

Federal Statistical Office



Country Update for Germany

**Environmental Economic Accounting,
Federal Statistical Office of Germany**

**Paper prepared for London Group Meeting 2006 (New York, USA – June 19th –
21th)**

1) PHYSICAL FLOW ACCOUNTS

Energy and air emissions

The data of the German Environmental Economic Accounting (GEEA) on energy and air emissions in a NAMEA-type breakdown are updated annually. Download from the Statistics Shop of the Federal Statistical Office in the internet (<http://www.destatis.de/shop>)

under the category 8 "Economic and environmental economic accounting". On request the tables are also available in English. Please contact: ugr@destatis.de

Physical Input-Output-Tables (PIOT)

In a project financially supported by EUROSTAT Physical Input-Output-Tables (PIOT) were set up for Germany for the year 1995. The PIOT describe the flows of materials and energy within the economic system and between the economic system and the natural environment, including changes in the natural environment caused by human activities like using natural assets as source of raw materials and as sink for residuals. The PIOT consist of input-tables to show which sectors use which materials or pick up materials, of output-tables to show which sectors produce goods or give away materials and of material-integration-tables (Input-Output Tables) which show the material flows between the branches. The flows are measured in tonnes. A summary of the final report and the complete final report and the tables in German language can be downloaded under http://www.destatis.de/allg/d/veroe/proser4fumw2_d.htm. ("Physical Input-Output Tables of the Federal Statistical Office" and "Endbericht zum Projekt Physical Input-Output Table for Germany 1995")

Water and waste water

In the project "Environmental Accounts for Water and Waste Water (1991-1998)" financially supported by EUROSTAT data for water and waste water are presented in a NAMEA-type breakdown. On the basis of an estimation method water and waste water data were calculated for those years, for which no primary data are available. By another estimation model some important waste water emissions were also worked out. A summary of the project can be printed by the following download http://www.destatis.de/allg/e/veroe/gsrwa_e.htm. The complete project report as a printed working paper can be ordered by email (free of charge) from the following address: <mailto:christine.flachmann@destatis.de> Meanwhile data on water and wastewater flows have been updated until 2001. Within the next few months data on 2004 will be available too.

Economy-wide material flow accounts

The data on the economy-wide material flow accounts are updated annually. In March 2004 a methodological revision of the German economy-wide material flow accounts from 1991 to 2001 on basis of Eurostat-Handbook "Economy-wide material flow accounts and derived indicators – A methodological guide", has been concluded. This project also yielded data on the supply and use of primary materials (raw materials and imports) in a NAMEA-type breakdown for the period 1993 to 2000. The report has been published in 2004 and is available in the World Wide Web (<http://www.destatis.de>).

Primary material flow accounts

The data available within economy-wide material flow accounts so far cover the supply of primary material in a breakdown by type of material. The new GEEA module on Primary Material Flow Accounts (PMFA) provides additional data in a NAMEA-type breakdown by production and consumption activities. The major aim of the new module is to link the development of the raw material indicator to the economic activities in a coherent manner. The data can be used to analyse the relationship between the development of the indicators and the causing economic activities (diagnosis). But moreover, on the basis of such an analysis macroeconomic measures can be developed to improve the efficiency of the use of raw material (measures). For details (in English) see http://www.destatis.de/download/e/ugr/primary_material_oecd.pdf

2) LAND ACCOUNTS

Work on land accounting continued by supplementing the previous concepts of area use by branches of production by a much more detailed NAMEA-type breakdown of the land use category of built-up and traffic area and by the implementation of a first methodological approach to address the land use category of agricultural land. The work was co-financed by Eurostat. The edited version of the final report is available as download http://www.destatis.de/allg/e/veroe/bodennutz_e.htm . Actual results of the built-up/traffic area by industry-matrix for the year of 2001 were presented in the annual press conference on environmental economic accounts in November 2003. The report of this press conference is also available in English language and may be downloaded (<http://www.destatis.de/download/e/ugr/prconfreport01.pdf>).

3) ENVIRONMENTAL PROTECTION EXPENDITURE ACCOUNTING

The data on environmental protection expenditure are updated annually. A methodological revision and a more comprehensive coverage on the basis of the SERIEE concept has been finished by way of a project co-financed by Eurostat at the end of July 2004. The report has been published in a printed version as well as in the World Wide Web (both in German). Environment-related taxes are also published annually for the year before. Taxes related to transport are available in a NAMEA-type breakdown with about 2 years' time lag.

4) SECTORAL REPORTING MODULES

In late 2001 GEEA started with the concept of integrating so-called sectoral reporting modules into the accounting framework. They are restricted to a specific sector of economic activities each (e.g. agriculture, transport, private households) and try to set up - as far as possible - the complete system of environmental-economic accounts for the sector examined. As such these sectoral reporting modules respond to the need to integrate environmental aspects into sectoral policy. Results from two projects co-financed by Eurostat for a reporting module "transport and environment" have been completed and are available as download in English language: http://www.destatis.de/allg/e/veroe/ugr_verkbriefreport.htm and http://www.destatis.de/allg/e/veroe/ugr_verk.htm .

The project on transport and environment provides among others data for the transport sector in a NAMEA-type breakdown for a number of variables like energy use, emissions, land use, tonnes and person kilometres and environmental taxes.

A project on "agriculture and environment" (in collaboration with the Federal Agricultural Research centre) is under way. In the project the agricultural sector is distinguished by different agricultural production processes for which economic data, data on special material and energy flows and intensity indicators are presented. An interim report discusses main methodological problems and shows some first results. It was published in 2004 and is available in German (<http://www.destatis.de/allg/d/veroe/berichtsmodullawi.htm>). A short version (also in German) is available by http://www.destatis.de/download/d/ugr/kurzfassung_ws.pdf

A project on forest accounting has just been finished. According to the "Integrated Environmental and Economic Accounting for Forests" detailed tables for Germany are presented. The results are consistent with GEEA and serve as a basis for a satellite system on forest on the EU level. For details see http://www.destatis.de/allg/d/veroe/proser4fumw2_d.htm (available in German only).

For the sector private households a project "private households and environment" was started to examine this specific sector according to its environmental impacts. Results will be presented at the yearly press conference in November 2006. Results in German will be available with the day of the press conference. In English the report on the press conference will be presented at the beginning of 2007 (both to be found: www.destatis.de).

5) APPLICATIONS / METHODOLOGICAL WORK

National Strategy for Sustainable Development

The National Strategy for Sustainable Development of the federal government was adopted in 2002 (<http://www.dialog-nachhaltigkeit.de>). The indicator set is comprised of 21 indicators selected to measure progress towards sustainable development. A paper of the GEEA department on "The Role of the National Accounts and its Satellite Systems for the German National Strategy for Sustainable Development" (<http://www.destatis.de/download/e/ugr/sustainable.pdf>) describes which contributions accounting systems can make to underlay the sustainability indicators with supplementary information in order to provide a data basis for an integrated sustainability analysis. Within the yearly press conference of GEEA there are presented special analyses according to those indicators of the National Strategy for Sustainable Development that are provided by GEEA. The reports are published in German with the day of the press conference (usually in November) and in English at the beginning of the following year (http://www.destatis.de/allg/e/veroe/e_ugr02.htm).

Decomposition analysis

A second focus of applications of the accounting data is to analyse the observed changes in e.g. emissions within a certain period by means of a structural decomposition method. The paper "Decomposition analysis of carbon dioxide emissions changes in Germany - Conceptual framework and empirical results" describes the theoretical background of this analytical tool and shows different methodological approaches before focusing on the method applied in German Environmental-Economic Accounting. The approach chosen is based on a method applied by Statistics Netherlands but is extended to be applicable to more general cases. The paper can be downloaded (.pdf-file) under: http://www.destatis.de/download/e/veroe/fach_vero/dekomposition.pdf

Annual GEEA-reports

GEEA publishes annually a "Report of the German Environmental-Economic Accounts" with analyses and detailed tables. The reports show in a standardised way the complete picture

of German environmental economic accounts. It is only available in German and can be downloaded under: http://www.destatis.de/allg/d/veroe/d_ugr03.htm. The report about the yearly press conference on GEEA which highlights different issues every year is also available in English: http://www.destatis.de/allg/e/veroe/e_ugr02.htm.

Modelling

During the last years the data of the GEEA have been used in a growing number of econometric modelling projects by research institutes, mainly on the basis of the PANTA RHEI model. Examples are scenarios in the fields of energy use, carbon dioxide emissions, land use or transport. Results from a modelling project on transport have been presented at the press conference on GEEA in November 2004 which had been done jointly by Federal Statistical Office and the Environment Agency Germany (concerning the publication of the results look above under “National Strategy for Sustainable Development”).