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40 Years Environment Statistics in the Netherlands

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Statistics Netherlands

1. Introduction

Since the early seventies of the last century, environment statistics are compiled at Statistics Netherlands, the central bureau of statistics in the Netherlands. In this paper some aspects of the history and institutional setting, data sources being used, the cooperation with other institutes and dissemination of results are described.

2. Statistics Netherlands

Statistics Netherlands was founded in 1899 and is responsible for collecting and processing data in order to publish statistics to be used in practice, by policymakers and for scientific research. In addition to its responsibility for (official) national statistics, Statistics Netherlands also has the task of contributing to the production of European (community) statistics.

The information published by Statistics Netherlands incorporates a multitude of societal aspects, from macro-economic indicators such as economic growth and consumer prices, to the incomes of individual people and households. Since the early seventies of the last century environmental information is part of the statistical programme.

Although Statistics Netherlands is a government organisation, it is independent in its work. The statistical programmes (the long-term statistical programme and the annual work programme) are set by the Central Commission for Statistics. This is an independent commission that watches over the independence, impartiality, relevance, quality and continuity of the statistical programme. The Director-General decides autonomously which methods to use to make these statistics, and whether or not to publish results.

Until 2004, Statistics Netherlands was part of the Ministry of Economic Affairs. Since then Statistics Netherlands is an autonomous agency with legal personality. There is no longer a hierarchical relationship between the Minister of Economic Affairs and the organisation. However, the minister is responsible for setting up and maintaining a system for the provision of government statistical information; in other words the minister is politically responsible for legislation and budget, for the creation of conditions for an independent and public production of high quality and reliable statistics. The costs of tasks and activities undertaken to put this legislation into practice are accountable to the government's budget.

Statistics Netherlands has approximately 2.000 employees. They work in two locations, one in the Hague where also the ministries are located, and one in Heerlen in the south of the country.

3. Environment statistics

Following the growing concern about the environment in the early seventies of the last century the Central Commission for Statistics decided to set up environment statistics at Statistics Netherlands. Roefie Hueting, an environmental economist, was asked to give shape to these statistics. Statistics Netherlands was probably the first statistical office that included such statistics in its programme.

Initially the emphasis was on environment statistics describing environmental pressure. Fairly soon, the first data on emissions into ambient air came available and not much later data on emissions into surface water and waste water treatment. These were followed by statistics on waste production and waste treatment and on typical Dutch environmental problems like use of pesticides and manure production. Furthermore, statistics on environmental costs and statistics describing the occurrence and distribution of flora and fauna were included in the programme. An overview of the environment statistics currently compiled by Statistics Netherlands is given in Annex 1.

Nowadays about 35 employees are working in the field of environment statistics. They all work in the Hague.

In the time of the development of the environment statistics in the Netherlands, frameworks like the one of the UN, were not available yet. One was aware of the pressure-state-response chain and this has certainly played a role in the decision to compile statistics on environmental costs and on flora and fauna. The development of the environment statistics, however, has been predominantly demand-driven. Currently, the DPSIR-model is used to structure the presentation of the data in publications like the Environmental Compendium (see Dissemination).

4. Data sources

Statistics Netherlands aims to reduce the administrative burden for companies and the public as much as possible. To this end it uses existing administrative registrations of both government and government-funded organisations. The information from these files is supplied to Statistics Netherlands free of charge. Only if they do not contain sufficient information, Statistics Netherlands is allowed to conduct supplementary surveys among companies and private persons. Companies are usually obliged by law to supply information to Statistics Netherlands and can be forced to cooperate under certain circumstances; Statistics Netherlands may use sanctions such as administrative fines. For its part Statistics Netherlands is obliged to keep all individual data confidential. As an exception data sharing with Eurostat, NSIs in EU member states, Dutch Central Bank and academic researches is allowed under strict conditions.

The environment statistics are also kept to this strategy and make maximum use of already existing registrations. The registrations being used are usually created for enforcement purposes (environmental permits, waste transport) or the grant of subsidies (environmental investments). Also statistics compiled elsewhere within Statistics Netherlands are an important input for the environment statistics. For example, energy statistics, transport statistics and production statistics are used to calculate emissions to air and the agricultural census is a vital source to determine the manure production. For some statistics, however, (supplementary) surveys among companies and local authorities remain unevitable. Surveys are sent annualy with regard to environmental costs, waste production and waste treatment, and use of pesticides. A special form of data collection occurs in the statistics on flora and fauna. Volunteers regularly perform standardized counts to determine the number of plants and animals in a certain area.

5. Cooperation with other institutes

Of course, other government institutes in the Netherlands are active in the field of environmental information as well. However, none of the institutes is capable to give a full description of certain environmental problems on their own, because the requested expertise is not available and/or the required data cannot be obtained. For example, it is possible to use statistical techniques for the calculation of emissions of greenhouse gases by industry and traffic, but other skills are requested for modelling the emission of greenhouse gases from agricultural soils.

As a result of this, institutes supplemented their own figures with figures of other institutes. This, and also (small) differences in definitions, led to different figures on the same environmental problems circulating at national and international level.

In the nineties, discussions started to end this undesirable situation. Meanwhile this has developed into a close collaboration between the various institutes concerned with the compilation of environmental data. This cooperation is most clearly elaborated in the field of calculation of emissions into ambient air and surface water. There has been a (re)distribution of tasks between the institutes in which duplication of work is avoided (leading to efficiency gains) and each institute is responsible for those activities for which it is most well equipped. Annually, representatives of the participating institutes discuss the methods used and the data produced and approve the definitive data set. In principle, this data set is the basis for all publications and reporting obligations of the participating institutes.

6. Dissemination

Allmost all environmental data produced by Statistics Netherlands are published via StatLine, the electronic statistical databank (http://statline.cbs.nl/StatWeb/?LA=en). The information can be accessed, printed and downloaded free of charge and the databank enables users to compile their own tables and graphs. An example of a Statline table is given in Annex 2.

However, Statline is not easily accesible for non expert users and an interpretation of the data is missing. To present the environmental information in a more accesible way, in 2000 Statistics Netherlands and the Netherlands Environmental Assessment Agency (PBL) started a new publication, the Environmental Data Compendium. Nowadays, this publication is a continuously updated website (http://www.compendiumvoordeleefomgeving.nl), bringing together all relevant data on the state of the environment and nature in the Netherlands. All compartments, themes, pollution sources and aspects of the DPSIR-chain are extensively covered. The chain functions as a main navigation principle on the opening page. The publication also includes information on the environment and nature policy, and references to other data sources (among which StatLine) and current research. The website consists of over 800 concise pages of indicators, each presenting a table, graph or map with a message in one sentence and basic explanation of the illustrated trend or situation. Initially, the publication focused on two target groups, the Dutch government and professionals in the field of environmental science and policy, but in actual practice it appeals to a larger public. The website attracts an average of 450 visitors a day. An example of an indicator in the Environmental Data Compendium is given in Annex 3.

Through Statline, the Environmental Data Compendium and other means the environmental data of Statistics Netherlands find their way to policy reports and other publications and are being used for reporting obligations and research. Within Statistics Netherlands the data are being used for the compilation of the environmental acoounts which are published annually.

Annex 1

Environment and related statistics at Statistics Netherlands

Environment statistics

Air emissions:

- Traffic emissions (combustion of fossil fuels in mobile sources)
- Emissions from furnaces (combustion of fossil fuels in stationary sources)
- Process emissions (emissions generated by processes in industry and services)

Water pollution:

- Discharges of waste water by households and companies
- Treatment of waste water
- Emissions into surface water

Waste:

- Generation and treatment of household waste
- Generation and treatment of industrial waste

Manure and minerals:

- Production of manure and its nutrient content
- Manure balances (supply, potential use and surplus of manure)
- Mineral balances (balance sheets of minerals)

Pesticides:

- Use of pesticides in agriculture
- Use of pesticides by public authorities

Flora and Fauna:

- Occurrence and distribution of species (among which birds, butterflies, plants and funghi)

Environmental Expenditures:

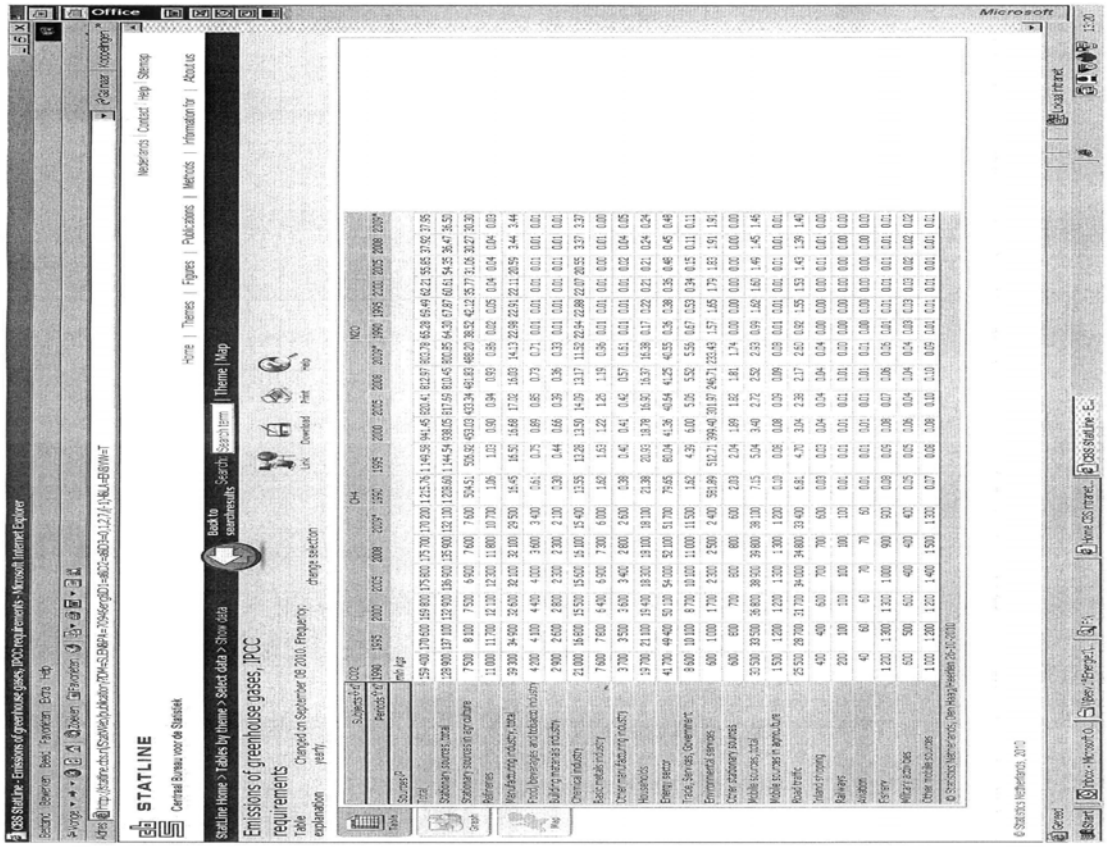
- Environmental costs of industry
- Costs and financing of environmental control

Related statistics

Land use

Energy
Environmental accounting

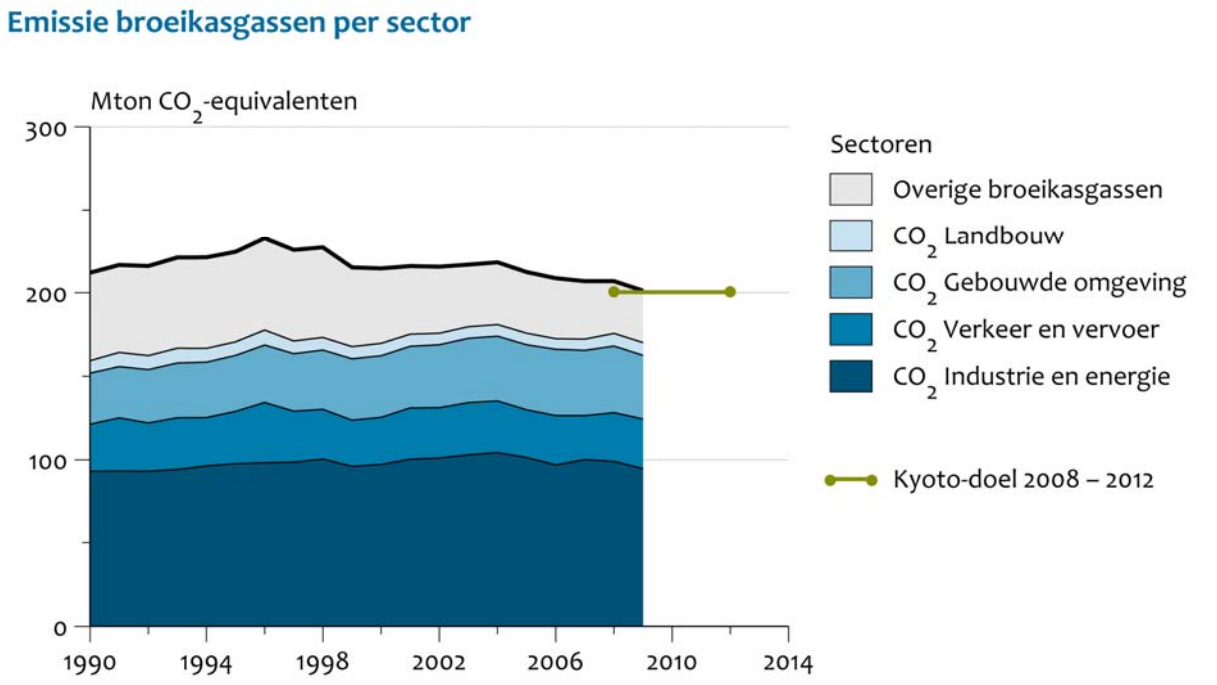
Annex 2



Annex 3

Broeikasgasemissies in Nederland, 1990 - 2009

De totale uitstoot van broeikasgassen in 2009 ligt bijna 6% procent onder het niveau van het basisjaar van het Kyoto Protocol. De uitstoot in 2009 is circa 3% lager dan in 2008. Dit komt vooral door de economische crisis. De gepresenteerde emissiecijfers voor 2009 zijn nog gebaseerd op voorlopige energie- en productiestatistieken van het CBS.



Bron: Emissieregistratie.

PBL/sep10/0165
www.compendiumvoordeleefomgeving.nl

Broeikasgasemissies bijna 6% lager dan in het basisjaar voor het Kyoto Protocol

De uitstoot (emissie) van broeikasgassen in Nederland volgens de IPCC-methode lag in 2009 met 201 Mton CO_2-equivalenten bijna 6% onder het niveau van het basisjaar voor het Kyoto Protocol. Nederland moet zijn broeikasgasemissies in 2008-2012 met 6% hebben gereduceerd ten opzichte van het basisjaar. Het basisjaar voor de emissie van broeikasgassen is een optelling van de emissies van koolstofdioxide (CO_2), methaan (CH_4) en distikstofoxide ofwel lachgas (N_2O) in 1990 en die van de fluorhoudende gassen (F-gassen: HFK's, PFK's, SF_6) in 1995. De emissie in het basisjaar is vastgesteld op 213 miljard kg CO_2-equivalenten.

De emissieberekeningen voor 2009 zijn nog gebaseerd op voorlopige energieen productiestatistieken van het CBS. In het voorjaar van 2011 worden de definitieve emissiecijfers over 2009 gepubliceerd op deze pagina.

Ontwikkeling CO_2-emissies
In de periode 1990-2004 nam de CO_2-emissie jaarlijks met gemiddeld een procent toe door meer elektriciteitsgebruik en een toename van het personenen goederenvervoer. Na 2004 daalde de CO_2-emissie, met uitzondering van 2008. In 2009 nam de CO_2-emissie met circa 3% af als gevolg van de economische recessie.
Ontwikkeling emissies van overige broeikasgassen
In 2009 zijn de emissies van de andere broeikasgassen (CH_4, N_2O en de Fgassen), met circa 43% afgenomen ten opzichte van het basisjaar.

- De CH_4-emissie neemt sinds 1990 af. Belangrijkste reden is de afname van het storten van afval, wat leidt tot een lagere CH_4-emissie uit stortplaatsen. Daarnaast nam de CH_4 emissie vanuit de landbouw af door krimp van de veestapel. Vanaf 2007 nam de emissie van CH_4 weer licht toe door een sterke toename van warmtekrachtinstallaties (wkk) in de glastuinbouw.
- De N_2O-emissie nam sinds 1995 af doordat minder mest werd uitgereden en door minder kunstmest werd gebruikt. Daarnaast is de N_2O-emissie van de industrie sterk gedaald in de afgelopen twee jaar door reductiemaatregelen bij de salpeterzuurfabrieken (een reductie van circa 5 Mton CO_2-equivalenten sinds 2006).
- De emissies van F-gassen namen sinds 1998 af. Dit is grotendeels het gevolg van maatregelen in de industrie. Vanaf 2005 namen de emissies van de F-gassen weer licht toe door de verplichte vervanging van HCFK's door HFK's koelmiddel

Daling uitstoot CO_2 in 2009
De uitstoot van kooldioxide is ten opzichte van 2008 met 5,5 miljard kg gedaald tot 170 miljard kg in 2009. Dit komt door de economische recessie.

Doelen klimaatbeleid
De emissies van de broeikasgassen koolstofdioxide, methaan, lachgas en van de fluorhoudende gassen (HFK's, PFK's en SF_6) zijn onderdeel van het Klimaatverdrag en het Kyoto Protocol van de Verenigde Naties. In het Kyoto Protocol zijn afspraken gemaakt over de reductie van de emissies van broeikasgassen, waaronder CO_2.
Klimaatverandering: beleid ter vermindering van broeikasgasemissies
Werking van het broeikaseffect

Referenties
Emissieregistratie (2010). Website Emissieregistratie. RIVM, Bilthoven, PBL, Den Haag/Bilthoven; CBS, Den Haag; Rijkswaterstaat-Waterdienst, Lelystad; Alterra, Wageningen; AgentschapNL, Utrecht en TNO, Utrecht.
PBL (2010). Kyotoverplichting 2008-2012 (webdocument 0001, versie 01, 26-08-2010) www.pbl.nl/balansvandeleefomgeving. PBL, Den Haag/Bilthoven

Relevante informatie
Klimaatverandering: beleid ter vermindering van broeikasgasemissies
Hernieuwbare elektriciteit, 1990-2009

Verzuring en grootschalige luchtverontreiniging: emissies 1990-2009
PBL, 2010. Balans van de Leefomgeving. Planbureau voor de Leefomgeving, Bilthoven
Ministerie van VROM, 2006. Integrale afweging klimaatbeleid gericht op het halen van Kyoto - Kamerbrief van 13 april 2006.
Ministerie van VROM. Dossier Klimaatverandering.
In het Klimaatverdrag en Kyoto Protocol heeft Nederland zich verplicht tot reductie van de uitstoot van broeikasgassen. Daartoe worden een aantal maatregelen uitgevoerd. Internationaal zijn ook eisen gesteld met betrekking tot monitoring en rapportage. De website www.broeikasgassen.nl geeft aan hoe Nederland de monitoring invult en geeft toegang tot de relevante rapporten.
SenterNovem, 2008. Meerjarenafspraken energie-efficiency - Resultaten 2007. SenterNovem, Utrecht.

Naam van het gegeven
Broeikasgasemissies in Nederland, 1990-2009, in samenwerking in de Emissieregistratie (Planbureau voor de Leefomgeving, Centraal Bureau voor de Statistiek, Rijkswaterstaat-Waterdienst-Dienst Water en gebruik, Wageningen Universiteit-Alterra, SenterNovem, TNO, Deltares).

Omschrijving
Nederlandse emissies van broeikasgassen (kooldioxide (CO_2), methaan (CH_4), distikstofoxide (N_2O) en fluorhoudende gassen (HFK's, PFK's en SF_6).

Verantwoordelijk instituut
Planbureau voor de Leefomgeving

Berekeningswijze
De emissiecijfers voor de broeikasgassen zijn berekend volgens de IPCCmethode. Voor een uitgebreide beschrijving van de berekeningsmethoden wordt verwezen naar de methodebeschrijvingen op de website www.broeikasgassen.nl en Emissieregistratie