sustainability, Environment and Conservation for the reporting year ended 30 June 2016.

PART 1 – IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In South Australia, the Movement of Controlled Waste NEPM operates through the Environment Protection (Movement of Controlled Waste) Policy 2014.

The purpose of the Policy is to enable South Australia to participate in the national tracking of controlled waste transported from a participating State for delivery to a destination facility in South Australia or that is transported within South Australia for delivery to a destination facility in a participating State, in a manner and for purposes consistent with the NEPM. The Policy also includes the imposition of penalties for the contravention of the Policy and other provisions necessary for the application of the Policy in this jurisdiction.

Since March 2015, the South Australian online tracking of waste (WasteTracker) has assisted waste producers, transporters and operators of waste facilities to apply for consignment authorisations and complete waste transport certificates. The system also enables the EPA to effectively regulate controlled waste transport and to identify exceptions such as incomplete waste transport certificates or waste received at a non-approved facility in real time.

Table 1: Number of consignment authorisations issued by South Australia

Reporting Year	Consignment authorisations issued
2014–15	232
2015–16	205

Table 2: Quantity of controlled waste into South Australia for the period 1 July 2015 to 30 June 2016—Tonnes per waste category by State/Territory

Code	Description	NSW	Vic	Qld	WA	Tas	ACT	NT	Ex-Terr	Total (tonnes)
A	Plating & heat treatment	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.50
B	Acids	0.00	0.00	0.00	26.35	0.00	0.00	16.65	0.00	43.00
C	Alkalies	7.20	0.00	0.00	11.44	0.00	0.00	537.44	0.00	556.08
D	Inorganic chemicals	11603.40	15797.86	0.00	128.81	92744.83	234.00	765.06	0.00	121273.96
E	Reactive chemicals	0.00	10.65	0.00	0.00	0.00	0.00	0.00	0.00	10.65
F	Paints, resins, inks organic sludges	78.26	1307.59	156.40	130.85	0.00	0.00	1923.95	0.00	3597.05
G	Organic solvents	36.86	59.55	0.00	65.76	0.00	0.00	0.00	0.00	162.17
H	Pesticides	0.00	0.00	0.00	0.00	0.00	0.00	16.00	0.00	16.00
J	Oils	144.39	927.74	407.12	1250.78	20.00	0.00	623.27	0.00	3373.30
K	Putrescible/organic waste	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
L	Industrial washwater	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
M	Organic chemicals	0.00	13.02	0.00	0.00	0.00	0.00	0.00	0.00	13.02
N	Soil/sludge	13.33	21223.62	0.00	92.42	0.00	0.00	269.29	0.00	21598.66
R	Clinical & pharmaceutical	0.00	0.00	0.00	0.00	22.21	0.00	3322.38	0.00	3344.59
T	Misc.	2.70	0.00	0.00	0.00	0.00	0.00	85.02	0.00	87.72
State Totals (tonnes)		11886.14	39340.03	563.52	1706.41	92787.04	234.00	7559.56		154076.70

Table 3: Discrepancies in movements of controlled waste into South Australia for the period 1 July 2015 to 30 June 2016—Percentage of total movements

Discrepancy Type	NSW	Vic	Qld	WA	Tas	ACT	NT	Ext Terr *
Consignment non-arrival	30	42	75	43	38	0	25	0
Transport without authorisation	1	14	0	0	0	0	0.2	0
Non-matching documentation	0	0	0	0	0	0	0	0
Waste data	0	0	0	0	0	0	0	0

Table 4: Number of movements of controlled waste into South Australia for the period 1 July 2015 to 30 June 2016

NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
378	1193	34	130	n/a	84	6	433	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 the Hon. Matthew Groom MP, Minister for Environment, Parks and Heritage for the reporting year ended 30 June 2016.

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*. The Department of Primary Industries, Parks, Water and Environment are the responsible agency for the purposes of implementation of the NEPM.

The NEPM is fully implemented in Tasmania.

Tasmania regularly consults with the other jurisdictions on NEPM matters such as issuing consignment authorisations and the appropriateness of treatment/disposal facilities. Tasmania continues to participate in all implementation aspects of the NEPM including exchange of relevant information through active membership in the Implementation Working Group which has met face-to-face during the reporting period. Issues raised by industry, waste transport companies and other agencies continue to be satisfactorily resolved through this forum.

As controlled waste received from external territories is reported separately, this has particular significance for Tasmania as most of the controlled waste consignment authorisations issued by Tasmania are for controlled wastes returned to Australia from Antarctica.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The driving force in achieving the NEPM goal has been ongoing consultation between waste producers, transporters and the Department of Primary Industries, Parks, Water and Environment on controlled waste matters, particularly in relation to reducing the amount of controlled waste generated at source. A reduction in risks of adverse impacts associated with transport of controlled waste on the environment and human health has been achieved through improved waste management.

There has been additional and ongoing consultation between jurisdictions in relation to the appropriateness of issuing consignment authorisations.

Table 1: Number of consignment authorisations issued by Tasmania

Reporting Year	Consignment authorisations issued
2014–15	26
2015–16	29

Table 2: Quantity of controlled waste into Tasmania for the period 1 July 2015 to 30 June 2016—Tonnes per waste category by State/Territory

Code	Description	NSW	Vic	Qld	WA	SA	ACT	NT	Ex-Terr	Total (tonnes)
A	Plating & heat treatment									0.00
B	Acids								6.00	6.00
C	Alkalies								0.20	0.20
D	Inorganic chemicals		8700.00		60.00				1.37	8761.37
E	Reactive chemicals								0.02	0.02
F	Paints, resins, inks organic sludges		30.00						2.00	32.00
G	Organic solvents								30.00	30.00
H	Pesticides									0.00
J	Oils								65.00	65.00
K	Putrescible/organic waste								92.00	92.00
L	Industrial washwater									0.00
M	Organic chemicals									0.00
N	Soil/sludge								37.50	37.50
R	Clinical & pharmaceutical								0.60	0.60
T	Misc.								3.50	3.50
State Totals (tonnes)		0.00	8730.00	0.00	60.00	0.00	0.00	0.00	238.19	9028.19

Table 3: Discrepancies in movements of controlled waste into Tasmania for the period 1 July 2015 to 30 June 2016—Percentage of total movements

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

Table 4: Number of movements of controlled waste into Tasmania for the period—1 July 2015 to 30 June 2016

NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
	5		1					23

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 Australian Capital Territory by Mr. Simon Corbell MLA, Minister for the Environment and Climate Change for the reporting year ended 30 June 2016.

PART 1 — IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The NEPM has been fully implemented and operational in the Australian Capital Territory (ACT) since March 2000. No major issues have been identified with its operation. The ACT Government continued to work with industry during the review period to ensure efficient implementation 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) produced by the ACT Government continue to be of great benefit to stakeholders in ensuring compliance with their statutory requirements.

All parties bound by the NEPM have complied with the NEPM's protocols and information reporting requirements. Regular contact has been maintained with other jurisdictions to ensure cooperative administration of the NEPM.

Movements have continued into the ACT from most jurisdictions for the treatment of polychlorinated biphenyl free contaminated oil by Transformer Maintenance Services Australia Pty Ltd and from the surrounding NSW regions for the treatment of clinical waste by Daniels Health Services Pty Ltd.

In accordance with the last NEPM review sewage sludge and residues including nightsoil and septic tank sludge (waste type K) are no longer tracked under the NEPM. This was the only waste of this type transported into the ACT from other jurisdictions primarily NSW.

PART 2 — ASSESSMENT OF NEPM EFFECTIVENESS

Table 1: Number of consignment authorisations issued by the Australian Capital Territory

Reporting Year	Consignment authorisations issued
2014–15	55
2015–16	53

Table 2: Quantity of controlled waste into the Australian Capital Territory for the period 1 July 2015 to 30 June 2016—Tonnes per waste category by State/Territory

Code	Description	NSW	Vic	Qld	WA	SA	Tas	NT	Ex-Terr	Total (tonnes)
A	Plating & heat treatment									0.00
B	Acids									0.00
C	Alkalies									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	235.35	274.60	2.30						512.25
K	Putrescible/organic waste									0.00
L	Industrial washwater									0.00
M	Organic chemicals									0.00
N	Soil/sludge	180.33								180.33
R	Clinical & pharmaceutical	240.85								240.85
T	Misc.									0.00
State Totals (tonnes)		656.53	274.60	2.30	0.00	0.00	0.00	0.00		933.43

Table 3: Discrepancies in movements of controlled waste into Australian Capital Territory for the period 1 July 2015 to 30 June 2016—Percentage of total movements

Discrepancy Type	NSW	Vic	Qld	WA	SA	Tas	NT	Ext Terr *
Consignment non-arrival								
Transport without authorisation	1							
Non-matching documentation								
Waste data								

Table 4: Number of movements of controlled waste into Australian Capital Territory for the period 1 July 2015 to 30 June 2016

NSW	Vic	Qld	WA	SA	Tas	NT	Ext Terr*
825	13	1	0	0	0	0	0

Northern Territory

Report to the NEPC on the implementation of the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure for the Northern Territory by the Minister for Environment and Natural Resources for the reporting year ended 30 June 2016.

PART 1 – IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The Northern Territory *Waste Management and Pollution Control Act 1998* provides the legislative basis to regulate and administer the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure (NEPM). The Northern Territory Environment Protection Authority (NT EPA) currently administers the NT’s obligations through licensing of scheduled activities that involve the movement of controlled wastes across State/Territory boundaries and the issuing and receipt of Waste Transport Certificates. This level of involvement is commensurate with the terms of the Agreement between States and Territories on matters relating to the implementation of the NEPM. The level of environmental safeguard is further bolstered within the NT by the NT WorkSafe administration of the Transport of Dangerous Goods by Road and Rail (National Uniform Legislation) Act.

PART 2 – ASSESSMENT OF NEPM EFFECTIVENESS

Movement of controlled waste tends to be from the Northern Territory to other states. The NEPM does provide a consistent system for use in the Northern Territory when required and the NT has implemented a paper based system for Consignment Authorisations and Waste Tracking Certificates. The NT is exploring options for an electronic database to facilitate better cohesion with tracking requirements under the NEPM.

Table 1: Number of consignment authorisations issued by Northern Territory

Reporting Year	Consignment authorisations issued
2014–15	1
2015–16	3

Table 2: Quantity of controlled waste into Northern Territory for the period 1 July 2015 to 30 June 2016—Tonnes per waste category by State/Territory

Code	Description	NSW	Vic	Qld	WA	SA	Tas	ACT	Ex-Terr	Total (tonnes)
A	Plating & heat treatment									0.00
B	Acids									0.00
C	Alkalies									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				535.70					535.70
K	Putrescible/organic waste									0.00
L	Industrial washwater									0.00
M	Organic chemicals									0.00
N	Soil/sludge									0.00
R	Clinical & pharmaceutical									0.00
T	Misc.									0.00
State Totals (tonnes)		0.00	0.00	0.00	535.70	0.00	0.00	0.00		535.70

Table 3: Discrepancies in movements of controlled waste into Northern Territory for the period 1 July 2015 to 30 June 2016—Percentage of total movements

Discrepancy Type	NSW	Vic	Qld	WA	SA	Tas	ACT	Ext Terr *
Consignment non-arrival				0				
Transport without authorisation				0				
Non-matching documentation				0				
Waste data				0				

Table 4: Number of movements of controlled waste into Northern Territory for the period 1 July 2015 to 30 June 2016

NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ext Terr*
			13				n/a	

Appendix 6:
Jurisdictional Reports on
the Implementation and
Effectiveness of the
National Pollutant Inventory
NEPM

Commonwealth

Report to the NEPC on the implementation of the National Environment Protection (National Pollutant Inventory) Measure for the Commonwealth by the Hon Greg Hunt MP, Minister for the Environment, for the reporting year ended 30 June 2016.

PART 1 – IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

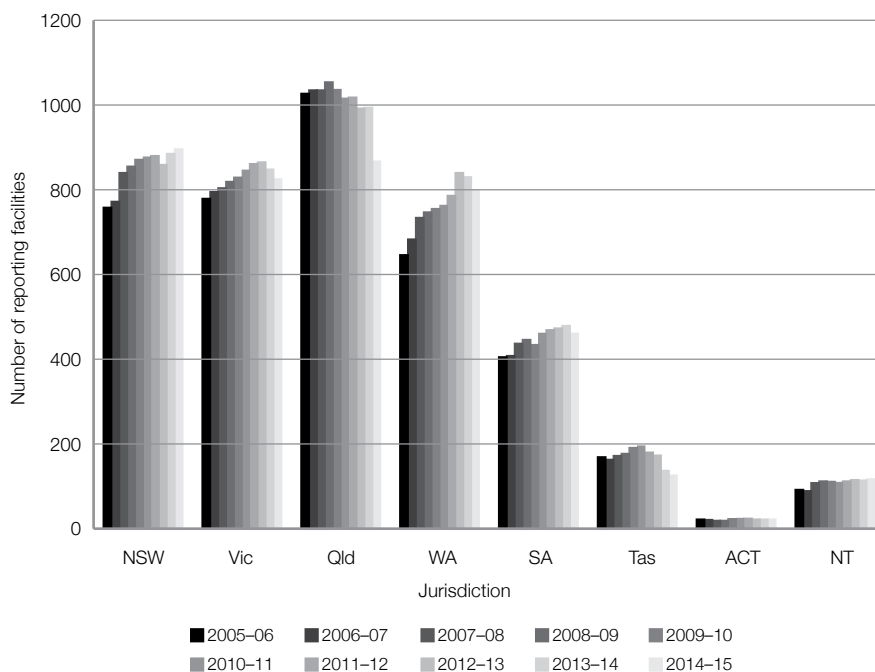
- The Commonwealth implements the NEPM administratively and ensures that its obligations under the *National Environment Protection Act 1994* and *National Environment Protection Measures (Implementation) Act 1998* are met.

PART 2 – ASSESSMENT OF NEPM EFFECTIVENESS

The Commonwealth published 2014–15 National Pollutant Inventory (NPI) data in April 2016. The number of facilities reporting to the NPI fell from 4,306 in 2013–14 to 4,104 in 2014–15.

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 2005–06



The Commonwealth continued to work cooperatively with all jurisdictions to administer the NPI NEPM and maintain the online reporting system to ensure reliable collection of industry data. The Commonwealth also updated industry guidance on the NPI website.

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
PUBLIC		
<ul style="list-style-type: none"> 274,066 user sessions on the NPI website 	<ul style="list-style-type: none"> The number of user sessions increased from 242,112 in 2014–15. There was an increase in the number of complaints about defects in the behaviour of the NPI database. NPI data ranked 6th in public requests for new datasets to be published as open data on data.gov.au (The request for NPI data was grouped with requests for Australian Greenhouse Emissions data and Home Solar Installations data. This ranking excludes completed or closed requests). 	<ul style="list-style-type: none"> 132 calls were received by the Commonwealth through the free call phone line. Most of these were calls from industry seeking advice on NPI reporting requirements. Most industry calls were referred to the relevant state or territory NPI team. 213 email responses were sent to questions received via the NPI website and NPI email address
INDUSTRY		
<ul style="list-style-type: none"> 4,104 reports for 2014–15 4,306 reports for 2013–14 140 new reporters 2 new sectors reporting 	<ul style="list-style-type: none"> The NPI maintained positive relationships with industry stakeholders, researchers and the community. 	<ul style="list-style-type: none"> 6 minor updates to industry resources were published on the NPI website. The Commonwealth helped industry reporters when state and territory NPI teams were unable to.
GOVERNMENT		
<ul style="list-style-type: none"> 8 facilities from 3 Commonwealth departments reported to the NPI in 2014–15. 	<ul style="list-style-type: none"> NPI data was provided to the Department of the Environment and Energy for the State of the Environment 2016 report. NPI data was provided to EPA Victoria to inform the review of the <i>National Environment Protection (Ambient Air Quality) Measure</i>. 	<ul style="list-style-type: none"> The Commonwealth chaired and provided secretariat support for the NPI Intergovernmental Working Group, which oversees key NPI administration activities. The Commonwealth renewed its memorandum of understanding with each state and territory for the operation of the NPI. These agreements are due for renewal in 2018. The new agreements improve the information for routine performance assessment of the programme by the NPI Intergovernmental Working Group.

New South Wales

Report to the NEPC on the implementation of the National Environment Protection (National Pollutant Inventory) Measure for New South Wales by Mark Speakman, Minister for the Environment for the reporting year ended 30 June 2016.

PART 1 — IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The New South Wales Environment Protection Authority implements the National Environment Protection (National Pollutant Inventory) Measure (NEPM) through the provisions in Chapter 4 of the Protection of the Environment Operations (General) Regulation 2009, 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 reporting

The Environment Protection Authority conducts an annual face-to-face training program, which includes a series of half-day training courses to assist facility reporters with:

- understanding key elements of National Pollutant Inventory 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 National Pollutant Inventory 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
- emission factors for non-standard fuels
- improved fugitive emission estimation methods
- an interactive on-line training program.

Public activities

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
PUBLIC		
<ul style="list-style-type: none"> The number of community member visits to the National Pollutant Inventory website was recorded by the Commonwealth 	<ul style="list-style-type: none"> Academics and researchers continue to use the National Pollutant Inventory data for modelling and other studies. The media utilises National Pollutant Inventory data where environmental issues of concern are identified. <p>Some issues have been identified:</p> <ul style="list-style-type: none"> community users of NPI data frequently fail to access 'transfer' data as the 'search by form' screen does not incorporate 'transfer' destination searches enquiries from public and media continue to demonstrate a growing awareness of the dataset, however there continues to be a need to provide contextual information about the data. 	<ul style="list-style-type: none"> Presentation to stakeholders during consultation.

Industry and Government activities

There were 33 new reporters in 2014–15.

The Environment Protection Authority undertakes industry sector reviews to identify facilities that may be required to report data to the National Pollutant Inventory. Generally, these industry sector reviews include facilities that currently hold an environment protection licence issued under the *Protection of the Environment Operations Act 1997*.

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
INDUSTRY		
<ul style="list-style-type: none"> 896 reports for 2014–15 Compared to 887 reports for 2013–14 33 new reporters in 2014–15 No confidentiality claims submitted 	<ul style="list-style-type: none"> Training and support provided by the Environment Protection Authority to facility reporters has improved data quality and reduced costs to National Pollutant Inventory facility reporters. 	<ul style="list-style-type: none"> During 2014–15, the Environment Protection Authority trained reporters, including in using the National Pollutant Inventory online reporting system. Ongoing industry requests to the Environment Protection Authority for training and guidance material on transfers of National Pollutant Inventory substances in waste streams.

GOVERNMENT		
<ul style="list-style-type: none"> • 896 desktop audits 	<ul style="list-style-type: none"> • The Environment Protection Authority continues to use the National Pollutant Inventory to inform policy and regulatory approaches. • The Environment Protection Authority continues to use the National Pollutant Inventory to analyse environmental outcomes in relation to the regulation of substances at industrial facilities. 	<ul style="list-style-type: none"> • The Environment Protection Authority continues to utilise an internal communication program to inform staff about the importance of the National Pollutant Inventory and the emission estimation techniques. • Regular National Pollutant Inventory officer meetings facilitate information exchange and knowledge sharing between jurisdictions and seek to ensure a consistent 'harmonised' 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 Lisa Neville, Minister for Environment, Climate Change and Water (until 23 May 2016) and the Hon Lily D'Ambrosio, Minister for Energy, Environment and Climate Change (from 23 May 2016) for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

No implementation issues arose during the 2015–2016 year. The NPI NPEM continues to be effectively implemented in Victoria through the Waste Management Policy (National Pollutant Inventory) 2012.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
PUBLIC		
	<ul style="list-style-type: none"> One community request was received regarding emissions from and waste transfers at one of the gold mines in the North Western Victoria. 	
INDUSTRY		
<ul style="list-style-type: none"> 844 published reports for 2014–15. 843 published reports for 2013–14 26 new reporters 0 confidentiality claims submitted 	<ul style="list-style-type: none"> Industry reporters complained about their difficulties in using the NPI online reporting system and specifically the MS Excel calculation tools. 	<ul style="list-style-type: none"> 95% of published industry reports for 2014–15 were submitted online, while 94% were submitted online for 2013–14..
GOVERNMENT		
<ul style="list-style-type: none"> 162 desktop audits 7 on-site audits 0 regulatory actions 	<ul style="list-style-type: none"> No specific feedback was received from the government. EPA has used the NPI data for air quality modelling; cross-checking licence compliance; prioritising compliance work; and for the review of the Scheduled Premises Regulations. 	<ul style="list-style-type: none"> Approximately 20% of published reports underwent a desktop assessment.

Queensland

Report to the NEPC on the implementation of the National Environment Protection (National Pollutant Inventory) Measure for Queensland by Hon. Steven Miles MP, Minister for Environment and Heritage Protection and Minister for National Parks and the Great Barrier Reef for the reporting year ended 30 June 2016.

PART 1 – IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- Opportunities exist to improve the effectiveness and implementation of the National Pollutant Inventory (NPI) through a strategic review. Queensland supports investigating these opportunities through the detailed review of the current National Environmental Protection (NPI) Measure.

PART 2 – ASSESSMENT OF NEPM EFFECTIVENESS

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
PUBLIC		
	<ul style="list-style-type: none"> • Sixteen news articles were circulated in the 2015–16 year compared to 27 in the 2014–15 year. • There has been an increase in the number of enquiries about the NPI data from the general community during the 2015–16 year. 	<ul style="list-style-type: none"> • NPI emissions and transfer reports were published through the Queensland Open Data portal www.data.qld.gov.au.
INDUSTRY		
<ul style="list-style-type: none"> • 39 new reporters 	<ul style="list-style-type: none"> • The NPI Online reporting system continues to be the preferred method for industry to submit their pollutant emissions and transfer data. • Industry interest in receiving NPI training declined during the period 	<ul style="list-style-type: none"> • 3 onsite audits were conducted during the period to assess the thoroughness and accuracy of facility reporting. • 83% of facility reports were subject to desktop evaluation.
GOVERNMENT		
<ul style="list-style-type: none"> • 722 desktop audits • 3 on-site audits • 0 regulatory actions 	<ul style="list-style-type: none"> • The Queensland Department of Science Information Technology and Innovation utilised the industry pollutant emissions data to contribute to the development of emissions inventories. 	<ul style="list-style-type: none"> • Where possible the Qld NPI team conducted audits in conjunction with local EHP Officers to promote a two way flow of information across staff and to provide industry with a one-stop-shop for seeking further information.

Western Australia

Report to the NEPC on the implementation of the National Environment Protection (National Pollutant Inventory) Measure for Western Australia by Hon Albert Jacob MLA, Minister for Environment; Heritage for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In Western Australia, the Department of Environment Regulation (DER) is responsible for implementing the National Environment Protection (National Pollutant Inventory) Measure under the *National Environment Protection Council (WA) Act 1996*, the *Environmental Protection Act 1986* and the Environmental Protection (NEPM-NPI) Regulations 1998. The implementation of the NEPM continues to be successful in Western Australia.

DER has identified opportunities for enhanced administration of the NPI NEPM through the collection and reporting of aggregated emissions data. Work on the Perth Air Emissions Study 2011–12 was undertaken during the reporting period to update the aggregated emissions data for the greater Perth metropolitan region.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
PUBLIC		
	<ul style="list-style-type: none"> Environment groups and the media utilise NPI NEPM data where environmental issues of concern are identified. Some direct enquiries were received from the public regarding NPI database information 	<ul style="list-style-type: none"> The NPI NEPM pages of DER's website were updated during the reporting period to improve accessibility.
INDUSTRY		
<ul style="list-style-type: none"> 797 reports for 2014–15 829 reports for 2013–14 22 new reporters No new sectors reporting No confidentiality claims submitted 	<ul style="list-style-type: none"> Widespread compliance with the online reporting system with 96 per cent uptake in WA for 2014–15 (one per cent increase). Some smaller facilities require above-average reporting guidance due to the lack of dedicated personnel. Major industrial facilities maintain awareness of community interest in their emissions, and ensure reports reflect site emissions. Support provided by DER staff acknowledged by reporters in feedback. 	<ul style="list-style-type: none"> Training sessions provided to industry reporters included information sessions, a webinar and online reporting training. Reporters from other jurisdictions were invited and attended the webinar. Continued follow-up of potential reporters in several industry sectors. Reporters regularly reminded of reporting deadlines and supplied with additional reporting information to that available on website.

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
GOVERNMENT		
<ul style="list-style-type: none"> • 797 desktop audits • 14 on-site audits • No regulatory actions 	<ul style="list-style-type: none"> • DER uses the NPI NEPM to inform policy development, program implementation and to support regulatory activity. • DER uses NPI NEPM data for the development of an emissions inventory for the greater Perth metropolitan region. • NPI NEPM data is used to identify and rank WA's major emitters with comparisons made with national data. 	<ul style="list-style-type: none"> • Details of major emitters are provided to DER licensing personnel for information, data cross-checking and follow-up as required. • DER 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 the Hon. Ian Hunter MLC, Minister for Sustainability, Environment and Conservation, for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

While Commonwealth funding to jurisdictions was reduced by 50% this financial year, South Australia’s contribution has remained unchanged, indicative of our strong support for the programme. A decrease in NPI staff at the Commonwealth has contributed to reduced external communication of the programme, issues with the database user interface and limited updates to emission estimation technique manuals, which has been a concern for industry in particular.

A detailed air emissions inventory remains a strategic priority for both the National Pollutant Inventory (NPI) programme and the South Australian Environment Protection Authority (SA EPA). Aggregate emissions data are required for reliable comparison with industry emissions, however overall funding levels do not currently permit appropriate resourcing for the updating of aggregate emissions data (last done in South Australia in 2003).

South Australia made its subset of the NPI emission data available on www.data.sa.gov.au during 2015–16 year, as has been done for the previous two reporting years. South Australia supports the provision of a national NPI dataset to www.data.gov.au as an important step in making it more accessible and easier to use for data analysis and for comparison with other datasets.

The upcoming commitment of funding by the Commonwealth to support activities towards a review of the NPI is strongly supported. South Australia envisages that this commitment will enable a comprehensive statutory review of the NPI NEPM being undertaken in order to deliver the necessary improvements to the program. The current NPI NEPM states that a statutory review should be undertaken every five years however, the last review was conducted in 2005.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The five NPI industry audits undertaken have led to improvement in the accuracy and better understanding of NPI reporting. The South Australian NPI team has been actively involved in the NPI implementation working group to continually improve industry reporting material.

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
PUBLIC		
	<ul style="list-style-type: none">• There is a lack of awareness of the NPI program amongst the general public.• The media use NPI data.	<ul style="list-style-type: none">• The SA 2014–15 NPI data set was provided to the SA Government open data portal at www.data.sa.gov.au to create greater awareness and access to NPI data for industry and the community.

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
INDUSTRY		
<ul style="list-style-type: none"> • 460 reports for 2014–15 • 483 reports for 2013–14 • 14 new reporters in 2014–15 • No new sectors reporting • No confidentiality claims submitted 	<ul style="list-style-type: none"> • Online reporting training has been well received by industry. 	<ul style="list-style-type: none"> • A newsletter was published on the SA EPA website to inform reporters about updates to industry guidance material and provide general information about NPI reporting. • Industry enquiries have been followed up. • Training on NPI requirements, online reporting and ‘drop in’ sessions were held in Adelaide.
GOVERNMENT		
<ul style="list-style-type: none"> • 460 desktop audits • Five on-site audits 	<ul style="list-style-type: none"> • The SA EPA utilises NPI data to implement the Resource Efficiency Component of its load based or ‘polluter pays’ licensing system • NPI data are vital for developing air quality modelling to provide comprehensive, spatially distributed diffuse and industrial point pollutant emission data across all SA airsheds. 	<ul style="list-style-type: none"> • Participation in the NPI Intergovernmental Working Group remains important for the discussion of policy, strategy and technical implementation details

Tasmania

Report to the NEPC on the implementation of the National Environment Protection (National Pollutant Inventory) Measure for Tasmania the Hon. Matthew Groom MP, Minister for Environment, Parks and Heritage) for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The National Pollutant Inventory Environment Protection Measure continues to be successfully implemented in Tasmania.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
PUBLIC		
	<ul style="list-style-type: none"> • Few direct enquiries from the public regarding NPI data. • NPI data is used when specific issues are being considered and mostly by interest groups. 	<ul style="list-style-type: none"> • Low awareness of the NPI data at the community level in Tasmania
INDUSTRY		
<ul style="list-style-type: none"> • 125 reports for 2014–15 • 133 reports for 2013–14 • Two new reporters • No new sectors reporting • No confidentiality claims submitted 	<ul style="list-style-type: none"> • Ongoing guidance required for small facilities. • 100% of reports received via the online reporting system 	<ul style="list-style-type: none"> • Ongoing training and site visits to assist reporters required as high level of staff turnover reduces understanding of NPI reporting requirements.
GOVERNMENT		
<ul style="list-style-type: none"> • 125 desktop audits • One on-site audits • No regulatory actions 	<ul style="list-style-type: none"> • EPA Tasmania staff access NPI data to assist with relevant projects 	<ul style="list-style-type: none"> • Participation in the NPI Implementation Working Group.

Australian Capital Territory

Report to the NEPC on the implementation of the National Environment Protection (National Pollutant Inventory) Measure for Australian Capital Territory by Mr Simon Corbell MLA, Minister for the Environment for the reporting year ended 30 June 2016.

PART 1 – IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The ACT Government implemented the NEPM under the provisions of the ACT's *Environment Protection Act 1997*.
- There was a continued need for training of reporters using the online reporting system due to staff turnover.

PART 2 – ASSESSMENT OF NEPM EFFECTIVENESS

Participation Levels	Feedback from the Community, Industry and Government	Implementation Activity Effectiveness
PUBLIC		
	<ul style="list-style-type: none"> • No specific feedback was received from the community. 	
INDUSTRY		
<ul style="list-style-type: none"> • 21 reports for 2014–15 • 21 reports for 2013–14 • 1 new reporters • No new sectors reporting • No confidentiality claims submitted 	<ul style="list-style-type: none"> • Some facilities continued to require one-on-one training for understanding of the NEPM and the online reporting system. 	<ul style="list-style-type: none"> • 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		
<ul style="list-style-type: none"> • 21 desktop audits • No on-site audits • No regulatory actions 	<ul style="list-style-type: none"> • No specific feedback was received from the government. 	<ul style="list-style-type: none"> • Every NPI report underwent a desktop validation. • The ACT Government liaised 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 for Northern Territory by the Minister for Environment and Natural Resources for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The National Pollutant Inventory (NPI) program is implemented in the Northern Territory through an Environment Protection Objective (EPO) 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.
- A fifty per cent reduction in Commonwealth funding to the jurisdictions for administration of the NPI reduced the amount of staff time spent on the NPI in the Northern Territory. The primary area where time saving was made was in validation of reports prior to submission to the Commonwealth. Reports were validated selectively based on evidence of significant emissions changes from previous years and facility size. Approximately 50 per cent of reports were validated.
- 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		
N/A	<ul style="list-style-type: none"> • No feedback was received from industry or the public 	<ul style="list-style-type: none"> • During the change in ownership of the NT utilities provider, training and communications with the new entity was undertaken.
INDUSTRY		
<ul style="list-style-type: none"> • 121 reports for 2015–16 • 111 reports for 2014–15 • 10 new reporters • 0 new sectors reporting • 0 confidentiality claims submitted 	<ul style="list-style-type: none"> • Industry response to the NPI in 2015–16 has been positive with several reporters conducting voluntary audits of their facilities to ensure all above threshold facilities were reporting. This resulted in an increase in the number of reports in 2015–16. 	<ul style="list-style-type: none"> • Improved communication with reporters.
GOVERNMENT		
<ul style="list-style-type: none"> • 0 desktop audits • 0 on-site audits • 0 regulatory actions 	<ul style="list-style-type: none"> • None known. 	<ul style="list-style-type: none"> • • None known.

Appendix 7: Jurisdictional Reports on the Implementation and Effectiveness of the Used Packaging Materials NEPM

Commonwealth

Report to the NEPC on the implementation of the National Environment Protection (Used Packaging Materials) Measure for the Commonwealth by the Hon Greg Hunt MP, Minister for the Environment, for the reporting year ended 30 June 2016.

PART 1 — IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The Used Packaging Materials NEPM 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 signatories to the Australian Packaging Covenant (the Covenant) are not competitively disadvantaged in the market place by fulfilling their commitments under the Covenant.
- The Covenant is an agreement entered into by governments and industry participants in the packaging supply chain, based on the principles of product stewardship and shared responsibility for reducing the environmental impacts of consumer packaging.
- The majority of packaging brand owners in Australia fall within one or more state and territory jurisdictions. If they are not exempt from the NEPM and Covenant, brand owners must become Covenant signatories, or become subject to NEPM requirements.
- The NEPM requires participating state and territory jurisdictions to report annually on brand owners that are subject to NEPM requirements, carry out surveys of 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 jurisdictional territories. Australia Post is the only Commonwealth brand owner under the definition of the 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 undertake Covenant activities.
- The NEPM requires the Commonwealth to provide information annually to the NEPC on the overall national performance of the Covenant. In accordance with Section 19 of the NEPM, the Covenant Council is to provide information to the Commonwealth 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 the Covenant Council
 - 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
 - a statement of interpretation of the information.
- In February 2015, environment ministers requested officials to engage with the packaging industry and return to ministers with an approach to be taken.
- Ministers are scheduled to consider the improved Covenant arrangements and five-year Strategic Plan in late 2016.

PART 2 — ASSESSMENT OF NEPM EFFECTIVENESS

At the end of June 2016, there were 984 Covenant signatories in total nationally, of which 876 (89 per cent) were compliant. Non-compliant signatories are removed from the register of Covenant signatories and referred to the relevant state and territory government for follow up under the NEPM in each jurisdiction.

Compliant brand owner signatories fulfil the following Covenant requirements:

- submit an action plan within three months of becoming a signatory that includes the information set out in Schedule 1 to the Covenant
- implement the submitted action plan and the Covenant's Sustainable Packaging Guidelines

- by 31 March each year (following the year in which a company becomes a signatory) submit an annual report that includes the information set out in Schedule 1 to the Covenant
- agree to an independent audit of annual report and action plan implementation if required
- pay the required contribution to the Covenant Fund
- maintain and make available records of the implementation of action plans, which can validate the data submitted in annual reports
- assist the Covenant Council in responding to complaints about action plans or the design and use of signatory packaging.

Signatories showed continued improvement across all key performance reporting indicators, particularly in the areas of developing policies for buying products made from recycled packaging and reductions of litter in the litter stream.

New South Wales

Report to the NEPC on the implementation of the National Environment Protection (Used Packaging Materials) Measure for New South Wales by Mark Speakman, Minister for the Environment for the reporting year ended 30 June 2016.

PART 1 – IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

Under the Waste Less, Recycle More initiative, the NSW Government has continued to commit to reducing packaging waste in the State through a range of funding priorities, including waste and recycling infrastructure, recycling innovation, business recycling and littering. Up to July 2016 Waste Less, Recycle More has awarded \$85 million to infrastructure, \$28.1 million to businesses, and \$10.5 million to litter, including 152 litter projects. It has also resulted in 15,730 businesses having free waste assessments through the Bin Trim program. The NSW Government has also funded \$6.89 million to 20 priority problem waste projects under the Recycling Innovation Fund, which includes waste types used for packaging.

PART 2 – ASSESSMENT OF NEPM EFFECTIVENESS

NSW has worked closely with the Australian Packaging Covenant (APC) on increasing business compliance with the National Environment Protection (Used Packaging Materials) Measure (NEPM) by sending more than 100 letters to:

1. non-compliant members of the APC, and
2. businesses that are not members of the APC or abiding by the relevant state law on packaging (Part 8 of the Protection of the Environment Operations (Waste) Regulation 2014 (NSW Waste Regulation)).

This action led to new signatories and members rectifying their non-compliance with the APC. NSW has also communicated with a number of businesses that have sought clarification on their regulatory requirements.

Reporting Year	Number of covenant signatories
2014–15	375
2015–16	414

Recovery Data

Nil (no brand owner was subject to record-keeping obligations under the NSW Waste Regulation).

Supporting Data

133 businesses were referred to the NSW Government between July 2015 and 30 June 2016. 77 were non-compliant signatories to the APC and 56 were non signatories.

Complaints, Investigations and Prosecutions

No complaints in relation to specific businesses were received. No investigations or prosecutions were undertaken.

Statement of Interpretation of the Information

NSW has continued to focus on the reduction of packaging waste through Waste Less, Recycle More. It has also engaged with the APC and relevant businesses to meet the NEPM's outcomes.

Local Government Data

Local government data is available on the NSW Environment Protection Authority'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 Lisa Neville, Minister for Environment, Climate Change and Water (until 23 May 2016) and the Hon Lily D'Ambrosio, Minister for Energy, Environment and Climate Change (from 23 May 2016) for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The NEPM is implemented in Victoria is through the Waste Management Policy (Used Packaging Materials) (WMP). The need for further work on the methodology for auditing brand owners under clause 16(4) of the NEPM has been identified (as required by clause 20(1)).

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

The primary purpose of the Used Packaging Materials NEPM is to establish a statutory basis for ensuring that signatories to the Australian Packaging Covenant are not competitively disadvantaged in the marketplace by fulfilling their commitments under the Covenant.

The Secretariat of the Covenant is responsible for initially approaching companies that are identified as brand owners (and 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.

By 30 June 2016, there were 372 Victorian signatories (up from 364 on 30 June 2015), including 321 brand owners registered in Victoria (up from 317).

Reporting Year	Number of covenant signatories
2014–15	364
2015–16	372

Recovery Data

Clause 18 of the Used Packaging Materials NEPM requires jurisdictions to carry out surveys of packaged products ('brand owner surveys') at least once every year to ascertain the effectiveness of the measure in preventing free riding. The last brand owner survey was conducted in December 2014 with results provided to the Covenant Secretariat in December 2014. In August 2015, a meeting of jurisdictions and industry resolved that jurisdictions would not carry out the brand owner audit during the reporting period, and that industry would take responsibility for brand owner audits from 1 July 2016.

Supporting Data

Nil

Complaints, Investigations and Prosecutions

Nil

Statement of Interpretation of the Information

Nil

Local Government Data

In January 2016, local government recycling data for 2014/2015 was published on EPA Victoria's website (www.epa.vic.gov.au/your-environment/waste/local-government-kerbside-recycling).

Data for 2015/16 is expected to be published on EPA's website in late 2016.

Queensland

Report to the NEPC on the implementation of the National Environment Protection (Used Packaging Materials) Measure for Queensland by the Hon Steven Miles, Minister for Environment and Heritage Protection and Minister for National Parks and the Great Barrier Reef for the reporting year ended 30 June 2016.

PART 1 — IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

There were no significant implementation issues arising in 2015–16.

PART 2 — ASSESSMENT OF NEPM EFFECTIVENESS

The primary purpose of the National Environment Protection (Used Packaging Materials) Measure (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.

In Queensland, the NEPM is given effect through the Waste Reduction and Recycling Regulation 2011. Covenant activities in Queensland are administered by the Department of Environment and Heritage Protection .

As at 30 June 2016, there were 70 compliant Queensland signatories.

Reporting Year	Number of covenant signatories
2014–15	66
2015–16	70

Jurisdictional activities:

- Member of the Australian Packaging Covenant Council
- Actively contributing to and supporting the administration processes of the Australian Packaging Covenant
- Continued support for and provision of funding towards national and state-based projects
- Continued support for and provision of funding towards compilation of the National Litter Index

Project Funding:

In the 2015–16 funding round, one new project was approved, with a total project value of \$350,500. The supported project is:

- Re-Thinking Regional Rubbish—Queensland Murray–Darling Committee Inc.

Recovery Data

Nil (no brand-owner was subject to record-keeping obligations under the Queensland Regulation)

Supporting Data

Clause 18 of the NEPM requires jurisdictions to undertake annual brand owner surveys. By agreement between the Australian Packaging Covenant and all participating state jurisdictions, no brand owner surveys were undertaking in the reporting year.

Complaints, Investigations and Prosecutions

No complaints were received during the reporting period.

Statement of Interpretation of the Information

Nil

Local Government Data

All local governments are required to provide information relating to paper and packaging collection by 30 September of each year. It is not possible to collect and analyse the detailed data and meet the publishing timeframe of this report. The information gathered forms part of the annual State of Waste and Recycling in Queensland report, and will be published on the Department of Environment and Heritage Protection's website (www.ehp.qld.gov.au) by January 2017.

Western Australia

Report to the National Environment Protection Council (NEPC) on the implementation of the National Environment Protection (Used Packaging Materials) Measure for Western Australia by Hon Albert Jacob MLA, Minister for Environment; Heritage for the reporting year ended 30 June 2016.

PART 1 – IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

In Western Australia, the National Environment Protection (Used Packaging Materials) Measure (NEPM UPM) is implemented by the Department of Environment Regulation (DER) under the *National Environment Protection Council (WA) Act 1996*, the *Environmental Protection Act 1986* and the Environmental Protection (NEPM-UPM) Regulations 2013.

PART 2 – ASSESSMENT OF NEPM EFFECTIVENESS

During the reporting period, the covenant secretariat referred five signatories registered in Western Australia as being non-compliant with the Covenant, and two brand owners identified as non-signatories to the Covenant and potentially subject to the requirements of the NEPM UPM. Compliance action commenced but was not finalised during the reporting period.

During the reporting period, the number of Western Australian signatories decreased from 50 to 47.

Recovery Data

No Western Australian based companies have been required to provide records for auditing.

Supporting Data

In August 2015, a meeting of jurisdictions and industry resolved that jurisdictions would not carry out the brand owner audit during the reporting period, and that industry would take responsibility for brand owner audits from 1 July 2016.

Complaints, Investigations and Prosecutions

No complaints were received, or investigations or prosecutions undertaken, during the 2015–16 reporting period.

Statement of Interpretation of the Information

Not applicable

Local Government Data

Local government data will be available at www.der.wa.gov.au from June 2017.

South Australia

Report to the NEPC on the implementation of the National Environment Protection (Used Packaging Materials) Measure for South Australia} by the Hon. Ian Hunter MLC, Minister for Sustainability, Environment and Conservation, for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The Environment Protection (Used Packaging Materials) Policy 2012 (the Policy) is the legal instrument to enforce the obligations of the NEPM. The Policy provides the regulatory underpinning for the Australian Packaging Covenant (the Covenant). The alignment of the NEPM/Policy and the Covenant is the key to providing national consistency in regulatory support for packaging.

In 2015–2016, South Australia continued to strengthen its relationship with Industry and other jurisdictions to ensure national consistency around the enforcement of the National Environment Protection (Used Packaging Materials) Measure 2011 (NEPM) and the Environment Protection (Used packaging Materials Policy 2012 (Policy) at a state level.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

No significant issues arose with the implementation of the Policy in South Australia.

Reporting Year	Number of covenant signatories
2014–15	54
2015–16	55

Recovery Data

One brand owner was required to report during this reporting period. The EPA continues to work with this brand owner to assist them in ensuring compliance with the Policy through the development and implementation of an action plan.

Supporting Data

Clause 18 of the NEPM requires jurisdictions to carry out surveys of packaged products to ascertain the effectiveness of the measure in preventing free riding. In August 2015 industry agreed to take responsibility for undertaking the brand owner audits on a biennial basis, part of this agreement included that jurisdictions would not be required to undertake an audit during 2015–16 as this responsibility would be undertaken by industry under the refreshed Australian Packaging Covenant in 2016–17. An audit was not completed in 2016.

Complaints, Investigations and Prosecutions

No complaints were received during this reporting period. No investigations or prosecutions were required.

Statement of Interpretation of the Information

South Australia continued to implement the NEPM through the South Australian (Used Packaging Materials) Policy 2012. South Australia continues to promote and support the implementation of the Covenant through a range of initiatives such as collaboration with industry and other jurisdictions on consistent application of the Covenant and NEPM/Policy requirements.

Local Government Data

Awaiting receipt of all Local Government Data. Data will be available on the EPA website at the end of October 2016.

Tasmania

Report to the NEPC on the implementation of the National Environment Protection (Used Packaging Materials) Measure for Tasmania by the Hon. Matthew Groom MP, Minister for Environment, Parks and Heritage for the reporting year ended 30 June 2016.

PART 1 – IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

Legislative, regulatory and administrative framework

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

Negotiations with companies that fall within the NEPM threshold to become signatories to the Covenant have not been completed during the reporting period. The NEPM has provided a strong incentive for them to join the Covenant. Tasmania has fifteen company signatories and seventeen covenant signatories overall.

Reporting Year	Number of covenant signatories
2014–15	17
2015–16	17

Recovery Data

No recovery data to report under Clause 16 of the NEPM.

Supporting Data

No surveys 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 necessary.

Statement of Interpretation of the Information

Not applicable.

Local Government Data

None reported for 2015–16.

Australian Capital Territory

Report to the NEPC on the implementation of the National Environment Protection (Used Packaging Materials) Measure for Australian Capital Territory by Mr Simon Corbell MLA, Minister for the Environment for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

The Used Packaging Materials Industry Waste Reduction Plan (IWRP) was passed through the ACT Parliament in November 2006 as an instrument developed under the *ACT Waste Minimisation Act 2001* to implement the National Environment Protection (Used Packaging Materials) Measure 2011 (NEPM) in the ACT. The IWRP Instrument was updated in 2013 to ensure consistency with the new Australian Packaging Covenant (APC) and the NEPM.

New waste legislation, the *Waste Management and Resource Recovery Act 2016* (the Waste Act), was passed in August 2016 and will replace the *Waste Minimisation Act 2001*. An instrument is intended to be drafted to implement the Used Packaging Materials NEPM under the new legislation, which comes into effect from 1 July 2017. The new Waste Act provides a more robust regulatory framework. Under the new Waste Act waste and recycling facilities will be licensed and waste transporters will be registered and required to report the amounts of waste handled and its destination. The Waste Act also allows Government to set fees and charges. The ACT Government will be able to use the provisions available under the Waste Act to support the delivery of its waste policy agenda.

The ACT is a signatory to the APC and is implementing a range of measures outlined in the ACT 'Action Plan for the Australian Packaging Covenant 2011–2016'. ACT representatives attend APC meetings and engage with other jurisdictions to work towards reducing packaging waste. The next Action Plan for the ACT will be developed following finalisation of the new APC in 2017. In the interim, a written update was provided to APC Signatory Services.

The ACT Waste Management Strategy 2011–2025 (the Waste Strategy) sets a clear direction for the management of waste in the ACT with the goal of leading innovation to achieve full resource recovery and a carbon neutral waste sector. Over 2015–16 the ACT Government continued to implement the Waste Strategy and work towards full resource recovery via a suite of measures including education, regulation, operating efficient collection systems and planning for new waste infrastructure.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

There were five APC signatories registered in the ACT as of June 2016; three industry organisations; the ACT Government and the Commonwealth Government. There were no brand owner signatories in the ACT.

Reporting Year	Number of covenant signatories
2014–15	5
2015–16	5

Recovery Data

Nil

Supporting Data

No retailer survey of packaged products was conducted in the ACT in 2015–16.

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 2015–16.

Statement of Interpretation of the Information

Over 2015–16 the ACT worked with the community and industry to encourage waste avoidance and increase recycling rates.

A 2014 audit of domestic kerbside waste and recycling indicated a recycling capture rate of 66% for households in the ACT (% of all recyclables which are captured in the yellow-lid bin) and a recycling contamination rate of 7.8% (non-recyclable material in the yellow-lid bin). Recent data shows a Materials Recovery Facility contamination rate of around 11% (non-recyclable items).

In 2015–16 the ACT Government's highly successful Actsmart Business Recycling program continued to support waste reduction and increased recycling by ACT businesses. The program had worked with over 600 businesses by the end of June 2016. Accredited businesses have all achieved a reduction of waste to landfill, some by over 90%, with much of the recovered material being packaging waste.

Local Government Data

Data for the ACT is available on the Transport Canberra and City Services Directorate website www.tccs.act.gov.au/recycling-and-waste/resources/reports-and-forms/reports-and-audits

Northern Territory

Report to the NEPC on the implementation of the National Environment Protection (Used Packaging Materials) Measure for the Northern Territory by the Minister for Environment and Natural Resources for the reporting year ended 30 June 2016.

PART 1—IMPLEMENTATION OF THE NEPM AND ANY SIGNIFICANT ISSUES

- The Northern Territory Government is not a signatory to the Australian Packaging Covenant, as the current covenant remains unlikely to deliver cost-effective outcomes relevant to the unique demographic position of the Northern Territory.
- There are no known major brand owners based in the Northern Territory who are likely to have responsibilities under the NEPM. In the event that Northern Territory brand owners with obligations under the NEPM were found to be non-compliant, there is provision under the Northern Territory *Waste Management and Pollution Control Act 1998* to apply an environmental protection objective to ensure the NEPM can be applied legislatively in the Northern Territory.
- The *Environment Protection (Beverage Containers and Plastic Bags) Act 2011* (the Act) established the container deposit scheme (CDS) to reduce beverage container waste and increase resource recovery, reuse and recycling, and to regulate the supply of single use, non-biodegradable plastic bags. The Act established a plastic bag ban from September 2011 that prohibits retailers from providing customers with lightweight polyethylene shopping bags with handles from September 2011. The CDS commenced in January 2012.
- The Northern Territory's environmental grants program encourages community participation in minimising waste and preventing pollution. In 2015/2016 the Territory granted more than \$450 000 for projects targeting waste minimisation and recycling.

PART 2—ASSESSMENT OF NEPM EFFECTIVENESS

There have been no brand-owners identified in the Northern Territory who would have obligations under the NEPM. No reporting has been required under clause 16 of the NEPM. No surveys of brand owners were conducted in 2015–16 under clause 18. No complaints have been received, investigations undertaken or prosecutions mounted pursuant to this measure. Of the 17 councils within the Northern Territory, only two provide kerbside recycling services.

The NEPM is considered a less effective mechanism in the Northern Territory, as major contributors to the waste stream are brand-owners not based in the Northern Territory. Brand-owners who are Covenant signatories 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.

Due to the small, dispersed population and distance to markets, kerbside recycling is only considered financially viable in the major population centres 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, but collecting reliable data from these communities is problematic. Where kerbside recycling exists, the NEPM does provide a useful mechanism for obtaining data.

The Northern Territory continues to be committed to the NEPM goal and desired environmental outcomes through its existing programs.

Reporting Year	Number of covenant signatories
2014–15	0
2015–16	0

Recovery Data

A total of 151 153 382 approved beverage containers were sold in the Northern Territory during 2015–16. Of these 81 939 191 containers representing 54% of containers sold were returned, and were recycled and reused through the CDS, thereby diverted from landfill.

Supporting Data

There were no brand-owners identified in the Northern Territory in 2015–16 who have obligations under clause 18 of the NEPM.

Complaints, Investigations and Prosecutions

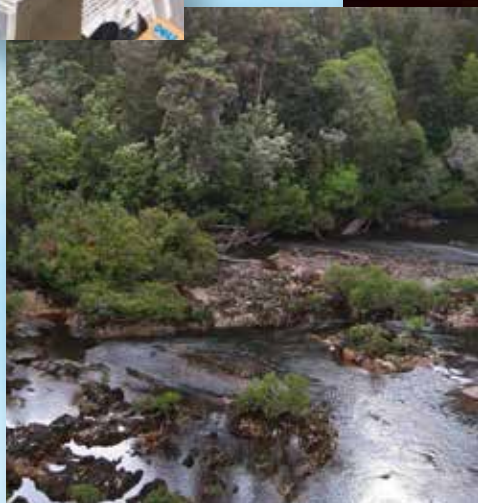
Twelve officers were appointed under the *Environment Protection (Beverage Containers and Plastic Bags) Act 2011* to monitor compliance and undertake enforcement action.

Statement of Interpretation of the Information

The Northern Territory Government imposes an investigative approach to the legislation under the National Environment Protection (Used Packaging Materials) Measure and the *Environment Protection (Beverages Containers and Plastic Bags) Act 2011*. Prosecution will be mounted pursuant to the NEPM where required.

Local Government Data

Not available.



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