



Australian Government

Department of the Environment
and Water Resources

NPI Update

March - April 2007

Issue 11

Welcome to the March - April 2007 edition of the National Pollutant Inventory Update newsletter

The National Pollutant Inventory (NPI) provides information about substance emissions from industrial facilities and other (diffuse) sources, their possible impact and what you can do to help reduce emissions.

The NPI is a cooperative programme implemented by the Australian, state and territory governments.

This newsletter informs the community, industry and government about NPI issues such as upcoming events and the progress of the NPI review.

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To receive email updates of news and announcements from the NPI, please subscribe to the NPI-Update mailing list. Subscription to this list is open to everyone.

Find out more about subscription to NPI Update:

<http://www.npi.gov.au/publications/npiupdates/index.html>

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National Pollutant Inventory
Tracking emissions across Australia



2005-06 NPI emissions data - at a glance

- Facility data was published on the NPI web site on 31 January 2007.
- This was the eighth NPI reporting year.
- Since reporting started in 1999, the number of facilities reporting to the NPI has trebled to 3835.
- Facilities reported on 86 of the 90 NPI substances.
- 47 of the 90 NPI substances reported by facilities showed a decrease compared to the previous year.
- A total of 1118 facilities have provided information on their emission reduction activities since the start of NPI reporting.
- The data is published on the NPI web site to allow all Australians access to this source of information. In 2005-06, the web site attracted more than 404 000 new users, double that of the previous year.
- The new data is on the web site at: www.npi.gov.au

Some key results from the data are highlighted on the NPI web site under latest NPI data: <http://www.npi.gov.au/overview/index.html>

Get quick access to reports and maps for the whole country and individual states or territories – read 2005-06 reports and maps:
<http://www.npi.gov.au/overview/view.html>

In any one year, the inventory data presents a mixed picture with some emissions up and others down compared with the previous year. Real changes in reported emissions data usually results from changes in the way a facility is operated.

Focus on industry

The industry sectors highlighted this year were motor vehicle manufacturing, waste disposal services, cement and lime manufacturing and other wood product manufacturing – read about industry sectors:
<http://www.npi.gov.au/overview/industry-sectors.html>

In 2005-06, for example, the Mitsubishi Motors Australia Limited plant in Tonsley Park, South Australia, cut volatile organic compounds (VOCs) emissions with the installation of a regenerative thermal oxidiser. This pollution control device was installed in response to a South Australian Environment Protection Authority environmental improvement programme to control VOCs and odour emissions - read about emission reduction activities:
<http://www.npi.gov.au/overview/reduction.html>

Focus on substances

The substances focused on were copper and compounds, total volatile organic compounds (TVOCs) and formaldehyde emissions – read about NPI substances: <http://www.npi.gov.au/overview/substances.html>

For more information on NPI substances, a list of the 90 substances and related fact sheets can be obtained from the NPI web site at:
http://www.npi.gov.au/about/list_of_subst.html



How to use the NPI data

- The NPI contains two types of data – facility emissions data and diffuse emissions data. Emissions data is provided by facilities annually. Diffuse data shows the contribution of non-industrial sources to Australia's emissions. The diffuse data is not collected annually and so is not necessarily for the reporting year being examined. In an emissions report for example, diffuse data may be from a study completed in 1998-99 and the facility data from 2005-06, however it is the most up to date information available.
- The 90 NPI substances span a wide range of toxicities - a small amount of a highly toxic substance may be more important than a larger emission of a less toxic substance.
- Adding together emissions of different substances does not provide a measure of total pollution. This is because NPI substances have differing properties and toxicities.
- The NPI comprises estimated emissions, and it is important to note that the accuracy of these estimates may vary according to the technique used. For example, some estimates are based on direct measurement, or modelling using emission factors. The methodology for estimating emissions is available to each industry sector in emission estimation technique (EET) manuals.
- Reported emissions vary from year to year for a range of reasons including: production level changes; process changes; installation of pollution control equipment and changes to estimation techniques.
- Data for the most recent reporting year can be updated if an error has occurred. Changes are usually made around April each year. Check the data changes notification page for information on recent corrections/additions to NPI data – read more about data changes: http://www.npi.gov.au/database/changes_log.html

How is the data collected?

Industrial facilities calculate their emissions annually and provide the results to the environment agency in their state or territory. The agency checks the data and forwards it to the Australian Government Department of the Environment and Water Resources, and it is published on the NPI web site in January each year.

Emissions from diffuse sources like motor vehicles, cigarette smoking, domestic wood combustion and facilities that do not reach the reporting threshold are estimated by state and territory agencies. Diffuse emissions are not necessarily estimated annually.

Should your facility be reporting to the NPI?

Facilities have to report to the NPI if they reach certain reporting thresholds. The thresholds relate to how much fuel, electricity and NPI substances have been used by the facility. For more information on whether your facility needs to report, contact your state or territory environment agency or read the NPI Guide.

The NPI Guide will help you determine whether emissions from your facility should be reported to the NPI and will take you step-by-step through the reporting process – read more about the NPI Guide:

<http://www.npi.gov.au/handbooks/guidetoreporting.html>

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Updated NPI manuals

In late 2006, the following emission estimation technique (EET) manuals were updated. EET manuals contain detailed information on estimating emissions. It is important to use the latest version of the manual for your industry sector when estimating emissions. The NPI Guide should be used in conjunction with all manuals.

- NPI Guide Version 3.2 – September 2006
- Total volatile organic compounds (TVOCs) definition Version 2.5 – September 2006
- Cement manufacturing manual Version 2.0 – November 2006
- Intensive livestock beef cattle feedlot manual Version 3.0 – November 2006
- Gold ore processing manual Version 2.0 – December 2006
- Beer and ready-to-drink alcoholic beverage manufacturing manual Version 1.2 - March 2007

Access the list of EET manuals at: http://www.npi.gov.au/handbooks/approved_handbooks/sector-manuals.html

What else is new in 2007?

In 2007, the Department of the Environment and Water Resources continues to work in partnership with state and territory governments, industry and the public to improve the NPI. Improvements currently in progress include updating and improving industry reporting materials; building a web-based reporting system to streamline industry reporting; redesigning the web site; and raising community and industry awareness of the database through workshops and education programmes.

Review of industry reporting materials - multi use list for provision of consultancy services

The NPI is currently reviewing and updating materials provided to industries to help them estimate emissions from their facilities. It is also updating guidelines used to estimate emissions from other sources. There are more than 100 materials currently being considered through this review process.

Expressions of capacity are being sought from suitably experienced and skilled organisations and individuals to provide services to assist in this project. These services will include, but are not limited to, provision of technical advice, emissions modelling, direct measurement, research and literature review. The NPI is a national programme, and thus services may be required in any state/territory of Australia – read more about the provision of consultancy services: <http://www.npi.gov.au/handbooks/mul.html>

NPI NEPM variation

At the Environment Protection and Heritage Council (EPHC) meeting in July 2005, a variation of the National Pollutant Inventory (NPI) National Environmental Protection Measure (NEPM) was initiated by ministers. A draft variation to the NEPM and an accompanying impact statement were released for public consultation over a two month period starting in July 2006.

Public forums were held in all capital cities and a total of 356 individuals attended with 78 written submissions received from a range of industry groups, individual businesses, community groups and government.



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A broad spectrum of comments was received on the main proposed changes, including:

- reporting of transfers of NPI substances in waste
- removing the reporting exemption for aquaculture
- amending thresholds for substances including mercury, total nitrogen and total phosphorus, *and*
- additions to the current substance list.

The proposal to include reporting of greenhouse gases in the NPI has been put on hold pending consideration by the Council of Australian Governments (COAG) of a purpose-built proposal for streamlining emissions and energy reporting. COAG are due to make a decision on this proposal in mid 2007.

The NPI NEPM variation project team – made up of Australian and state government representatives – have been working through the submissions received and have developed a Summary of Submissions report which will be put forward to ministers at the EPHC meeting in June 2007. Ministers will consider making the variation to the NEPM at this meeting. Copies of all documentation, including the final NEPM, will be made publicly available after this meeting.

Further information on the variation, including copies of the original documentation, can be found at www.ephc.gov.au

Key dates

31 January 2007 – 2005-06 facility data published on the NPI web site for the 8th reporting year.

23 - 29 March 2007 – NPI database searches and tools will not be available during this period to prepare for the publication of the 2005-06 facility data corrections.

29 March 2007 – corrections to 2005-06 facility data published on the NPI web site.

Clean Up Australia Day

Every year hundreds of thousands of Australians help clean up their environment on Clean Up Australia Day.

Clean Up Australia Day will be held on **Sunday 4 March 2007**.

It's easy, fun and everyone can take part. Read more information about Clean Up Australia Day: <http://cleanup.org.au/au/>



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What else can you do to help reduce pollution?

Find out what's being emitted in your community – enter your postcode into the NPI database to get a report on the substances and emissions sources in your local area. In many suburbs around Australia, emissions from motor vehicles and domestic wood burning will be the top sources of emissions.

You can take some simple steps to minimise your household's impact on the environment and help reduce pollution:

- commute smart by walking or riding to work or to the shops instead of driving - motor vehicle emissions remain the most significant source of most common air pollutants
- choose a fuel-efficient vehicle next time you are replacing your car - the Green Vehicle Guide provides ratings on the environmental performance of new vehicles sold in Australia:
www.greenvehicleguide.gov.au
- save energy by replacing your conventional light bulbs with energy-saving globes - not only will you save money on your electricity bill, you will be reducing emissions from coal-fired electricity generation plants
- buy energy-efficient appliances - check the energy rating label when buying new or second hand electrical appliances, more stars mean less emissions: www.energyrating.gov.au *and*
- use environmentally friendly cleaning products - phosphorus in detergents increases nutrient loads in rivers and can cause excessive algal growth.

What does this word mean?

Find out about some of the terms used in the NPI.

Aquifer: a bed, rock formation or other geological structure within the upper layer of the earth's crust containing sufficient voids to allow the storage and flow of ground water.

Bioaccumulate: to accumulate in the tissues of plants and animals to a concentration higher than that of the surrounding environment.

CAS number or CASR number: Chemical Abstracts Service registry number. The unique number assigned to a chemical by the Chemical Abstracts Service (Ohio, USA).

The NPI glossary contains information about the terms used in the NPI: look up the NPI glossary at http://www.npi.gov.au/epg/npi/contextual_info/glossary.html

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Report card on oxides of nitrogen

Oxides of nitrogen are one of the 90 NPI substances. In the 2005-06 NPI reporting year it was estimated that about 780 000 tonnes of oxides of nitrogen was emitted from industrial facilities.

The major industry sources of oxides of nitrogen reported to the NPI are electricity supply, metal ore mining and oil and gas extraction. The major diffuse sources of this substance are motor vehicles, burning/wildfires and biogenics.

Compared to the previous reporting year, emissions from:

- electricity supply decreased by 2%
- metal ore mining increased by 33% *and*
- oil and gas extraction decreased by 8%.

For Australia's 2005-06 oxides of nitrogen emission report go to:
www.npi.gov.au/cgi-bin/npireport.pl?proc=substance;substance=67

Changes in emissions can be caused by changes in facility operations, increased production, better estimation of emissions and the installation of new pollution control equipment.

Oxides of nitrogen are emitted mainly to air, although there are also some small emissions to water.

The oxides of nitrogen (nitric oxide and nitrogen dioxide) are formed by the direct combination of oxygen and nitrogen during a variety of thermal processes. These processes include operation of internal combustion engines, car and thermal power generating plant exhausts, some welding operations and smoke from tobacco. Most people are exposed outdoors to low levels of oxides of nitrogen from these combustion processes. People living near industries that produce oxides of nitrogen or near freeways may also be exposed to higher levels in the surrounding air.

Oxides of nitrogen increase the amount of other greenhouse gases (methane), and eventually oxidises into the greenhouse gas, carbon dioxide. Greenhouse gases are linked to global warming. The Australian Greenhouse Office has more information about greenhouse gases at: www.greenhouse.gov.au

The oxidation of nitrogen produces nitrogen dioxide for the manufacture of nitric acid. Most nitric acid is used in the manufacture of fertilisers, while some is used in the production of explosives, for both military and commercial uses - for example, in mining operations. Nitrous oxide has been used as an anaesthetic known as 'laughing gas'.

Contact us

Contact NPI units in the states or territories, details can be found at:
<http://www.npi.gov.au/contacts/index.html>

Contact the NPI unit at the Australian Government Department of the Environment and Water Resources:

Phone us: 1800 657 945

Email us: npi@environment.gov.au

View us: <http://www.npi.gov.au/index.html>

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