

**Documentation of statistics for
Environmental accounts for Denmark (discontinued) 2013**

1 Introduction

These statistics are no longer compiled under the name Environmental Accounts for Denmark. Now specific documentations of statistics can be found under the subject page Environmental-Economic Accounts.

2 Statistical presentation

The environmental accounts contain information on a) Material flows in the form of the the weight of Danish resource extraction, import and exports, b) Air emissions of different substances (CO₂, N₂O, CH₄, PFC, HFC, SF₆, NO_x, NMVOC, CO, PM₁₀, PM_{2.5}, SO₂, NH₃), c) Public expenditure and revenue on the environment as well as d) Environmental related taxes etc.

The definitions used in the environmental accounts ensures that the information immediately can be used for analyses of the interaction between the economic activities and e.g. air emissions of some of the above-mentioned substances.

2.1 Data description

Air emission accounts: The air emission accounts show emissions of green house gases as well as other polluting substances caused by the industries' or households' use of energy. In addition to that, the air emission accounts also accounts for emissions originating from activities not related to the use of energy, e.g. processes.

Material Flow Accounts: The material flow accounts describes the Danish economy's dependency of goods and materials.

Public expenditure and revenue on the environment: The accounts provide information on public activities related to environmental protection. It gives information on the revenues and expenses by public sectors and environmental domains. Expenditures are split into current expenditures and investment. Revenues are split into operation revenues and capital revenue.

Environmental taxes etc.: The main purpose for the accounts for the environmentally related taxes is to provide a coherent description of the amount of environmentally related taxes imposed on the industries as well as the households. The data can be used for various analysis e.g. the polluter pays principle.

2.2 Classification system

Statistics Denmark's industrial classification DBo7, which is a Danish version of the EU NACE, rev. 2. and the UN's ISIC, rev. 4, contains a number of standard classifications: the 127, 36, 19, and 10 classifications.

2.3 Sector coverage

All industries according to Danish Industrial Classification of All Economic Activities 2007 (DBo7).

2.4 Statistical concepts and definitions

Air Emission: ‘Air emission’ means the physical flow of gaseous or particulate materials from the national economy (production or consumption processes) to the atmosphere (as part of the environmental system).

Environmentally Related Tax: Means a tax whose tax base is a physical unit (or a proxy of a physical unit) of something that has a proven, specific negative impact on the environment, and which is identified in ESA 95 as a tax.

Material Flow Accounts: ‘Economy-wide material flow accounts (EW-MFA)’ means consistent compilations of the material inputs into national economies, the changes of material stock within the economy and the material outputs to other economies or to the environment.

2.5 Statistical unit

The statistical unit is the local kind-of-activity unit, enterprise.

2.6 Statistical population

All units engaged in economic activity on the Danish territory.

2.7 Reference area

Denmark.

2.8 Time coverage

- Material Flow accounts cover a period from 1993-2013
- Air emission accounts cover years 1990-2013
- Public expenditure and revenue on the environment are compiled for the period 2007-2012
- Environmental related taxes etc. cover the years 1995-2013

2.9 Base period

Not relevant for these statistics.

2.10 Unit of measure

Material flow accounts are measured in tones. Emissions to air are measured in tons for all substances except CO₂, which is measured in 1000 tones. Public expenditure and revenue on the environment is measured in 1000 kr., while environmental related taxes etc. are measured in mio. kr.

2.11 Reference period

01-01-2013 - 31-12-2013

2.12 Frequency of dissemination

Annually.

2.13 Legal acts and other agreements

Regulation no. 691/2011 on European environmental economic accounts.

2.14 Cost and burden

No direct response burden, since all information is based on existing statistics.

2.15 Comment

For further information, please contact Statistics Denmark directly.

3 Statistical processing

Emission accounts are compiled taking energy accounts as a starting point for the emissions caused by the use of energy. Emissions caused by other factors than energy use are added subsequently and distributed among the relevant industries.

Tax revenues are broken down by industries on the basis of detailed information from National Accounts.

Material Flow Accounts are compiled on the basis of internal and external sources on resource extraction.

3.1 Source data

The environmental accounts are based on: The air emissions accounts are based on technical information on emissions and emission inventories obtained from the DCE, Danish Centre for Environment and Energy, University of Aarhus. Statistics on environmentally related taxes etc. are based on information from statistics on the government finances. The break down by industries and households is based on information obtained from the national accounts. Information from the government finances. The break down by industries and household is based on information obtained from the national accounts.

The Economy-wide Material Flow accounts are based on:

- Information concerning weights of materials is obtained from the external trade statistics and, the energy account
- as well as statistics on quarrying and agricultural statistics on agriculture.
- Data regarding weights of fish landings are obtained from the Ministry of Food, Agriculture and Fisheries.

3.2 Frequency of data collection

Annually.

3.3 Data collection

Data is collected from different internal and external sources by extracting information from data bases, excel spreadsheets and printed publications.

3.4 Data validation

First there is a process of data validation of each primary statistics, as described in the respective quality statements of the relevant statistics. It is followed by an initial validation of input data in connection to compilation of Environmental Accounts.

3.5 Data compilation

This has been described together with the data validation part.

3.6 Adjustment

Not relevant for these statistics.

4 Relevance

Environmental Accounts are relevant for those interested in the correlation between the economy on the one side and environment and natural resources on the other side. Ministries and consultant firms are among the main users of environmental accounts. Accounts are included in the overall European environmental accounts, collected and compiled by Eurostat.

4.1 User Needs

External users of the environmental accounts are ministries, business and trade organizations, research institutes and engineering consultancy firms who want a general view of the interactions between the economy and the environment. Linking the input-output calculations to the environmental accounts makes it possible to examine the interaction between economic activity and the emissions of different polluting substances. The interaction between different types of demands (e.g.household's consumption, exports, etc.) and emissions can also be monitored.

4.2 User Satisfaction

There have not been undertaken any user satisfaction surveys for this statistics.

4.3 Data completeness rate

Data meets all the requirements of the Regulation no. 691/2011 on European environmental economic accounts.

5 Accuracy and reliability

Figures on statistical uncertainty have not been estimated.

5.1 Overall accuracy

Emissions data

There is variability in accuracy for the emissions to air for different industries and for types of air emissions. The uncertainty reflects, inter alia, the uncertainty about the allocation of energy by industries, given that the starting point for calculations of emissions is the energy accounts (cf. the documentation of statistics for the Danish energy accounts). Add to this variability in the technical emission factors for the various industries as well as a substantial variability related to the non-energy related emissions.

Data on material flows

Information concerning the material flows in the form of the weights of some different material types areas based on conversion factors from other units to kilogram's. For these types of materials some extra uncertainty is introduced by the conversion. Therefore, the information on the weights of materials is considered to be less accurate.

The allocation of environment related taxes depends to some extent on estimations and assumptions, and some kind of uncertainty is linked with the allocation especially at the most detailed 117 industry level.

5.2 Sampling error

Not relevant for these statistics.

5.3 Non-sampling error

There have not been undertaken any measurements of other uncertainties for this statistics.

5.4 Quality management

Statistics Denmark follows the recommendations on organisation and management of quality given in the Code of Practice for European Statistics (CoP) and the implementation guidelines given in the Quality Assurance Framework of the European Statistical System (QAF). A Working Group on Quality and a central quality assurance function have been established to continuously carry through control of products and processes.

5.5 Quality assurance

Statistics Denmark follows the principles in the Code of Practice for European Statistics (CoP) and uses the Quality Assurance Framework of the European Statistical System (QAF) for the implementation of the principles. This involves continuous decentralized and central control of products and processes based on documentation following international standards. The central quality assurance function reports to the Working Group on Quality. Reports include suggestions for improvement that are assessed, decided and subsequently implemented.

5.6 Quality assessment

No measurements of quality has been done, however the quality of the statistics is seen as best possible, given the resources available for the compilation of accounts. Accounts have the scope and the degree of detail that is on the same level as other countries, such as Netherlands, Sweden and Norway. Accounts are compiled in accordance with recommendations and quality standards provided by UN and Eurostat.

5.7 Data revision - policy

Statistics Denmark revises published figures in accordance with the [Revision Policy for Statistics Denmark](#). The common procedures and principles of the Revision Policy are for some statistics supplemented by a specific revision practice.

5.8 Data revision practice

The final environmental accounts were available about three years after the reference year. Provisional environmental accounts were published about one or two years from the reference year.

6 Timeliness and punctuality

Data is normally published without delays.

6.1 Timeliness and time lag - final results

The Statistics is published annually.

6.2 Punctuality

The environmental accounts are normally published without delay in relation to the scheduled publication.

7 Comparability

The industry classification in the tables is the same as the one used in the national accounts. The tables can therefore be compared to other statistics based on the industry classification. Accounts are compiled in form of time series. For example accounts for air emissions are available for each year from 1990 until the last year that is published. Accounts are consistent and fully comparable within these years. On the more aggregated level (NACE 64), the Danish accounts are comparable with accounts of other EU countries compiled according to the Regulation no. 691/2011 on European environmental economic accounts.

7.1 Comparability - geographical

Internationally there is a high degree of comparability with other countries, as the Danish Environmental accounts follow the same principles and methods as described in SEEA-framework.

7.2 Comparability over time

The environmental accounts for Denmark are based on a number of economic statistics, as well as information on scientific facts. To this must be added a number of assumptions. Since more information from different sources is gradually entered into the environmental accounts, and since the scientific methods used to estimate the physical impact on the environment are constantly improved, the revision policy for the physical part of the environmental accounts deviates from that of the economic part. This means that the information for the physical part of the Environmental Account constantly will be revised, if new sources or new scientific methods lead to a change in the estimations. This also holds for the information from years that are characterized as final. The final economic data and the energy data are only rarely revised (general revisions). In this way data for the environment and resources are revised from time to time. For that reason there can be a difference in the environmental accounts from one publication to the next. Normally, however, full consistency over time will be found within the same publication.

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7.3 Coherence - cross domain

- Economic data: The industry classification in the tables is the same as the one used in the national accounts. The tables can therefore be compared to other statistics based on the industry classification.
- Data on environment: A number of the environmental data (e.g. total CO₂ emissions) that is part of the environmental accounts for Denmark deviates from similar environmental statistics. That is due to different definitions and boundaries.

7.4 Coherence - internal

There is a high degree of internal consistency.

8 Accessibility and clarity

[Environmental-economic accounts](#)

8.1 Release calendar

The publication date appears in the release calendar. The date is confirmed in the weeks before.

8.3 User access

Statistics are always published at 8:00 a.m. at the day announced in the release calendar. No one outside of Statistics Denmark can access the statistics before they are published.

8.2 Release calendar access

The Release Calendar can be accessed on our English website: [Release Calendar](#).

8.4 News release

These statistics were published in a Danish press release.

8.5 Publications

Publications only in Danish.

8.6 On-line database

All StatBank tables for these statistics have been discontinued.

8.7 Micro-data access

Accounts are published at the most detailed level.

8.8 Other

Not relevant for these statistics.

8.9 Confidentiality - policy

Not relevant for these statistics.

8.10 Confidentiality - data treatment

Not relevant for these statistics.

8.11 Documentation on methodology

- European Commission. Eurostat (2013) Environmental taxes - revised statistical guide.
- European Commission. Eurostat (2013) Compilation Guide (2013) for Eurostat's Air Emissions Accounts (AEA). Version: April 2013.
- European Commission. Eurostat (2013) Economy-wide Material Flow Accounts (EW-MFA). Compilation Guide 2013.
- European Commission, Food and Agricultural Organization, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations, World Bank (2012). System of Environmental-Economic Accounting, Central Framework. White cover publication. New York.
- Statistics Denmark (2013). "Grønne nationalregnskaber. Metoder og muligheder" (publication in the Danish language).
- Statistics Denmark (2007). "Nationalregnskab Kilder og metoder 2003"(publication in the Danish language).

8.12 Quality documentation

Results from the quality evaluation of products and selected processes are available in detail for each statistics and in summary reports for the Working Group on Quality.

9 Contact

The administrative placement of this statistic is in the division of National Accounts. The persons responsible are:

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