

Environmental accounts. Material flow accounts

Preview data 2023

Main Results

- Domestic consumption of materials decreased by 3.3% in 2023, to 417.9 million tonnes.
- Productivity of materials in the Spanish economy increased by 6.2%.

More information

- [Detailed results](#)
- [Environmental Indicator Portal](#)

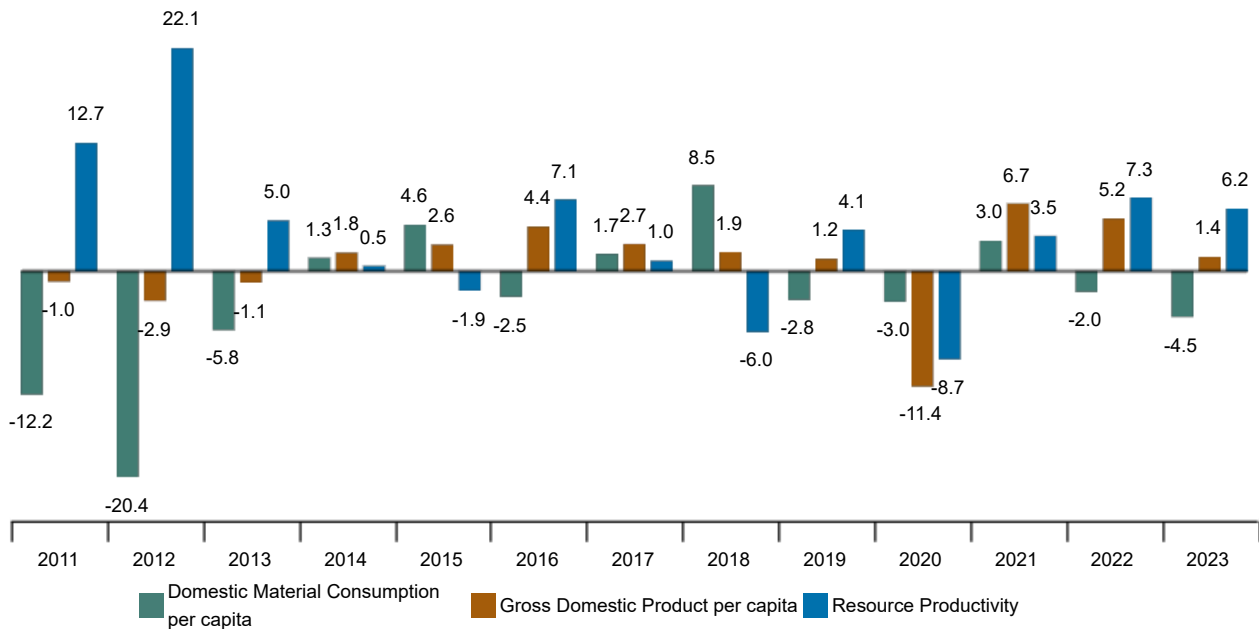
Domestic material consumption, which measures the annual quantity of solid, liquid and gaseous materials (excluding air and water) used directly by the economy, decreased by 3.3% in 2023, to 417.9 million tonnes.

Resource productivity, or the amount of Gross Domestic Product (GDP) generated per unit of consumption of materials, reached €3,142.9 per tonne, an increase of 6.2% compared with the previous year.

In turn, per capita material consumption decreased by 4.5%, standing at 8.6 tonnes. The net material accumulation in the economy came to 4.4 tons per capita, 4.9% less than the previous year.

Main indicators

Annual variation rates



Components of domestic material consumption

The main component of material consumption was domestic extraction, which accounted for 82.4% of the total. It reached 344.1 million tonnes, 3.2% less than in 2022.

The physical trade balance (imports minus exports) was 73.8 million tonnes in 2023. Imports reached 249.2 million tons, compared with 175.4 million for exports.

Domestic material consumption. 2023

Thousands of tonnes

	Total	Annual rate (%)
Domestic material consumption	417,872.3	-3.3
Domestic extraction	344,121.6	-3.2
Physical trade balance	73,750.7	-3.7
- Imports	249,175.2	-4.5
- Exports	175,424.5	-4.8

Domestic material extraction

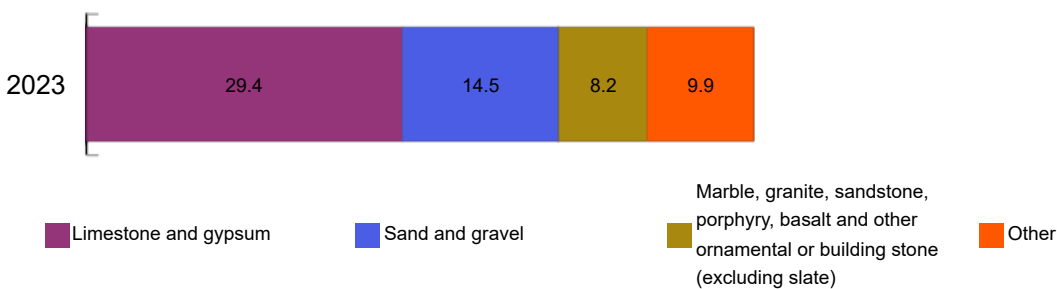
The main materials extracted in the national territory in 2023 were *Non-metallic minerals*, mainly limestone, plaster, sand and gravel, followed by *Biomass* (notably cereals, fruit and vegetables), with 213.3 and 107.5 million tonnes respectively.

Extraction of *Non-metallic minerals* decreased by 1.6% compared with the previous year, while that of biomass decreased by 8.1%.

Domestic extraction distribution, 2023. Percentage



Domestic extraction distribution, Non-metallic minerals, 2023. Percentage



Current press release at: <https://www.ine.es/dyngs/Prensa/en/CFM2023.htm>

Domestic extraction in thousands of tonnes. 2023

Thousands of tonnes

	2023	Percentage	Annual rate (%)
Domestic extraction	344,121.6	100.0	-3.2
Non metallic minerals	213,294.3	62.0	-1.6
Biomass	107,483.9	31.2	-8.1
Metal ores	23,233.2	6.8	6.5
Fossil energy carriers (materials)	110.2	0.0	-2.8

Components of the physical trade balance

Fossil fuels (coal, crude oil, natural gas and derivatives) were the materials that stood out in the 2023 physical trade balance, due to their relative weight in imports (49.4% of the total), followed by *Biomass* (24.9 %). The materials with the greatest relative weight in exports were *Biomass* and *Fossil energy carriers*, with 25.5% and 27.3% of the total, respectively.

Components of the physical trade balance. 2023

Thousands of tonnes

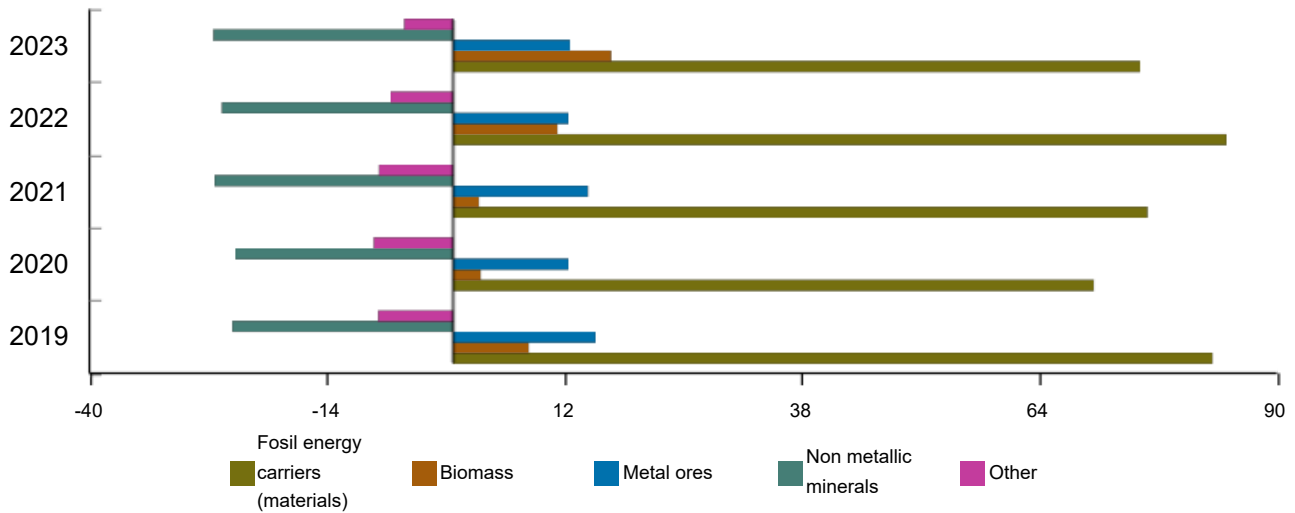
	Physical trade balance	Imports	%	Exports	%
TOTAL	73,750.7	249,175.2	100.0	175,424.5	100.0
Fossil energy carriers (materials)	75,245.4	123,136.1	49.4	47,890.7	27.3
Biomass	17,266.3	62,032.8	24.9	44,766.5	25.5
Metal ores	12,785.9	38,095.3	15.3	25,309.4	14.4
Non metallic minerals	-26,223.2	12,888.0	5.2	39,111.2	22.3
Other	-5,323.7	13,023.0	5.2	18,346.7	10.5

Fossil fuels presented the most positive physical trade balance (75.2 million tonnes). *Non-metallic minerals* showed the most negative one (-26.2 million).

Components of the physical trade balance. 2023

Millions of tonnes

Current press release at: <https://www.ine.es/dyngs/Prensa/en/CFM2023.htm>



National output processed in nature

In 2023, the total amount of materials released into the environment following use in the national economy reached 293.0 million tons, a decrease of 4.2% compared with the previous year.

Emissions into the atmosphere (mainly greenhouse gases) were the most prevalent materials in the total (accounting for 90.6%), with a decline of 4.7% in terms of total tonnes compared with the previous year.

Net Material Accumulation

Net Material Accumulation measures the physical growth of the economy in tonnes of materials. That is, the proportion 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 2023, 211.6 million tonnes of materials were added to the economy, a total of 6.1 tonnes per capita, a decrease of 3.7% over the previous year.

Data revisions and updates

The data published today is provisional and will be revised when next year's data is released. All results of this operation are available on [INEBase](#).

Current press release at: <https://www.ine.es/dyngs/Prensa/en/CFM2023.htm>

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 major presence of physical data. They display the interactions among the economy, households and environmental factors.

The Material Flow Accounts show the physical inputs of materials that enter 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.

More information on the [methodology](#) and the [standardised methodological report](#).

INE statistics are produced in accordance with the Code of Good Practice for European Statistics. More information on [Quality at INE](#) and the [Code of Best Practices](#).

For further information see [INE base](#)

Official INE account on  [@es_ine](#)

All press releases at: www.ine.es/en/prensa/prensa_en.htm

 Press office: (+34) 91 583 93 63 / 94 08 – gprensa@ine.es

 Information area: (+34) 91 583 91 00 – www.ine.es/infoine/?L=1