

13 December 2021

Environmental accounts: Material flow accounts
Preview data 2020

The domestic material consumption decreased by 2,7% en 2020, reaching 424,8 million tonnes

Resource productivity in the Spanish economy increased by 8,3%

Domestic material consumption, which measures the annual quantity of solid, liquid and gaseous materials (excluding air and water) used directly by the economy, decreased by 2.7% in 2020, reaching 424.8 million tonnes.

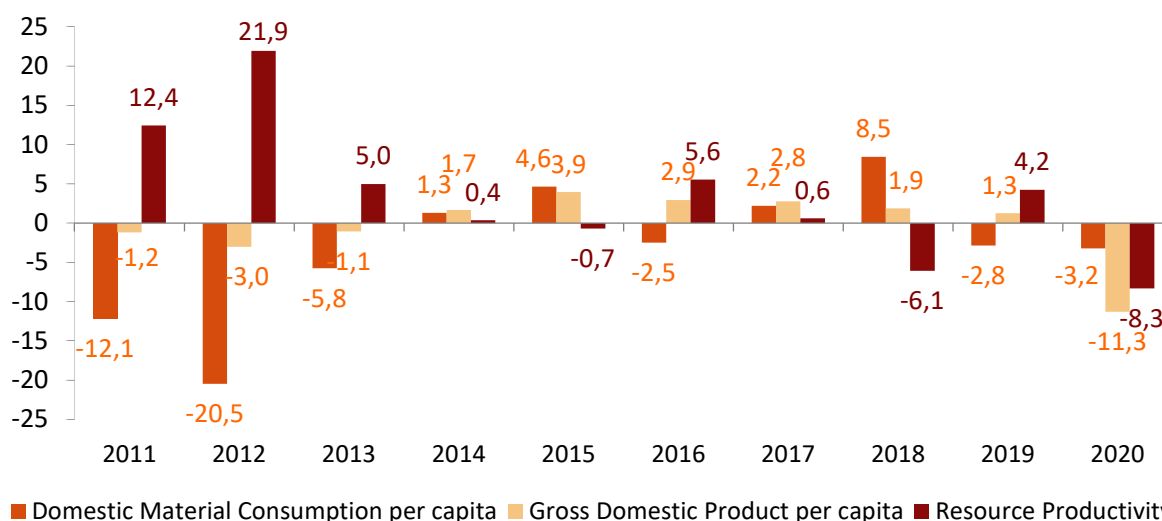
Resource productivity, or the amount of Gross Domestic Product (GDP) generated per unit of material consumption, reached 2,506.2 euros per tonne, with an increase of 8.3% compared to the previous year.

In turn, per capita material consumption decreased by 3.2%, reaching 9.0 tonnes.

The net material consumption in the economy came to 4.7 tons per capita, 4.4% more than the previous year.

Leading Indicators

Annual variation rates



Components of the domestic material consumption

As with previous years, the main component of the consumption of materials was national extraction, with 86.6% of the total. It reached 368.0 million tonnes, 1.7% more than in 2019.

The physical trade balance (imports minus exports) was 56.7 million tonnes in 2020. Imports reached 225.6 million tons, compared to 168.8 million for exports.

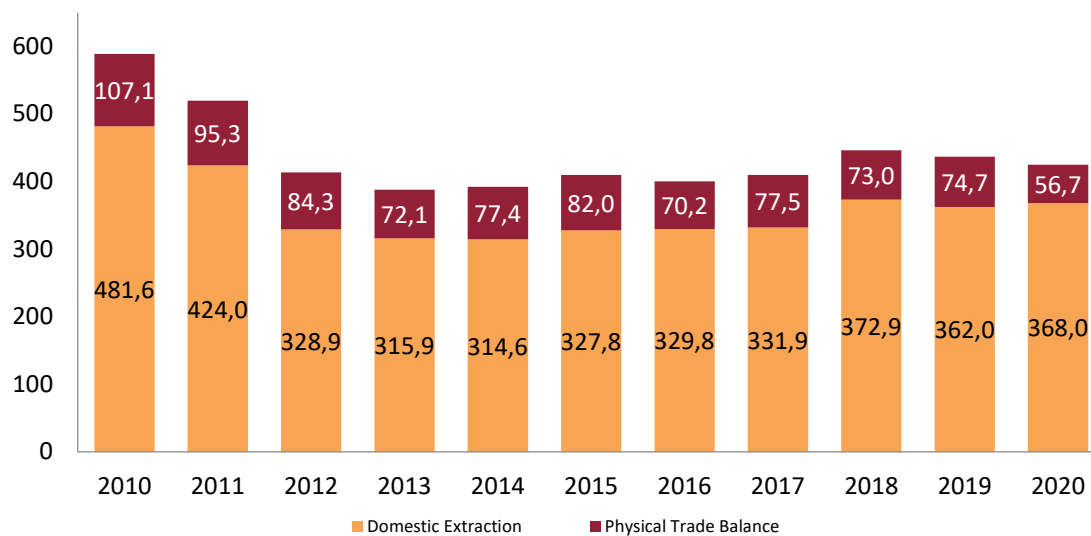
National consumption of materials. Year 2020

Units: thousands of tonnes.

	2020	Annual rate
Domestic material consumption	424,792.4	-2.7
Domestic extraction	368,043.1	1.7
Physical trade balance	56,749.3	-24.0
Imports	225,569.6	-13.0
Exports	168,820.3	-8.6

Domestic material consumption

Unit: Million tonnes



Domestic extraction of materials

The main materials extracted in national territory in 2020 were *Non-metallic minerals*, mainly limestone, plaster and sand, followed by *Biomass* (notably cereals, fruits and vegetables), with 210.7 and 137.0 million tonnes respectively.

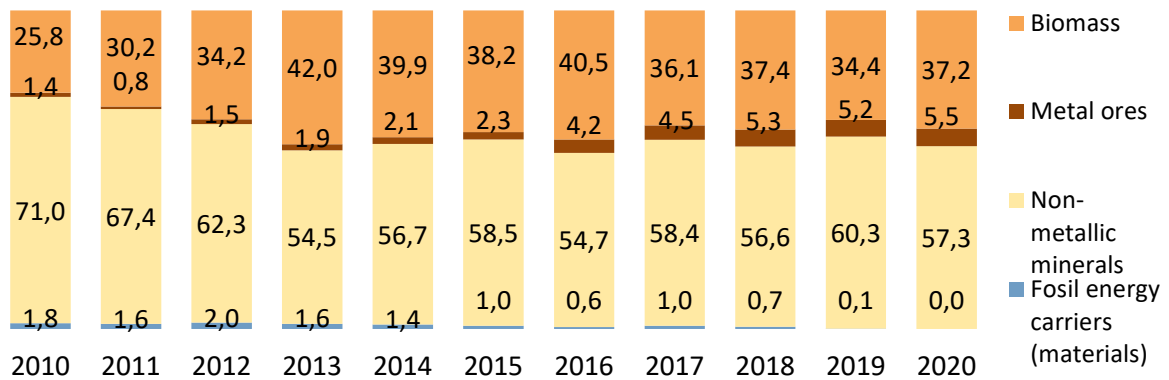
Extraction of non-metallic minerals decreased by 3.5% compared to the previous year, while that of biomass increased by 10.0%.

Domestic extraction in thousand tonnes. Year 2020

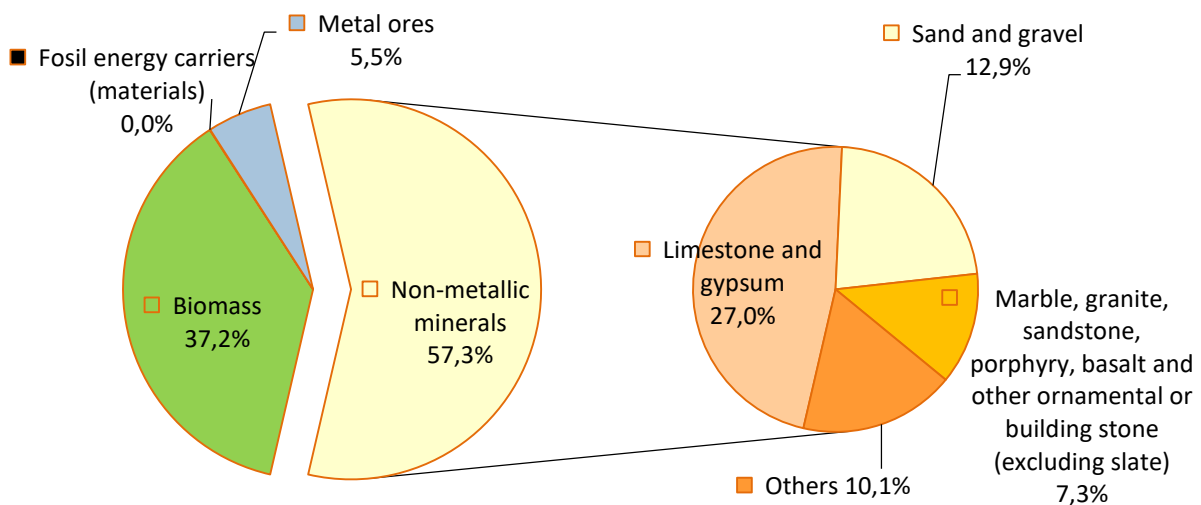
Unit: Thousand tonnes

	2020	%	annual rate
Domestic extraction	368,043.1	100.0	1.7
Non-metallic minerals	210,710.4	57.3	-3.5
Biomass	137,002.8	37.2	10.0
Metallic minerals	20,178.0	5.5	6.8
Fossil energy carriers (materials)	151.9	0.0	-33.8

Distribution of domestic extraction (percentage)



Distribution of domestic extraction (percentage) Year 2020



Components of the physical trade balance

Fossil fuels (coal, crude oil, natural gas and derivatives) were the materials with the biggest contribution to the physical trade balance in 2020, both in imports (49.4% of the total) and exports (22.3%). It is followed by Biomass (21.9% and 27.6% respectively).

Fossil fuels had the most positive physical trade balance (73.7 million tonnes). By contrast, non-metallic minerals registered the most negative balance (-23.8 million).

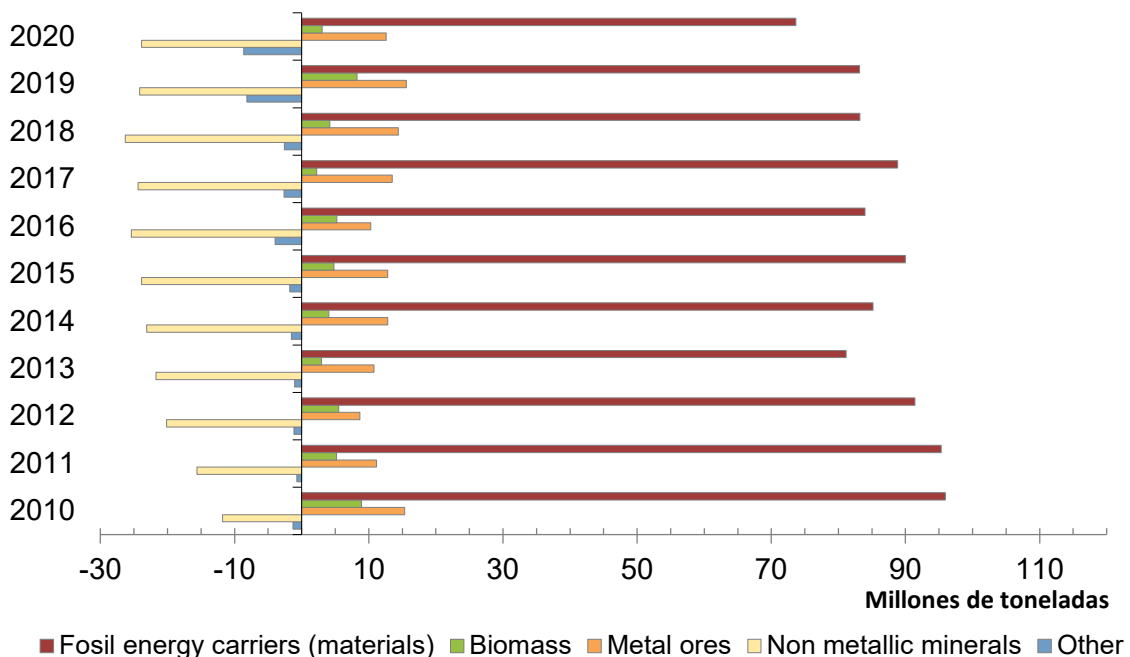
Components of the physical trade balance Year 2020

Unit: Thousand tonnes

	Physical trade balance	Imports	%	Exports	%
TOTAL	56,749.3	225,569.6	100.0	168,820.3	100.0
Fossil energy carriers (materials)	73,657.7	111,382.2	49.4	37,724.5	22.3
Biomass	3,027.3	49,498.3	21.9	46,471.0	27.6
Metal ores	12,573.1	37,118.3	16.5	24,545.2	14.5
Non metallic minerals	-23,846.0	13,973.1	6.2	37,819.1	22.4
Others	-8,662.8	13,597.7	6.0	22,260.5	13.2

Components of the physical trade balance

Unit: Million tonnes



For the first time, the INE is releasing information regarding the domestic processed output to nature and the net accumulation of materials.

Domestic processed output to nature

In 2020, the total amount of materials released into the environment following use in the national economy reached 273.2 million tons, representing a decrease of 16.1% compared to the previous year.

Atmospheric emissions (mainly greenhouse gases) had the highest weight in the total (89.6%) followed by dissipative use of products and losses (organic fertilizers, inorganic and phytosanitary fertilizers, etc.) that accounted for 10.1% of the total.

Domestic processed output to nature. Year 2020

Unit: Thousand tonnes

	2020	%	annual rate
Domestic processed output	273,192.2	100.0	-16.1
Emissions to air	244,832.6	89.6	-17.7
Emissions to water and waste disposal to the environment	841.5	0.3	-14.6
Dissipative use of products and losses	27,518.1	10.1	1.8

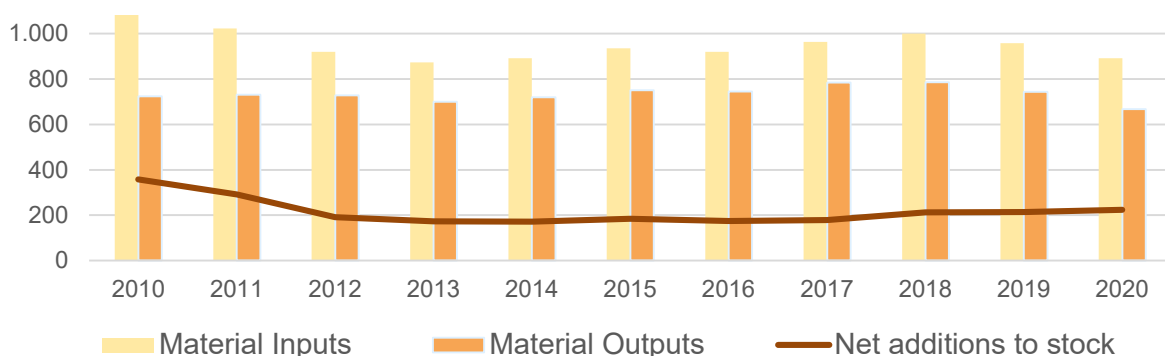
Net additions to stock

The net accumulation of materials measures the real physical growth of the economy; that is, the weight of construction materials used in buildings and other infrastructure, and of materials used in durable goods such as vehicles, industrial machinery, etc. It is obtained as the balance between inputs (National extraction, imports and balance sheet items) and outputs (Output processed to nature, exports and balance sheet items).

In 2020, 224.3 million tons of materials were added to the economy, a total of 4.7 tonnes per capita, representing an increase of 4.4% over the previous year.

Net additions to stock

Unit: Million tonnes



Data Review and Update

The INE is also publishing the complete estimates of the Material Flow Accounts for the 2008-2019 series today. The data for the 2016-2020 period are provisional and will be revised when the data for 2021 are released. All results are available on INEBase.

Methodological note

The objective of the Environmental Accounts (EA) is to integrate environmental information into the central system of National Accounts in a coherent way. They include a set of satellite accounts, which are transmitted annually, compiled using the accounting formats applicable to the different sectoral and territorial areas, with a strong use of physical data. They show the interaction between the economy, households and environmental factors.

The *Material Flow Accounts* show the physical inputs of materials that enter into the national economic system in physical units (tonnes). This makes it possible to obtain a set of aggregate indicators on the use of natural resources, from which indicators can be derived on the productivity of resources (eco-efficiency) in relation to GDP and other economic and employment indicators, in addition to indicators on intensity of materials from lifestyles, considering the size of the population and other demographic indicators.

For the first time, the INE is releasing information regarding the domestic processed output to nature and the net accumulation of materials.

For more information the methodology can be accessed at:

https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736176943&menu=metodologia&idp=1254735976603

The standardized methodological report is at:

<https://www.ine.es/dynt3/metadatos/es/RespuestaDatos.html?oe=30086>

INE statistics are produced in accordance with the Code of Good Practice for European Statistics, which is the basis for the institution's quality policy and strategy. For more information see the section [Quality at INE and the Code of Best Practices](#) on the INE website.

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