The Netherlands PRTR-System and Quality Control by the Public

Wim van der Maas, Laurens Brandes, Onno Knol & Bert Leekstra
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The Netherlands PRTR-System and Quality Control by the Public

1. PRTR in the Netherlands
2. www.prtr.nl and Aarhus
3. QA/QC by the public
4. The information pyramid
5. Planned improvements
Netherlands Pollutant Release & Transfer Register

Since 1974
The national emissions to air, water and soil of 350 pollutants
Two datasets per year (t-2 in March, t-1 in July)
Formal approved by the partners:

- Environmental Assessment Agency (PBL)
- Statistics Netherlands (CBS)
- Institute for Inland Water Management and Waste Water Treatment
- the Netherlands Organisation for Applied Scientific Research (TNO).

On behalf of three Ministries

- Housing, Spatial Planning and the Environment (VROM)
- Transport, Public Works and Water Management (V&W)
- Agriculture, Nature and Food Quality (LNV)
Tasks of the Netherlands Environmental Assessment Agency:

- Overall coordination of the process
  - (70 emission experts, 10 institutes)
- Infrastructure (websites, databases)
- Spatial allocation of the national emissions
- Report emissions to the Dutch government, EU UNFCCC (LCP, EPER/E-PRTR, NIR, IIR etc.)
  - One exception: Cap & trade emission reports
- Report emissions to the public
  - www.prtr.nl
  - www.emissieregistratie.nl
  - emissieregistratie@mnp.nl
Data in the PRTR

Emissions of 800 point sources (IPPC facilities, eAER’s)

1200 source categories with national totals and activity levels

Divided into 55 work packages (14 emission experts)
Dataflow
Dataflow

e-AER → Internal website → ER → All output

Netherlands Environmental Assessment Agency
Internal website

- Only accessible by ER-partners (extranet)
- Down- en Uploads by the Emission Experts
  - Version control
  - Only the expert can upload it’s work package
  - Many automated checks during uploads
  - As many down- and uploads as wanted
  - Automated logging of all uploads

- EmissionExplorer for overall checks
  - After an upload every partner can check ‘the whole picture’
  - To compare with previous datasets
  - To analyses trends
Dataflow

- e-AER
- Internal website
- ER
- All output

Netherlands Environmental Assessment Agency
Dataflow

- **e-AER**
- **Internal website**
- **Embargo-sheet**
- **External website**
- **ER**
- **All output**

Netherlands Environmental Assessment Agency
Public website

To inform the public about emission-sources in their neighborhood (and, by doing that, increasing the involvement of the public in the validation of emission data)

- Bilingual
- Unique integration of point sources and diffuse emissions
- Integrated compartments (air, air IPCC, soil, water indirect (emission) and direct (load))
- Maps per emission source, 5*5 km grid, per community (municipalities), water catchment area etc.
- Emission Explorer light, only one dataset, no activity data
- Methodologies used
- Detailed exports
Spatial allocation of diffuse emission

• National emission – E-PRTR facilities = diffuse emission
• Activity data for each emission source
  – Point sources for SME → 66,000 with NACE + number of employees
  – Line sources (road, waterways) and use (car kilometre etc.)
  – Area sources (land use maps 500*500 meter, water catchment area etc) and amount of crop, cow, sheep, type and amount of houses, population density
• GIS system to overlay the different spatial elements (which point sources and which percentage of a road lays inside a province, 5*5 km² grid cell etc.)
• For each emission source
www.prtr.nl
Release of pollutants to air, water and soil in the Netherlands

This website shows the yearly releases (emissions) of the most important pollutants in the Netherlands. You can explore the emission data through various channels, such as maps, graphs and tables. But you can also download all the details into your own database. More about the use of this website ... 

Up to date

The data shown in this website is updated 2 to 3 times a year. The current release shows emissions for 1990, 1995, 2000, 2004, 2005 and 2006. The 2006 emissions are preliminary data and not yet shown in the maps. We expect to add an extra year in August 2008. Please send us an update-mail if you want to be informed on website updates.

The Netherlands Pollutant Release & Transfer Register

Since 1974 a number of organisations have been working closely together in this pollutant register (PRTR) project to collect and formally establish the yearly releases of pollutants to air, water and soil in the Netherlands. Results of this project serve to underpin the national environmental policy. Data is in this way also provided for the many environmental reports to international organisations such as the European Union and the United Nations, e.g. the National Inventory Report for the Kyoto Protocol. More about the Netherlands PRTR ....
General explanation of the Emission Register project

Contents

- Scope of the project
- Goal
- History
- Organisation
- Operating Procedure
- Task Forces
- Compounds
- Emission Sources
- Compartments
- Dataflow
- Emission calculations
- Spatial allocation of emissions

Scope of the project

The Emission Register contains the yearly releases of more than 350 pollutants to air, soil and water. The Emission Register project covers the whole process of collecting, processing and reporting of the emission data in the Netherlands. The emission from individual point sources (companies or facilities) and the diffuse emissions, calculated from national statistics by the so-called task forces) are stored into one central database.

Goal

Goal of the project is to agree on one national data set for emissions that meets the following criteria: transparent, complete, comparable, consistent and accurate. This data set is stored in a central database, from which all the national and international reporting is done.

History

The first steps for the establishment of an integrated Pollutant Release and Transfer Register (PRTR) were taken in the
How to use this site

This website shows the yearly releases (emissions) of the most important pollutants in the Netherlands. You can view these emissions, for example, on a map, graph or table. But you can also download all the details into your own database. The Dutch Pollution Release and Transfer Register (PRTR) is an emission register with a very large amount of data. For a number of years this included hundreds of components, more than a thousand emission sources and hundreds of individual facilities. Emissions to air, water (direct and indirect via the sewage treatment plants) and soil are available per province, community, water boards and grid cells of 5 x 5 square kilometres, yielding a total of tens of millions of emissions.

You can explore this information by clicking on one or more of the following links:

- Pre-select graphs and maps
- Make your graphic or map and select the pollutants and emission source of your choice
- Use export to download all the details in your own database

Pre-select graphs and maps

The selection "Direct to map" offers you general maps of the most important emissions, e.g. emission to air per community. This map shows the total emissions in the Netherlands for one compound and the last year. You can select other compounds, years or source of the emission. Use the button [Refresh map] to show the new selection. Click on an icon in the box to the left to select the function to use in the map: zoom in, zoom out, move, print or ask with the emission details. N.B. The selection of sources and components is limited. However, you can expand this selection with the Tab [Selection - general] and [Selection - sector/activity]

Make your graph or map

With Select pollutants, sources ... you can select the emissions (to air or water) you want shown, along with the compounds and emission source. Use the following steps to make a selection:

1. Go to the tab 'Selection - General' and choose one or more compounds, one or more years and the compartment
2. Go to the tab 'Selection - Sources' and select one or more Sectors, Sub sectors, Sources or individual Facilities
3. Go to the tab 'Show - Graphic', and scroll down to view the table and to copy your selection to Excel
4. Go to the tab Show - Map and select the spatial level, year etc. and Press [Refresh map]

You can skip the tab Selection - Sources. In this case only the total of the Netherlands is shown.
Important information about the use of emission data

This page explains the various limitations in the quality of our emission data.

- Embargosheet: why some data are not shown
- Methodologies used to determine emission
- Uncertainties in the emissions presented

Embargosheet

In some cases the emissions of a certain compound are incomplete, or we don't have a clear picture of the allocation in the Netherlands. This embargo sheet shows these exceptions. The symbol ✅ indicates no limitations. The symbol ⋄ implies that no information is shown at all from this compound at this level, while ⋄ indicates some restrictions, further explained - as a tooltip - when you point the symbol.

<table>
<thead>
<tr>
<th>Stof</th>
<th>NL total</th>
<th>NL per (sub) sector</th>
<th>NL per emissionsource</th>
<th>Allocated total</th>
<th>Allocated per (sub) sector</th>
<th>Allocated per emissionsource</th>
<th>Facilities</th>
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<td>Greenhouse gases to air</td>
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<td>✅</td>
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**Introduction**

General introduction PRTR
How to use this site
How to interpret the data

**Top 10 graphics**

- CD2 (IPCC) per sector
- Ammoniak from agricultural sources
- Acidification
- Greenhouse gases IPCC
- Emission to air per sector
- Load to water
- Load to water nutrients
- Load to water pesticides
- Load to water heavy metals
- Emissions to water

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<td>Air</td>
<td>IPCC</td>
<td>587,100,000</td>
<td>786,600,000</td>
</tr>
</tbody>
</table>
Release of pollutants to air, water and soil in the Netherlands

This website shows the yearly releases (emissions) of the most important pollutants in the Netherlands. You can explore the emission data through various channels, such as maps, graphs and tables. But you can also download all the details into your own database. More about the use of this website ...

Up to date

The data shown in this website is updated 2 to 3 times a year. The current release shows emissions for 1990, 1995, 2000, 2004, 2005 and 2006. The 2006 emissions are preliminary data and not yet shown in the maps. We expect to add an extra year in August 2008. Please send us an update-mail if you want to be informed on website updates.

The Netherlands Pollutant Release & Transfer Register

Since 1974 a number of organisations have been working closely together in this pollutant register (PRTR) project to collect and formally establish the yearly releases of pollutants to air, water and soil in the Netherlands. Results of this project serve to underpin the national environmental policy. Data is in this way also provided for the many environmental reports to international organisations such as the European Union and the United Nations, e.g. the National Inventory Report for the Kyoto Protocol.

More about the Netherlands PRTR ....
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More about the Netherlands PRTR ...
### Compound Category

- All substances

### Year

- 1990
- 1995
- 2000
- 2004
- 2005
- 2003

### Emissions to

- Air
### Absolute emissions series

<table>
<thead>
<tr>
<th>Year</th>
<th>Ammonia Emissions [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>249,800,000</td>
</tr>
<tr>
<td>1995</td>
<td>192,600,000</td>
</tr>
<tr>
<td>2000</td>
<td>152,200,000</td>
</tr>
<tr>
<td>2004</td>
<td>133,900,000</td>
</tr>
<tr>
<td>2005</td>
<td>133,000,000</td>
</tr>
</tbody>
</table>

**Table:**

<table>
<thead>
<tr>
<th>#</th>
<th>Sector/Activity</th>
<th>Pollutant</th>
<th>Unit</th>
<th>Sector Type</th>
<th>Sector</th>
<th>1990</th>
<th>1995</th>
<th>2000</th>
<th>2004</th>
<th>2005</th>
<th>Activity</th>
<th>Facility</th>
<th>Compartment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Total</td>
<td>Ammonia</td>
<td>kg</td>
<td></td>
<td></td>
<td>249,800,000</td>
<td>192,600,000</td>
<td>152,200,000</td>
<td>133,900,000</td>
<td>133,000,000</td>
<td>Breeding pigs, stable and storage</td>
<td>Air</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Willems</td>
<td>Ammonia</td>
<td>kg</td>
<td></td>
<td></td>
<td>119,000</td>
<td>109,900</td>
<td>88,170</td>
<td>70,200</td>
<td>72,580</td>
<td>Breeding pigs, stable and storage</td>
<td>201109</td>
<td>Air</td>
</tr>
<tr>
<td>3</td>
<td>Breeding pigs, stable and storage</td>
<td>Ammonia</td>
<td>kg</td>
<td>Subsector</td>
<td>cattle breeding pigs</td>
<td>119,000</td>
<td>109,900</td>
<td>88,170</td>
<td>70,200</td>
<td>72,580</td>
<td>Breeding pigs, stable and storage</td>
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More about the Netherlands PRTR ...
QA/QC by the public

Webstatistics show:
• 1500 visitors per month
• 80% professional users
• 20% from abroad
• 150 requests for additional data
• 15 corrections last 12 months

To complex and to detailed for the general public
Information pyramid for Environmental information in the Netherlands (adaptation from World resource institute 1995)

- **Debate, media, press**
  - headings, oneliners, images
  - movies presentations

- **Integrated environmental assessments**
  - Environmental Balance
  - Environmental Outlook

- **Indicators**
  - www.environmentaldata.nl

- **Registers and databases**
  - Pollutant Release and Transfer Register
  - www.prtr.nl

- **Monitoring**
  - Statistics, surveys, measurements, case studies

Main target group:
- Citizens
- Policy makers
- Policy makers and researchers
- Researchers and policy makers
- Researchers
Planned improvements

Short term (2008)
• ‘deep links’ from prtr.nl (level 4) to higher level websites
  – With policy goals, concentrations etc. of current source or pollutant
  – With factsheets for each pollutant
• Better handling of selections without data
• Extra top10 with the most relevant sources/facilities
• Reductions amount of emission sources from 1200 $\rightarrow$ 700
• Tool tips

Long term (2009)
• Alternative user interface tested now
Questions?

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Netherlands Environmental Assessment Agency
Wim.van.der.Maas@mnp.nl