

Material Flow Accounts, 2022

Tirana, 23 April 2024

Domestic Extraction

In 2022, the materials extracted from the domestic natural resources amounted to about 20.2 million tonnes with an increase of 5.6 % compared to 2021.

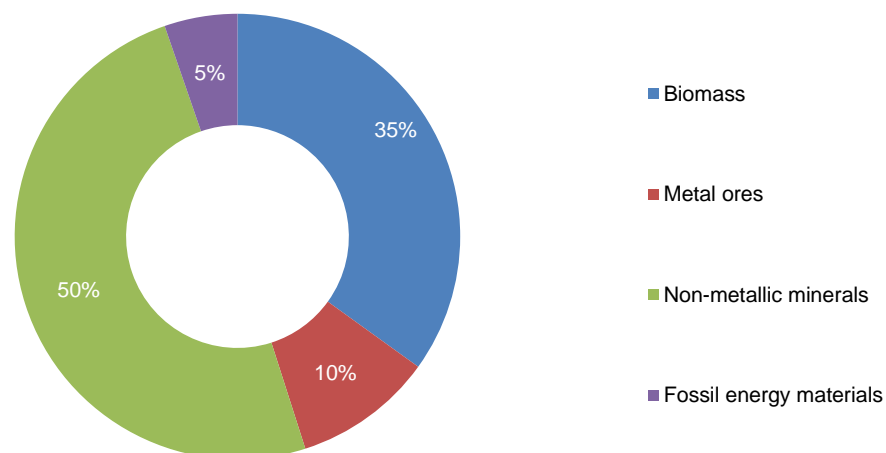
Tab.1 Domestic extraction (DE), 000 tonnes

Year	2021	2022
Biomass	7,454.5	7,054.3
Metal ores	1,915.0	2,045.8
Non-metallic minerals	8,491.9	10,018.9
Fossil energy materials/carriers	1,250.3	1,070.1
Total	19,111.7	20,188.2

Source: Ministry of Agriculture and Rural Development, National Agency of Natural Resources, Water Resources Management Agency; INSTAT

In 2022, the structure of domestic extraction shows that non-metallic minerals account for 50 % of the total, followed by biomass with 35 %, metal ores with 10 % and fossil energy materials and carriers with 5 %.

Fig.1 Structure of domestic extraction (DE), %



Source: Ministry of Agriculture and Rural Development, National Agency of Natural Resources, Water Resources Management Agency; INSTAT

Imports of materials in 2022 amounted to around 5.1 million tonnes, which is 6.5 % lower compared to 2021. The fossil “energy materials” has been decrease with 12.7 %, “biomass” has been decreased with 5.7 %, “other products and waste imported” has been decreased with 4.7 % followed by “non-metallic minerals” with a decreased with 4.2 % and “metal ores and concentrates” decreased with 4.2 %.

Tab.2 Imports of materials by category, (000 tonnes)

Year	2021	2022
Biomass and biomass products	1,499.9	1,414.7
Metal ores and concentrates	1,168.3	1,119.3
Non-metallic minerals	1,218.5	1,166.9
Fossil energy materials/carriers	1,197.9	1,045.7
Other products and waste imported	360.1	343.2
Total	5,444.7	5,089.9

Source: Institute of Statistics (INSTAT)

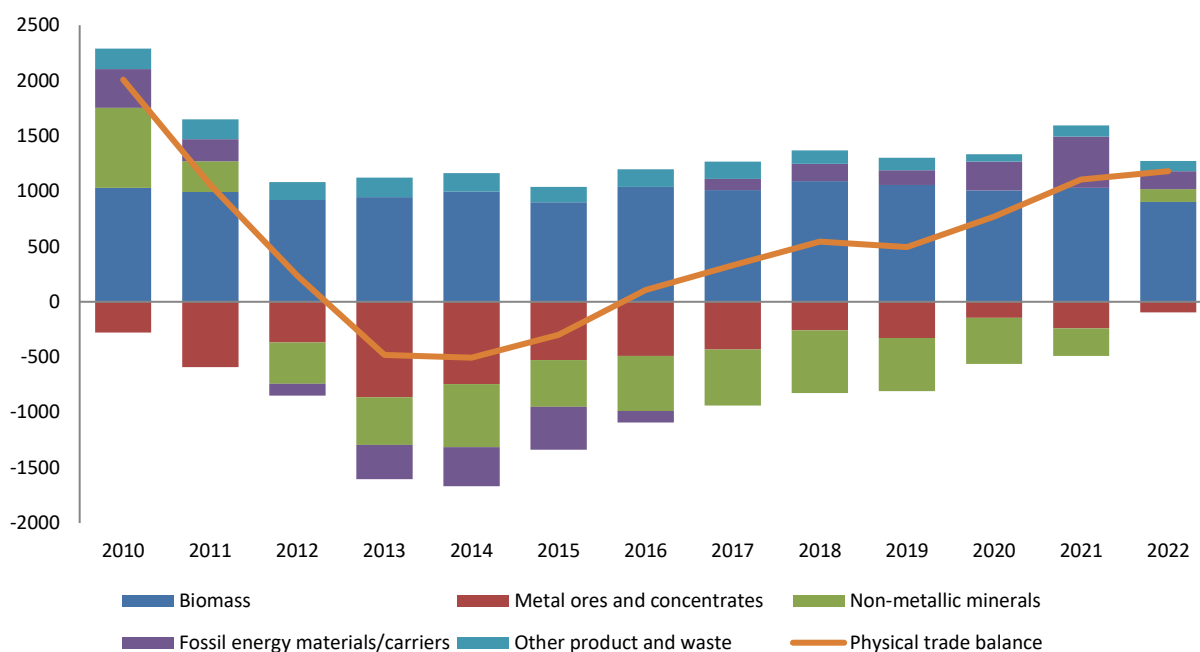
Exports of materials in 2022 amounted to around 3.9 million tonnes, which is 9,9 % lower compared to 2021, mainly due non-metallic minerals whose exports decreased by 28.3 %. During 2022 there has been a decrease “metal ores and concentrates” 13.8 % and has been decrease materials other products and waste exported with 3.8 %. Exports of biomass and fossil energy has respectively increase 20,2 % and 8,9 %.

Tab. 3 Exports of materials by category, (000 tonnes)

Year	2021	2022
Biomass	469.2	511.2
Metal ores and concentrates	1,408.5	1,214.0
Non-metallic minerals	1,467.9	1,051.9
Fossil energy materials/carriers	735.0	883.6
Other products and waste exported	259.8	249.9
Total	4,340.5	3,910.7

Source: Institute of Statistics (INSTAT)

The physical trade balance shows the difference between imports and exports for all material categories and it reached 1,179.1 thousand tonnes for 2022, which is 75 thousand tonnes higher compared to 2021. As it can be seen in Figure 2, the categories biomass, fossil energy materials/carriers, non-metallic minerals, and other products including imported waste have a positive trade balance, while the groups metal ores and concentrates have a negative trade balance.

Fig.2 Physical trade balance, 000 tonnes

Source: Ministry of Agriculture and Rural Development, National Agency of Natural Resources, Water Resources Management Agency; INSTAT

Table 5 shows the material import dependency, which is the ratio of imports over direct material inputs (DMI) in the Albanian economy. DMI is calculated as the sum of domestic extraction of natural resources and imports of materials. In 2022 the material import dependency reached the value of 20.1%, marking an decrease of 2 percentage points compared to 2021. During the period 2018 - 2022 the material import dependency has fluctuated in a range between 16.7 % in 2018, to 20.1% in 2022.

In 2022, fossil energy materials had the highest material import dependency, with about 49.4%, followed by minerals and metal concentrates with 35.4%. On the other hand, the lowest material import dependency was reached for non-metallic minerals with 10.4%, followed by biomass with 16.7%.

Tab.4 Material import dependency, %

Year	2021	2022
Biomass	16.8	16.7
Metal ores and concentrates	37.9	35.4
Non-metallic minerals	12.5	10.4
Fossil energy materials/carriers	48.9	49.4
Other products and waste	22.2	20.1

Source: Ministry of Agriculture and Rural Development, National Agency of Natural Resources, Water Resources Management Agency; INSTAT

The domestic material consumption (DMC) measures the total amount of materials extracted and used from the environment, taking into account the physical trade balance. In 2022 the DMC reached about 21.4 million tonnes, 5.7 % higher compared to 2021

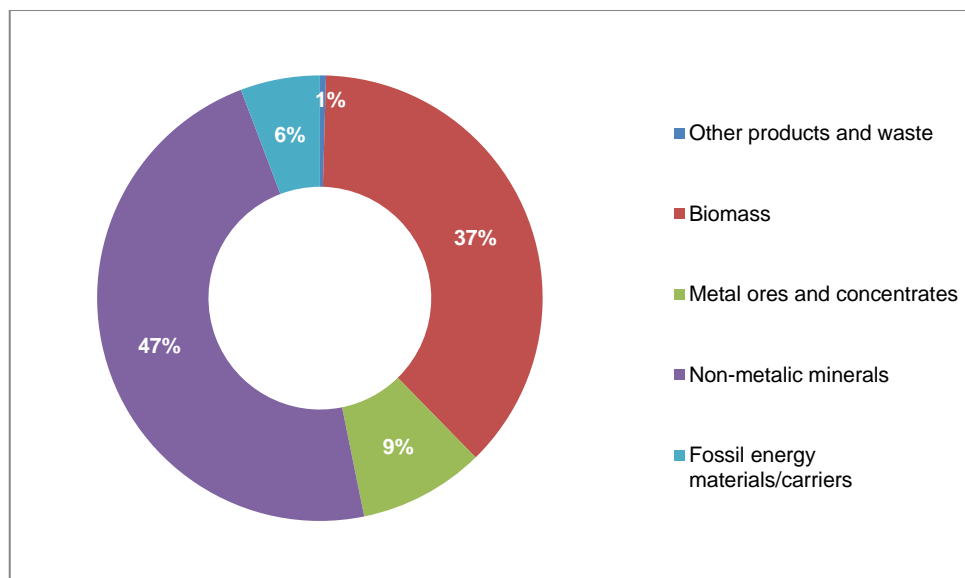
Tab.5 Domestic material consumption (DMC), 000 tonnes

Year	2021	2022
Biomass	8,485.1	7,957.8
Metal ores and concentrates	1,674.8	1,951.1
Non-metallic minerals	8,242.5	10,133.9
Fossil energy materials/carriers	1,713.2	1,232.3
Other products and waste	100.3	93.2
Total	20,215.9	21,367.4

Source: Ministry of Agriculture and Rural Development, National Agency of Natural Resources, Water Resources Management Agency; INSTAT

Domestic material consumption is dominated by “non-metallic” minerals reaching 47.4 % of the total, followed by “biomass” with 37.2 %, “metal ores and concentrates” with 9.1 % and “fossil energy materials” with 5.8 %, followed by “other products including imported waste” with 0.4 %.

Fig.3 Structure of Domestic material consumption 2022, %



Source: Ministry of Agriculture and Rural Development, National Agency of Natural Resources, Water Resources Management Agency; INSTAT

The domestic material consumption per capita in 2022 was about 7.7 tonnes, showing an increase of approximately 0.5 tonnes per capita compared to 2021, which amounted to about 7.2 tonnes.

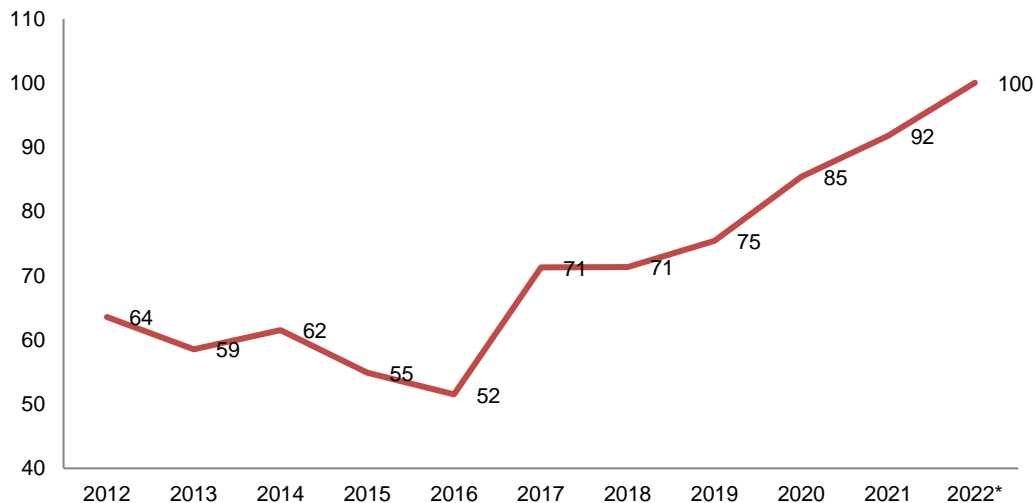
Tab.6 Domestic material consumption (DMC) per capita, tonnes / capita

Year	2021	2022
Biomass	3.0	2.9
Metal ores and concentrates	0.6	0.7
Non-metallic minerals	2.9	3.6
Fossil energy materials/carriers	0.6	0.4
Other products and waste	0.0	0.0
Total	7.2	7.7

Source: Ministry of Agriculture and Rural Development, National Agency of Natural Resources, Water Resources Management Agency; INSTAT

The following figure shows the resource productivity in the Albanian economy for the period 2012 - 2022. Resource productivity is calculated as the ratio between the gross domestic product and domestic material consumption. This represents the amount in ALL generated by the economy of the country for each kilogram of material consumed. In 2021, resource productivity reached the value of 100 ALL / kg, marking a sharp increase of 8.3 ALL / kg compared to the previous year.

Fig.4 Resource productivity 2012– 2022, ALL / kg



*Based on semi-final assessments of GDP,
Source: Ministry of Agriculture and Rural Development, National Agency of Natural Resources, Water Resources Management Agency; INSTAT

Methodology

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.

These data are subject to revision. For more information refer to: <http://instat.gov.al/en/documentation/quality-in-statistics/>

Some of the key categories and main indicators of the material flow accounts are:

Biomass

Biomass includes organic non-fossil materials. According to the definitions of the MFA, the materials extracted from natural resources includes all agricultural products, wild fish and hunting animals. Livestock and livestock products (such as milk, meat, eggs) are not included.

Metal ores and non-metallic minerals

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.

Fossil energy materials/carriers

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.

Domestic extraction (DE)

The domestic extraction (DE) includes the amount of materials (excluding water and air) extracted from the environment for the use of economic purposes.

Domestic material consumption (DMC)

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.

Physical trade balance (PTB)

The physical balance of trade is equal to physical imports minus physical exports.

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.

$$ID = \frac{Imports}{(Domestic\ extraction + Imports)}$$

Resource productivity designates an indicator that reflects the GDP generated per unit of resources used by the economy.

Data sources

The data used to compile the Material Flow Accounts are administrative data received from the Ministry of Agriculture and Rural Development (MARD), the National Agency of Natural Resources (NANR) Water Resources Management Agency (WRMA) and the Institute of Statistics (INSTAT)

The methodology used for the calculation complies with the Regulation (EU) No. 691/2011 on Material Flow Accounts and Eurostat manuals.