



METHODOLOGICAL EXPLANATION

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MATERIAL FLOW ACCOUNTS

This methodological explanation relates to the data releases:

- Material flow accounts, Slovenia, annually (First Release)



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1 PURPOSE

The purpose of publishing data on material flow accounts (MFA) is to present the data on material flows flowing from the environment to the economy, within the economy and from the economy back to the environment.

Key statistics are:

- domestic extraction,
- import and export,
- indicators.

2 LEGAL FRAMEWORK

- [Annual Programme of Statistical Surveys \(LPSR\)](#) (only in Slovene)
- [National Statistics Act](#) (OJ RS, No. 45/95 and 9/01)
- Regulation (EC) No 691/2011 of the European Parliament and of the Council on European environmental economic accounts (CELEX: 32011R0691).

3 UNIT DESCRIBED BY THE PUBLISHED DATA

Units described by the published data are all the materials that enter the economy for further use; either in production processes or in consumption. These are solid, liquid and gaseous materials (water and air are excluded, but the water content of materials is included). According to their origin, materials are classified into domestic extraction (use) and imports/exports. Data are expressed in thousand tonnes.

4 SELECTION OF OBSERVATION UNIT

Observation units cover all units that use the material (these are solid, liquid and gaseous materials; water and air are excluded, but including the water content of materials) that enters the economy for further use; either in production processes or in consumption.

The coverage is complete; i.e. the survey covers all material flows that enter the economy for further use and arise from the activities of all residential units of the national economy, irrespective of their location.

5 SOURCES AND METHODS OF DATA COLLECTION

Data are collected annually.

For preparing the tables, data from administrative sources and statistical surveys were used. The main sources were data compiled by statistical surveys from the field on agriculture (Statistical Survey on the Production of Early Crops and Fruit (KME-ZGK-P), Statistical Survey on the Production of Late Crops, Fruit and Grapes (KME-POZK-P), Census of Orchard Plantations (POPIS-SAD/5L)), forestry, fishing (Statistical Survey on Marine Fishing (RIB-MOR), Annual Statistical Survey on Aquaculture and Angling in Freshwater (RIB-SLV/L)), energy, water collection, treatment and supply, import and export.

Data on mining of minerals are compiled by the Surveying and Mapping Authority of the Republic of Slovenia and data on hunting by the Slovenia Forest Service. Data on emissions to water and air are obtained by Slovenian Environment Agency (ARSO) and on thawing materials spread on roads by DRI Investment Management, Ltd. For calculating the indicators per capita, we used data on average population for individual years. For calculating the indicators of resource productivity, we used data on GDP (in chain-linked volumes to the reference year 2010 at 2010 exchange rates and in PPS) from the Eurostat Eurobase.

6 DEFINITIONS

Material flow accounts (MFA) provide an aggregate overview, in tonnes, of annual material inputs and outputs of an economy including inputs from the national environment and outputs to the physical amounts of imports and exports. MFA constitute the basis from which a variety of material flow based indicators can be derived. **Material flow accounts in raw material equivalents** - manufactured materials (semi-finished and finished products) are converted into raw materials using raw material equivalents (RME).

Domestic extraction (DE) includes materials that are extracted from the national environment.

Direct material input (DMI) measures the direct input of materials used in the economy, that is, all materials which are of economic value and are used in production and consumption activities; DMI equals the domestic extraction (DE) plus total imports.

Domestic material consumption (DMC) measures the total amount of material directly used in an economy (excluding hidden flows). DMC equals the DMI minus total exports.

Physical trade balance (PTB) is defined reverse to the monetary trade, taking into account the fact that in economics money and goods move in opposite

direction. A physical trade surplus indicates a net import of materials, whereas a physical trade deficit indicates a net export.

Domestic processed output contains information about the output of materials from the economy back to the environment, i.e. measures the impact of production processes on the environment.

Resource productivity is gross domestic product (GDP) divided by domestic material consumption (DMC). When examining resource productivity trends over time in a single geographic region, the GDP that should be used is in units of euros in chain-linked volumes to the reference year 2010 at 2010 exchange rates. If comparisons of resource productivity between countries are made, then the GDP in purchasing power standards should be used.

Raw material input (RMI) measures input of materials used in the economy; RMI equals the domestic extraction (DE) plus total imports of raw materials.

Raw material consumption (RMC) or material footprint measures the total amount of raw material directly used in an economy. RMC equals the RMI minus total exports of raw materials.

7 EXPLANATIONS

7.1 CLASSIFICATIONS

CN - Combined Nomenclature

http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM_DTL&StrNom=CN_2017&StrLanguageCode=EN&IntPcKey=&StrLayoutCode=HIERARCHIC

CPA - Classification of Products by Activity

http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM_DTL&StrNom=CPA_2008&StrLanguageCode=EN&IntPcKey=&StrLayoutCode=HIERARCHIC

7.2 DATA PROCESSING

DATA EDITING

Data editing was not performed.

WEIGHTING

Weighting was not performed.

SEASONAL ADJUSTMENT

Methodological explanation

Seasonal adjustment is not applicable.

DATA PROCESSING OTHER

We obtain data from different administrative and statistical sources and recalculate them in line with Eurostat's methodology for material flow accounts. The tabulation of acquired data follows; processing ends with the preparation of tables arranged according to the values of certain variables. Within the final analysis we compare the data with the data from the previous year by individual variables. Any significant discrepancies are further examined. Data processing is followed by the final calculation and publication of data.

7.3 INDICES

Indices are not published.

7.4 PRECISION

The precision is not calculated.

7.5 OTHER EXPLANATIONS

8 PUBLISHING

- SiStat Database: Environment – Environmental accounts – [Material flow accounts](#). The published data are absolute classified by category of materials at the level of Slovenia.
- First Release (Environment, Environmental accounts): »Material flow accounts, Slovenia, annually«
- Statistical Office of the European Union (Eurostat)

9 REVISION OF THE DATA

9.1 PUBLISHING OF PRELIMINARY AND FINAL DATA

Provisional data are not disseminated. Only final data are published.

In the case of the revision of the input data, also the data in the material flow accounts are revised.

9.2 FACTORS INFLUENCING COMPARABILITY OVER TIME

There are no breaks in time series, so all points in time are comparable. Data are available for the period 1995–2023.

10 OTHER METHODOLOGICAL MATERIALS

Methodological materials on SURS's website are available at <https://www.stat.si/statweb/en/Methods/QuestionnairesMethodologicalExplanationsQualityReports>.

- Questionnaire:
 - SURS does not collect data for this survey by using a questionnaire.

Quality report

- Standard quality report for the survey Material flow accounts (MFA),
- Annual quality report for the survey Material flow accounts (MFA),

theme: Environmental, sub-theme: Environmental accounts

Economy-wide material flow accounts handbook:

<https://ec.europa.eu/eurostat/en/web/products-manuals-and-guidelines/-/ks-gq-18-006>