

Material flow accounts (env_ac_mfa)

Reference Metadata in Euro SDMX Metadata Structure
(ESMS)

INSTAT

Reference Metadata

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2. Metadata update	
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2.3. Metadata last update	24.04.2023
3. Statistical presentation	
3.1. Data description	<p>The Material flow Accounts (MFA) are one of the modules of the Environmental Accounts which collects complementary data on environment in line with the concept used to compile the System of National Accounts (SNA). The Material Flow Accounts (MFA) have the main objective to describe the relationship between the domestic economy and its natural environment. It includes the total amount of natural resources and products used in the economy, either directly in the production and distribution of products and services, or indirectly by extracting the materials that will be used for production.</p> <p>Economy-wide material flow accounts (EW-MFA) provide an aggregate overview, in thousand tonnes per year, of the material flows into and out of an economy. EW-MFA covers solid, gaseous, and liquid materials, except for bulk flows of water and air. Like the system of national accounts, EW-MFA</p>

	<p>constitute a multi-purpose information system. The detailed material flows provide a rich empirical database for numerous analytical purposes. Further, EW-MFA are used to derive various material flow indicators.</p> <p>The National Statistical Institute (NSI) sent to Eurostat on yearly basis the EW-MFA. The accounts comprise the following reporting tables:</p> <ul style="list-style-type: none"> • Table A 'Domestic extraction (DE)': records material flows from the environment into the economy in a detailed breakdown by type of material • Table B 'Imports - total imports (intra- and extra-EU) and Table D 'Exports – total exports (intra- and extra-EU)': These physical trade tables record the imports and exports of products in thousand tonnes and grouped by materials. • Table F 'Domestic processed output (DPO)': records material flows from the economy to the domestic environment (e.g. emissions to air, water and soil). • Table G 'Balancing items': reports some memorandum items which are necessary to have the full material balance related to a national economy • Table H 'Indicators': presents the EW-MFA derived indicators which are automatically calculated from Table A to G. • Table I 'Material flow accounts in raw material equivalents (RME)': records material flow accounts in raw material equivalents (MFA-RME). Some items are calculated automatically based on data reported in Table A and Table I.
<p>3.2. Classification system</p>	<p>EW-MFA record physical flows of materials broken down by type of flow and by type of material.</p> <p>The type of flow dimension corresponds to the EW-MFA questionnaire reporting tables and derived indicators, namely:</p> <ul style="list-style-type: none"> • domestic extraction (Table A) • physical imports (Table B) • physical exports (Table D) • domestic processed output (Table F) • balancing items (Table G) • direct material input (indicator) • domestic material consumption (indicator) • physical trade balance (indicator) <p>The breakdown by type of material employs a classification of materials. This EW-MFA classification of materials is hierarchical with main material flow categories (1-digit level). Each main category is further broken down, maximal down to 4-digit-level:</p> <p>1-digit: material category; 2-digit: material class; 3-digit: material group; 4-digit: material sub-group.</p>
<p>3.3. Sector coverage</p>	<p>Environmental Material Flow Accounts provide statistical information on:</p> <ol style="list-style-type: none"> 1. Domestic extraction;

	<ol style="list-style-type: none"> 2. Import of environmental materials; 3. Exports of environmental materials; 4. Domestic's material consumption. <p>The data refer to national economies as defined in the system of national accounts.</p>
<p>3.4. Statistical concepts and definitions</p>	<p>Some of the key categories and main indicators of the material flow accounts are:</p> <p>Biomass</p> <p>Biomass includes organic non-fossil materials. According to the definitions of the MFA, the materials extracted from natural resources include all agricultural products, wild fish and hunting animals. Livestock and livestock products (such as milk, meat, eggs) are not included.</p> <p>Metal ores and non-metallic minerals</p> <p>Metal ores and non-metallic minerals are two main material groups of the MFA. According to the definitions of the Material Flow Accounts (MFA), those categories consist of minerals obtained in the mining and construction industry.</p> <p>Fossil energy materials/carriers</p> <p>Include sources of oil and other fossil energy materials that have been formed in the geological past from biomass. They include solid substances, liquids and gases.</p> <p>Domestic extraction (DE)</p> <p>The domestic extraction (DE) includes the amount of materials (excluding water and air) extracted from the environment for the use of economic purposes.</p> <p>Domestic material consumption (DMC)</p> <p>The domestic material consumption (DMC) measures the annual amount of materials extracted and used in the national economy, plus all physical imports, excluding all physical exports.</p> <p>Physical trade balance (PTB)</p> <p>The physical balance of trade is equal to physical imports minus physical exports.</p> <p>Material import dependency (ID): is calculated as the ratio of imports over direct material inputs (DMI) in percentage. The term 'material import dependency' shows the extent to which an economy relies upon imports in order to meet its material needs. Material import dependency cannot be negative or higher than 100%. Values equal to 100% indicate that there are no domestic extractions during the reference year.</p>

	$ID = \frac{Imports}{(Domestic\ extraction + Imports)}$ <p>Resource productivity designates an indicator that reflects the GDP generated per unit of resources used by the economy.</p> <p>Conceptually economy-wide material flow accounts (EW-MFA) belong to the international system of environmental economic accounting (SEEA-Central Framework). Furthermore, EW-MFA is one of several physical modules of Eurostat's programme on European environmental economic accounts. It is covered by Regulation (EU) No. 691/2011 on European environmental economic accounts.</p> <p>EW-MFA are closely related to concepts and definitions of national accounts. Most notably they follow the residence principle, i.e. they record material flows related to resident unit's activities, regardless where those occur geographically. Further methodological guidelines are provided in various publications by Eurostat (see Eurostat website > Environment > Methodology, heading: 'Material flows and resource productivity').</p>
3.5. Statistical unit	Statistical units change according to the different data sources (e.g. agriculture, forestry and fishery statistics, production statistics, geological surveys, energy statistics, foreign trade statistics etc.) which EW-MFA are based on.
3.6. Statistical population	<p>EW-MFA refer to the entire national economy of the reporting country</p> <p>EW-MFA include all materials (excluding water and air) crossing the system boundary (between the environment and the economy) on the input side or on the output side. The economy is demarcated by the conventions of the national accounting system (resident units).</p> <p>Material inputs to the economy cover extractions of natural resources (excluding water and air) from the natural environment and imports of material products (goods) from the rest of the world economy (ROW).</p> <p>Material outputs are disposals of materials to the natural environment and exports of material products and waste to the ROW. Information on natural resources extracted and traded products is provided by different statistical units.</p>
3.7. Reference area	Material Flow Accounts Statistics cover the entire territory of the Republic of Albania.
3.8. Time coverage	<p>Data are available from 2010 ongoing for:</p> <ul style="list-style-type: none"> • Domestic extraction; • Domestic material consumption; • Import and export by material flow accounts categories.
3.9. Base period	Not applicable.

4. Unit of measure	The unit of measure is thousand tonnes.
5. Reference period	The reference period for EW-MFA is 31 December 2021. This report refers to 2021.
6. Institutional mandate	
6.1. Legal acts and other agreements	<p>The legal basis on which EW-MFA indicators are based consist on:</p> <ul style="list-style-type: none"> • National Statistical Law • Official Statistics National Program 2017-2021 <p>Classifications and definitions according to relevant EU regulations:</p> <ul style="list-style-type: none"> • Regulation (EU) 691/2011 • System of Environmental Economic Accounting • Methodology on "Material flow and resource productivity"
6.2. Data sharing	<p>Material Flow Accounts Statistics are transmitted to EUROSTAT via eDAMIS platform.</p> <p>Not applicable in national level this information is required at European level only.</p>
7. Confidentiality	
7.1. Confidentiality - policy	<p>Data are considered strictly confidential and are used only for statistical and research purposes based on national Statistical Law No.17/2018 “On Official Statistics”, date 10.03.2018 and on Law No.9887, date 10.03.2008 “Personal Data Protection”. Article 31 on Statistics Law reads as follows: Data collected for the production of official statistics shall be treated by INSTAT as confidential and shall be used only in aggregated tables that will not identify the source information unit. Direct identification means when a statistical unit is directly identified from its name or address or any officially allocated and commonly known identification number. When data processing is made in a manner that allows the identification of the data subject, the data should immediately be encrypted in order for the subjects to be no longer identifiable.</p>
7.2. Confidentiality - data treatment	<p>INSTAT protects and does not disclose what it has collected or has access to, to indicate the possibility of direct or indirect statistical unified identification. INSTAT service intervention appropriate measures to ensure and will not be impossible Identify statistical units through technical means to ensure that they can be used by third parties. All statistics where we can enable statistical unit identification are distributed by INSTAT only if:</p> <p>a) Possibly Become a Controller of His, The following gives a better assessment of the Regulations, Apply Determination of Such Application, as it does not create prejudice about statistical confidentiality; or</p> <p>b) The statistical unit has adopted a commitment to creating the city; All confidential to INSTAT only for more statistics and only those who can access</p>

	<p>it can convict me. Issues and security related to maintaining statistical confidentiality are verified and handled by INSTAT staff. The responsibilities of this staff, you can see the degree of detail that can be distributed and released by INSTAT.</p> <p>The responsibilities of this staff can be found in more detail: at the most detailed level possible for the dissemination of statistics, so as not to enable direct or indirect identification of the surveyed statistical unit; anonymization criteria for microdata where users can find; use of access for researchers to confirm for scientific uses.</p> <p>All individual data collected in the statistical unit for the production of official statistics are used only for statistical purposes. These data are published jointly and are not used to make any administrative decision, including decisions on fiscal control or legal investigations.</p>
8. Release policy	
8.1. Release calendar	<p>Notifications about the dissemination of statistics are published in the release calendar, which is available on the website. The announcements and delays are preannounced in this calendar. In the case of delays, the date of the next publication and the explanation of the reasons for the delays are specified.</p>
8.2. Release calendar access	<p>The Calendar of publications is available on INSTAT website.</p>
8.3. User access	<p>In accordance with article 34 of Law No. 17/2018 "On Official Statistics", official statistics are disseminated so that all users have an immediate and equal right and all possible forms of media are used. INSTAT and statistical agencies, having in the program the responsibilities of dissemination, seek to meet every requirement of any organization or individual for unpublished data or specific analysis. The following dissemination channels are used to release the results:</p> <ol style="list-style-type: none"> 1. Website – online release; 2. Written requests; 3. The data in tabular form; 4. Section Data request.
9. Frequency of dissemination	<p>Environmental Material Flow Accounts statistics are published on annual basis.</p>
10. Accessibility and clarity	
10.1. News release	<p>The press release contains information on key indicators such as: biomass, Metal ores and non-metallic minerals, Fossil energy materials/carriers, etc.</p> <p>The format of press release is defined by publication sector as well as the date of release. Press releases of Economy-Wide Material Flow Accounts are published online at INSTATs website.</p>

10.2. Publications	<p>Results for Economy-Wide Material Flow Accounts are published on the INSTAT website:</p> <ul style="list-style-type: none"> • Material Flow Account
10.3. On-line database	<p>All the information is available in both Albanian and English language. Since 2011, the information is provided to external users in web through the Pc-Axis system. A short methodological explanation exists also in the web page. You can access the database on the section Database.</p>
10.4. Micro – data access	<p>Databases at micro level are not published due to confidentiality reasons. Aggregated data is the only type of data that is provided to external users. Even the micro data are not published they can be accessed based on the article 34 of Law No. 17/2018, "On Official Statistics".</p>
10.5. Other	<p>Users can send other specific requests through a dedicated section for Contacts.</p>
10.6. Documentation on methodology	<p>A short explanation related to the definitions of the main concepts and methodological explanations are provided to users in the end of press releases and publications. Additional support information is given to internal users when needed or required. Also the Methodological on Environmental Material Flow Accounts notes are published at INSTAT's website.</p> <p>The methodology of the Economy-Wide Material Flow Accounts is based on Eurostat manuals and regulations, which contains a comprehensive set of recommendations on the compilation of the Economy-Wide Material Flow Accounts statistics indicators.</p>
10.7. Quality documentation	<p>Economic Accounts for Agriculture and Environment documents all processes and procedures used for calculations related to Economy-Wide Material Flow Accounts for internal purposes.</p>
11. Quality management	
11.1. Quality assurance	<p>INSTAT is committed to ensure the highest quality with respect to the compilation of statistical information. In accordance with the Statistics Law, INSTAT use statistical methods and processes in compliance with internationally recognized scientific principles and standards conduct ongoing analyses of the statistics with a view to quality improvements and ensure that statistics are as up to-date. In performing its tasks, it follows the general principles of quality management from the European Statistics Code of Practice. INSTAT declares that it takes into account the following principles: impartiality, quality of processes and products, user orientation, employee orientation, effectiveness of statistical processes, reducing the workload for respondents. Quality controls and validation of data are actions carried out throughout the process. The staffs is involved in different stages of index calculation, such as the data collection, data control, data input and other necessary control are all well trained. This helps the staff to know the</p>

	enterprises and their responsibilities and keep an updated collaboration.
11.2. Quality assessments	Economy-Wide Material Flow Accounts data are compared with the data of the previous years in order to distinguish if the data are coherent or they had big changes.
12. Relevance	
12.1. User needs	<p>Users on Economy-Wide Material Flow Accounts data are as follow:</p> <ul style="list-style-type: none"> • Public Administration Institutions • Universities • Non-profit national and international organizations • Businesses • Researchers, students and other similar groups.
12.2. User satisfaction	<p>Page Views (Hits) about “Environmental Accounts” data for 2022 are around 1,538 clicks.</p> <p>During 2022, INSTAT conducted the user satisfaction survey. The results of the survey shows that the quality of the theme “Environmental Accounts” was rated 3,62 (72.4%) on a scale of 1 (very poor) to 5 (very good).</p> <p>INSTAT organizes every year User Satisfaction Survey.</p>
12.3. Completeness	Data completeness for “Economy-Wide Material Flow Accounts” is judged by comparing the quality and quantity of indicators covered by INSTAT with those of the regulations followed. The degree of completeness of the “Economy-Wide Material Flow Accounts” data, for 2021 will be calculated by EUROSTAT.
13. Accuracy and reliability	
13.1. Overall accuracy	<p>Overall, data is checked with te previous year to identify some important change on the data. In the case has been a chance, INSTAT notifies the relevant institutions and sector inside INSTAT to put to knowledge of the changes that had been found to realize the correction of this data.</p> <p>The data are compiled from a big range of data source, (for example agriculture, forest and fishing statistics, production statistics, geological observation, energy statistics, foreign commerce statistics ect .). The general accuracy is considered good.</p>
13.2. Sampling error	Not applicable.
13.3. Non - sampling error	The non-sampling errors are mainly errors of the administrative data sources reported data. Data review occurs only if the relevant institutions review the data sent to INSTAT for the purpose of updating or any potential human error.

	If the relevant institutions review the data sent to INSTAT, these changes will be reflected in the nearest publication and brief explanatory information will be provided to users.								
14. Timeliness and punctuality									
14.1. Timeliness	<p>The results of EW-MFA Statistics are published on the INSTAT website, 479 days after the end of the reference period (T + 479 days). The reference period for the results of EW-MFA Statistics is December 31st, 2021.</p> <table border="1"> <tr> <td>Reference period</td> <td>12/31/2021</td> </tr> <tr> <td>Date of publication</td> <td>4/24/2023</td> </tr> <tr> <td>Timeliness</td> <td>479</td> </tr> </table>	Reference period	12/31/2021	Date of publication	4/24/2023	Timeliness	479		
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Timeliness	479								
14.2. Punctuality	<p>The data of EW-MFA Statistics are published based on the publication calendar. The publication of EW-MFA has been punctual in 100% of the publications made over the years.</p> <table border="1"> <tr> <td>Reference period</td> <td>12/31/2021</td> </tr> <tr> <td>Date of announcement</td> <td>4/24/2023</td> </tr> <tr> <td>Date of publication</td> <td>4/24/2023</td> </tr> <tr> <td>Time lag</td> <td>0</td> </tr> </table>	Reference period	12/31/2021	Date of announcement	4/24/2023	Date of publication	4/24/2023	Time lag	0
Reference period	12/31/2021								
Date of announcement	4/24/2023								
Date of publication	4/24/2023								
Time lag	0								
15. Coherence and comparability									
15.1. Comparability - geographical	Data on EW-MFA are compiled according to harmonised guidelines provided by Eurostat and hence comparable across European countries reporting EW-MFA data to Eurostat.								
15.2. Comparability - over time	<p>“Economy-Wide Material Flow Accounts” Statistics date back to 2010 referring to the statistical database providing a comparability over time of 12 years (CC2=Jlast-Jfirst+1=12).</p> <p>The data are constantly checked to ensure their comparability over time.</p>								
15.3. Coherence - cross domain	Not applicable.								
15.4. Coherence - internal	Not applicable.								
16. Cost and burden	The staff involved in the preparation of “Economy-Wide Material Flow Accounts” Statistics is: 2 employees at INSTAT headquarters, in Economic Accounts in Agriculture and Environment sector.								
17. Data revision									
17.1. Data revision - policy	Revision policy is done in accordance with general revision policy and errors								

	<p>treatment policy introduced by INSTAT in the links below:</p> <ul style="list-style-type: none"> • Revision Policy • Errors Treatment Policy
17.2. Data revision - practise	<p>In the event that local authorities that send information on EW-MFA to INSTAT will report changes this information will be updated and published in the next month's publication accompanied by an explanatory note to the user.</p> <p>No reviews of “Economy-Wide Material Flow Accounts” for 2021 have been conducted, subject to this report.</p>
18. Statistical processing	
18.1. Source data	<p>For statistics on “Economy-Wide Material Flow Accounts” INSTAT uses information provided by:</p> <ul style="list-style-type: none"> • Ministry of Agriculture and Rural Development (MARD), • National Agency of Natural Resources (NANR) • Water Resources Management Agency (WRMA) • Different statistical surveys run by INSTAT
18.2. Frequency of data collection	<p>“Economy-Wide Material Flow Accounts” data are collected on annual basis.</p>
18.3. Data collection	<p>Data on “Economy-Wide Material Flow Accounts” are administrative data. Statistical information on Material Flow Accounts is collected by the Ministry of Agriculture and Rural Development (MARD), the National Agency of Natural Resources (NANR) Water Resources Management Agency (WRMA) and the sectors inside Institute of Statistics (INSTAT).</p>
18.4. Data validation	<p>The data were subjected to logical and mathematical checks. These checks are performed throughout the data processing process for all indicators that INSTAT publishes. Examples of administrative data verification methods include: Completeness check, consistency over time, arithmetic corrections (should not be too high), summary checks, time series check if there are large deviations, etc.</p>
18.5. Data compilation	<p>Not applicable. Coverage is comprehensive at country level, data is administrative and statistical information is always available, so data evaluation is not needed.</p>
18.6. Adjustment	<p>Not applicable.</p>
19. Comment	
Annex	