

# Material Flow Accounts

## Year 2020

**Tirana, 6 May 2022:** In 2020<sup>1</sup>, the materials extracted from the domestic natural resources amounted to about 18.5 million tonnes with a decrease of 15.6 % compared to 2019. In 2020, the structure of domestic extraction shows that non-metallic minerals account for 46 % of the total, followed by biomass with 40 %, metal ores with 8 % and fossil energy materials and carriers with 6 %.

**Tab. 1 Domestic extraction (DE)**

(000 tonnes)

Year	2016	2017	2018	2019	2020
Biomass	8,066.5	8,164.1	7,970.6	7,747.5	7,422.6
Metal ores	1,180.0	1,356.8	1,766.0	2,150.7	1,492.1
Non-metallic minerals	18,062.5	10,593.3	11,074.6	10,742.5	8,484.6
Fossil energy materials/carriers	1,161.2	1,304.9	1,582.6	1,291.2	1,113.9
<b>Total</b>	<b>28,470.1</b>	<b>21,419.1</b>	<b>22,393.8</b>	<b>21,931.9</b>	<b>18,513.2</b>

**Fig.1 Structure of domestic extraction (DE)**



<sup>1</sup> The data published in this press release refer to the first year of the COVID-19 pandemic and as such should be read in that context.

The total amount of imports of materials in 2020 was about 4.9 million tonnes, which is 3.2 % higher compared to 2019. The largest amount of imports consists of biomass, with 1,440.6 thousand tonnes, followed by metal ores and concentrates with 1,077.3 tonnes. Then we have non-metallic minerals with 1,053.1 tonnes, fossil energy materials with 1,001.8 thousand tonnes, and other products including imported waste with 312.6 thousand tonnes.

**Tab. 2 Imports of materials by category**

(000 tonnes)

Year	2016	2017	2018	2019	2020
Biomass and biomass products	1,369.5	1,378.4	1,465.3	1,474.4	1,440.6
Metal ores and concentrates	752.4	829.9	883.6	956.4	1,077.3
Non-metallic minerals	770.4	954.9	905.9	1,001.0	1,053.1
Fossil energy materials/carriers	891.1	813.0	912.6	976.4	1,001.8
Other products and waste imported	282.2	302.2	319.1	315.7	312.6
<b>Total</b>	<b>4,065.6</b>	<b>4,278.4</b>	<b>4,486.5</b>	<b>4,733.8</b>	<b>4,885.5</b>

Exports of materials in 2020 amounted to around 4.1 million tonnes, which is 2,9 % lower compared to 2019, mainly due to fossil energy materials/carriers whose exports decreased by 12 %. During 2020 there has been a decrease in exports for other categories of environmental materials, "metal ores and concentrates" with 4.8 % and "non-metallic minerals" with 1.4 %. Exports of "other products and waste" and "biomass" increased by 22% and 3.6%, respectively.

**Tab. 3 Exports of materials by category**

(000 tonnes)

Year	2016	2017	2018	2019	2020
Biomass	331.2	369.1	373.5	419.3	434.2
Metal ores and concentrates	1,242.1	1,262.6	1,140.2	1,282.2	1,220.9
Non-metallic minerals	1,266.4	1,459.0	1,475.0	1,493.0	1,472.4
Fossil energy materials/carriers	997.2	712.6	758.3	843.1	742.2
Other products and waste exported	122.2	144.7	196.5	200.9	245.0
<b>Total</b>	<b>3,959.0</b>	<b>3,947.9</b>	<b>3,943.5</b>	<b>4,238.4</b>	<b>4,114.7</b>

The physical trade balance shows the difference between imports and exports for all material categories and it reached 771 thousand tonnes for 2020, which is 275.4 thousand tonnes higher compared to 2019. As it can be seen in Figure 2, the categories biomass, fossil energy materials/carriers and other products including imported waste have a positive trade balance, while the groups non-metallic minerals, metal ores and concentrates have a negative trade balance.

Tab.4 Physical trade balance (PTB)

(000 tonnes)

Year	2016	2017	2018	2019	2020
Physical trade balance	106.6	330.5	543.0	495.4	770.8
Import	4,065.6	4,278.4	4,486.5	4,733.8	4,885.5
Export	3,959.0	3,947.9	3,943.5	4,238.4	4,114.7

Fig.2 Physical trade balance

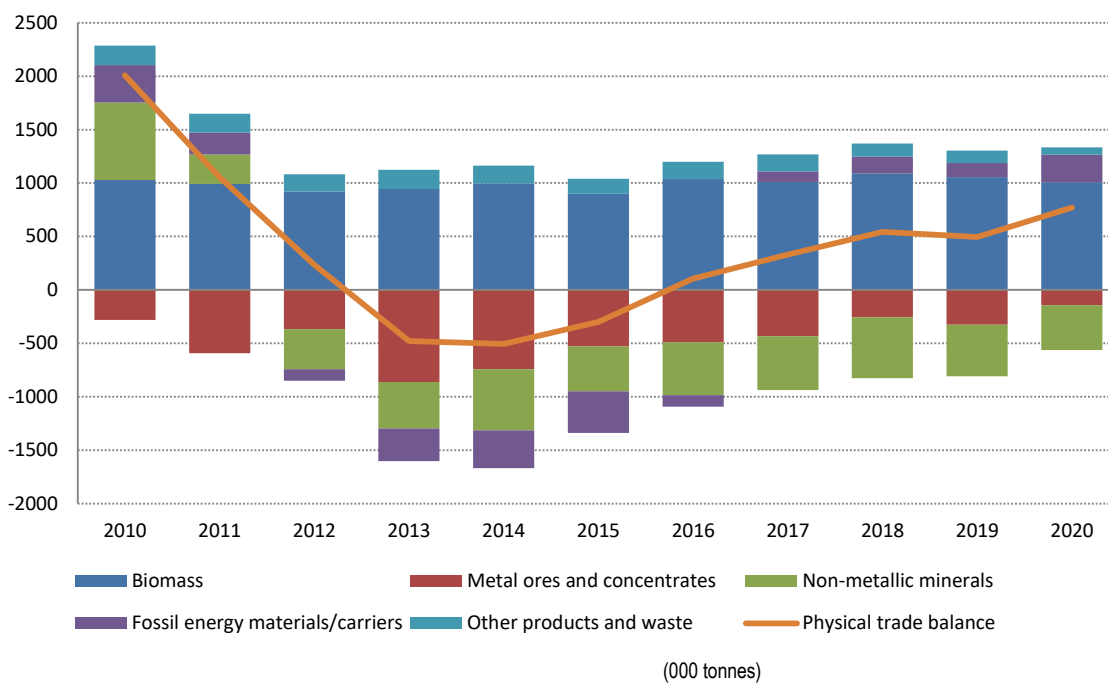


Table 5 shows the material import dependency, which is the ratio of imports over direct material inputs (DMI) in the Albanian economy. DMI is calculated as the sum of domestic extraction of natural resources and imports of materials. In 2020 the material import dependency reached the value of 20.9%, marking an increase of 3.1 percentage points compared to 2019. During the period 2016 - 2020 the material import dependency has fluctuated in a range between 12.5 % in 2016, to 20.9% in 2020.

In 2020, fossil energy materials had the highest material import dependency, with about 47.4%, followed by minerals and metal concentrates with 41.9%. On the other hand, the lowest material import dependency was reached for non-metallic minerals with 11.0%, followed by biomass with 16.3%.

**Tab.5 Material import dependency**

(%)

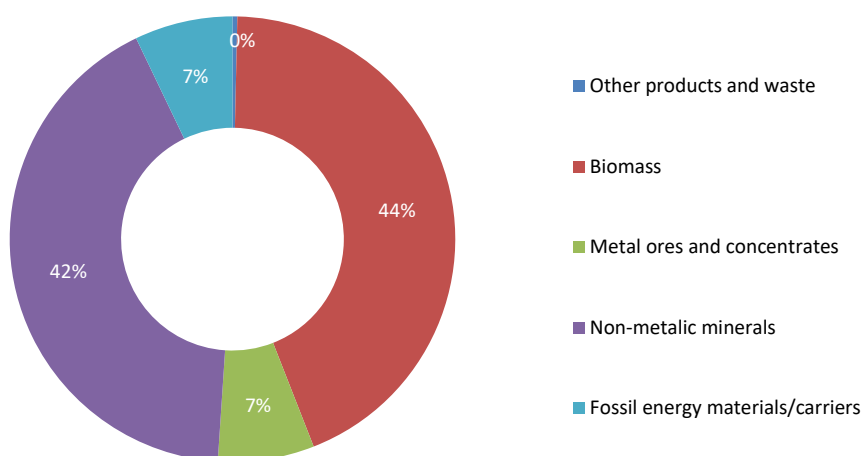
Year	2016	2017	2018	2019	2020
Biomass	14.5	14.4	15.5	16.0	16.3
Metal ores and concentrates	38.9	38.0	33.3	30.8	41.9
Non-metallic minerals	4.1	8.3	7.6	8.6	11.0
Fossil energy materials/carriers	43.4	38.4	36.6	43.1	47.4
Other products and waste	12.5	16.6	16.7	17.8	20.9

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 2020 the DMC reached about 19.3 million tonnes, 14 % lower compared to 2019. Domestic material consumption is dominated by “biomass” 43.7 % “non-metallic” minerals reaching 41.8 % of the total, followed by “fossil energy materials” with 7.1 %, “metal ores and concentrates” 7 % and “other products including imported waste” with 0.4 %.

**Tab.6 Domestic material consumption (DMC)**

(000 tonnes)

Year	2016	2017	2018	2019	2020
Biomass	9,104.8	9,173.5	9,062.4	8,802.5	8,429.0
Metal ores and concentrates	690.3	924.1	1,509.4	1,824.9	1,348.5
Non-metallic minerals	17,566.5	10,089.2	10,505.5	10,260.5	8,065.3
Fossil energy materials/carriers	1,055.1	1,405.3	1,736.9	1,424.6	1,373.6
Other products and waste	160.0	157.5	122.5	114.8	67.6
<b>Total</b>	<b>28,576.7</b>	<b>21,749.6</b>	<b>22,936.8</b>	<b>22,427.3</b>	<b>19,284.0</b>

**Fig.3 Structure of Domestic material consumption 2020 (DMC)**

The domestic material consumption per capita in 2020 was about 6.8 tonnes, showing a decrease of approximately 1.1 tonnes per capita compared to 2019, which amounted to about 7.9 tonnes.

**Tab.6 Domestic material consumption (DMC) per capita**

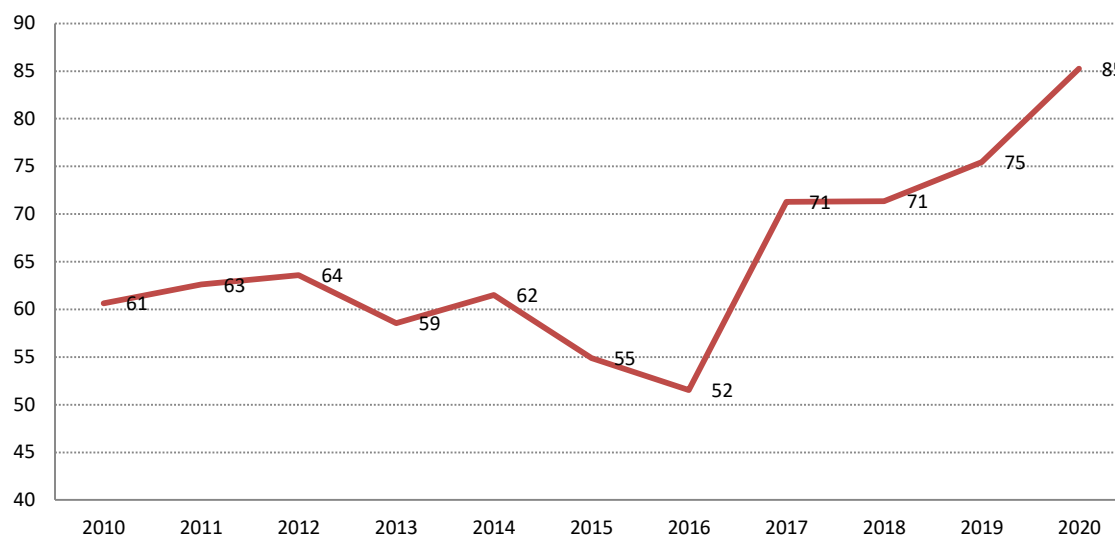
(tonnes / capita)

Year	2016	2017	2018	2019	2020
Biomass	3.2	3.2	3.2	3.1	3.0
Metal ores and concentrates	0.2	0.3	0.5	0.6	0.5
Non-metallic minerals	6.1	3.5	3.7	3.6	2.8
Fossil energy materials/carriers	0.4	0.5	0.6	0.5	0.5
Other products and waste	0.1	0.1	0.0	0.0	0.0
<b>Total</b>	<b>9.9</b>	<b>7.6</b>	<b>8.0</b>	<b>7.9</b>	<b>6.8</b>

The following figure shows the resource productivity in the Albanian economy for the period 2010 - 2020. Resource productivity is calculated as the ratio between the gross domestic product and domestic material consumption. This represents the amount in Lek generated by the economy of the country for each kilogram of material consumed. In 2019, resource productivity reached the value of 85 Lekë / kg, marking a sharp increase of 9.8 Lekë / kg compared to the previous year.

**Fig.4 Resource productivity 2010 – 2020**

(Lekë / kg)



# 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.