

**Documentation of statistics for  
Economy-wide material flow accounts 2016**

## 1 Introduction

The Economy Wide-Material Flow Account is one of the integrated Environmental-Economic Accounts (Green National Accounts) that is used as a term for separate accounts for environmentally related matters compiled in close relation with the National Accounts. The same boundaries, definitions and classifications are used in compilation of Green National Accounts as in National Accounts. In that way, it is possible to analyze the relationship between the economy on the one hand and the environment on the other, in a logical way.

SEEA, System of Environmental Economic Accounting, which is a statistical standard published by the UN and several other international organizations provides the "State of the art" for Green National Accounts.

The statistics is part of the Environmental-Economic Accounts for Denmark (Green National Accounts).

## 2 Statistical presentation

The Material Flow Accounts contain information on material flows in the form of the the weight of Danish resource extraction, import and exports broken down by the type of materials.

### 2.1 Data description

The Material Flow Accounts describes the type and weight of the commodities and materials that are necessary for maintaining Danish production and consumption and for exports of commodities.

The accounts provide a basis for understanding the general relationships between consumption of resources and generation of waste and other undesirable residual products.

### 2.2 Classification system

The Combined Nomenclature (CN) is the merchandise nomenclature applied by the EU when reporting data on EU trade and trade with non-EU countries. In the Danish External Trade in Goods Statistics the most detailed statistics published are classified according to the Combined Nomenclature. The Combined Nomenclature consists of around 9,300 commodity codes. A detailed description of the CN codes is available in the EU Official Journal dissemination of Combined Nomenclature.

### 2.3 Sector coverage

There is no sector coverage in Economy Wide-Material Flow Accounts.

### 2.4 Statistical concepts and definitions

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 total economy as described in the National Accounts.

## **2.6 Statistical population**

All units engaged in economic activity on the Danish territory.

## **2.7 Reference area**

Denmark.

## **2.8 Time coverage**

The Material Flow Accounts cover the years 1993-2014.

## **2.9 Base period**

Not relevant for these statistics.

## **2.10 Unit of measure**

The material flows are measured in tonnes.

## **2.11 Reference period**

01-01-2016 - 31-12-2016

## **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**

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### **3 Statistical processing**

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

#### **3.1 Source data**

The Economy-wide Material Flow accounts are based on information concerning weights of materials is obtained from the external trade statistics and the energy accounts 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 the Material Flow Accounts.

#### **3.5 Data compilation**

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 the Material Flow Accounts.

#### **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 material flow 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.

#### **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**

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.

#### **5.1 Overall accuracy**

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.

#### **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. The Material Flow 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

Preliminary figures are compiled and published in the beginning of December. The final figures are published in the beginning of December 3 years after the reference year.

The publication of the Material Flow Accounts 2016 included a revision of the previously published time series for the period 1993 – 2014. The revision incorporates methodological improvements, introduction of new data sources and some error corrections. Furthermore, there was a reclassification of some of the MFA-product types.

The product types mostly affected by the revision are 1.2.2 Fodder crops and grazed biomass, 1.3 Wood, 4.2.1 Crude oil, condensate and natural gas liquids (NGL) and 5 Other products. For instance, the domestic extraction of 1.2.2.2 Grazed biomass was increased by 86 percent in the year 2014. The primary reason for the adjustment was changes both in the calculation method and in a correction of an error. The amount of grazed biomass is now calculated with 15 percent moisture content included in the weight, which follows the Eurostat's recommendations.

## 6 Timeliness and punctuality

Data is normally published without delays.

### 6.1 Timeliness and time lag - final results

Preliminary figures are compiled and published in the beginning of December. The final figures are published in the beginning of December 3 years after the reference year.

## **6.2 Punctuality**

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

## **7 Comparability**

The Material Flow Accounts are compiled in the form of time series and is available for each year from 1993 until the last year that is published. The Material Flow Accounts are consistent and fully comparable within these years. Furthermore, the Material Flow accounts are comparable with the Material Flow 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 Material Flow Accounts are available for each year from 1993 until the last year that is published. The Material Flow Accounts are consistent and fully comparable within these years.

### **7.3 Coherence - cross domain**

The Energy Accounts contains the same information on the fossil energy and products thereof.

### **7.4 Coherence - internal**

It is ensured that data is internally consistent.

## **8 Accessibility and clarity**

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### **8.1 Release calendar**

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

### **8.2 Release calendar access**

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

### **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.

#### **8.4 News release**

<https://www.dst.dk/en/Statistik/emner/groent-nationalregnskab/materialer-og-affald>

#### **8.5 Publications**

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#### **8.6 On-line database**

[Statbank](#)

#### **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**

- Statistics Denmark (2013). "Grønne nationalregnskaber. Metoder og muligheder" (publication in the Danish language).
- European Commission. Eurostat (2013) Economy Wide Material Flow Accounts (EW-MFA) Compilation Guide. 2013.
- 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 (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 these statistics are in the division of National Accounts. The person responsible is Ole Gravgård Pedersen, tel. +45 39 17 34 88, e-mail: [ogp@dst.dk](mailto:ogp@dst.dk)



### **9.1 Contact organisation**

Statistics Denmark

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