

19 December 2017

Environmental accounts
Material flow accounts. Base 2010.
 2008 – 2015 Accounting series. Preview data 2016

National consumption of materials stood at 402.8 million tonnes in 2016, 0.9% less than in 2015

Productivity of materials in the Spanish economy increased by 4.2% in 2016

The National Statistics Institute presents today the estimates corresponding to the 2008-2015 period and the advance of results for 2016 of the Material Flow Accounts in base 2010.

The national consumption of materials, which measures the total amount directly used by the economy, amounted to 402.8 million tonnes in 2016, with a decrease of 0.9% compared to 2015.

Productivity of materials, or the amount of Gross Domestic Product (GDP) generated per unit of national consumption of materials, reached 2,745.3 euros per tonne in 2016, with an increase of 4.2% over the previous year.

Main indicators.

Inter-annual variation rates



Components of the domestic material consumption

National extraction constituted the main component of national consumption of materials in 2016, with 330.7 million tonnes, 82.1% of the total. Extraction increased by 1.0% compared to 2015.

The physical trade balance (imports minus exports) was 72.1 million tonnes in 2016 (17.9% of the total), with a 9.0% decrease as compared with the previous year. Imports amounted to 257.5 million tonnes, compared with 185.4 million tonnes of exports.

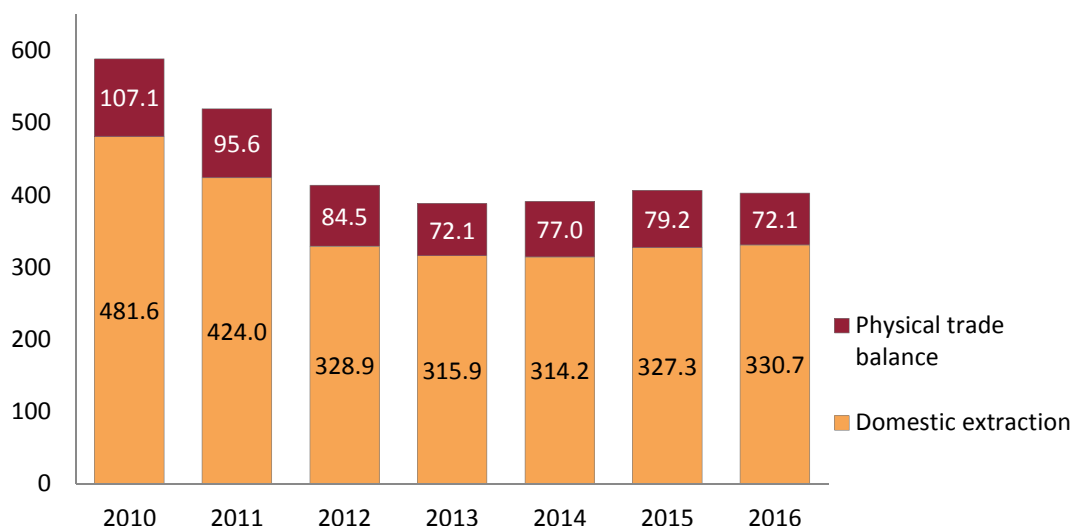
National consumption of materials. Year 2016

Unit: thousand tonnes

	2016	Inter-annual variation %
National consumption of materials	402,789.4	-0.9
National extraction	330,693.4	1.0
Physical trade balance	72,095.9	-9.0
Imports	257,500.0	1.9
Exports	185,404.1	6.9

National consumption of materials. 2010-2016 Series

Million tonnes



Domestic extraction of materials

The main materials extracted in the national territory in 2016 were non-metallic minerals and biomass, with 182.4 and 133.2 million tonnes, respectively.

Extraction of biomass increased by 6.8% compared to the previous year, while that of non-metallic minerals decreased by 4.9%.

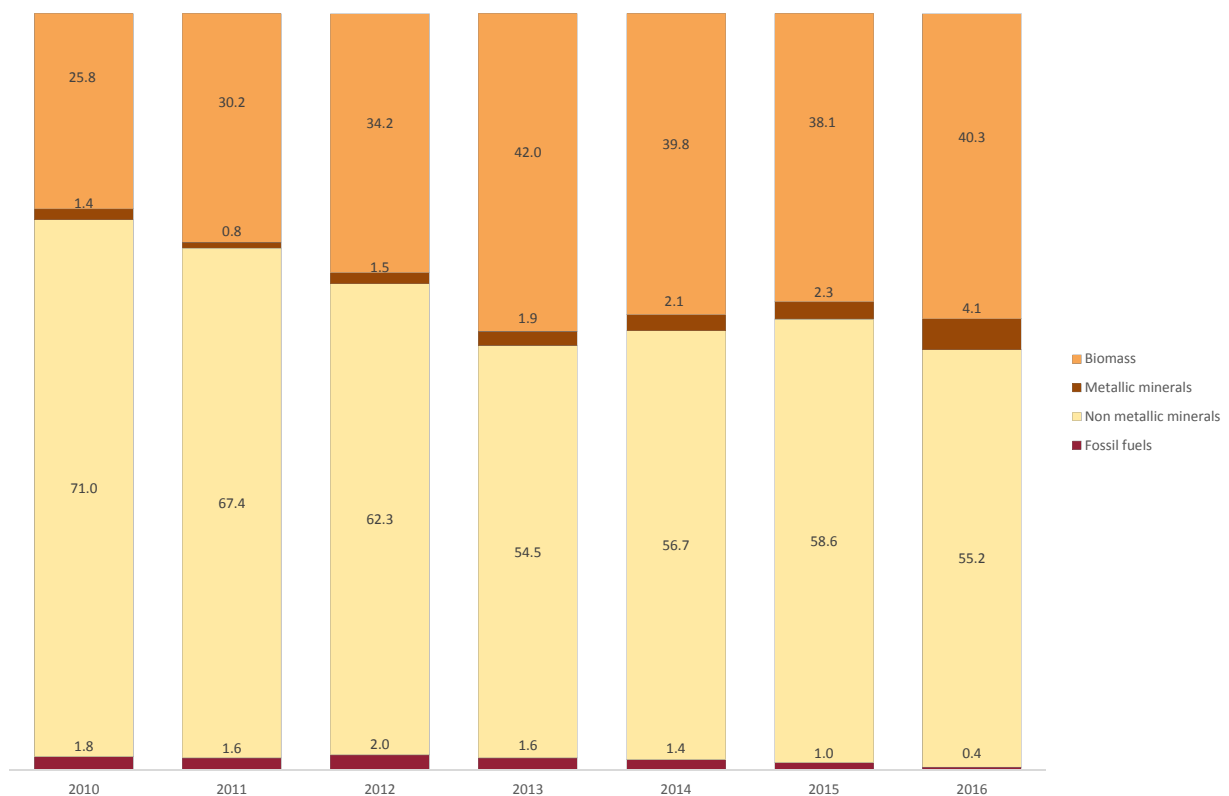
Metallic minerals and fossil fuels accounted for 4.1% and 0.4% of national extraction, respectively, compared to 2.3% and 1.0% in the previous year.

National extraction in thousand tonnes. Year 2016

Unit: Thousand tonnes

	2016	%	Inter-annual variation %
National extraction	330,693.4	100.0	1.0
Biomass	133,153.7	40.3	6.8
Metallic minerals	13,711.1	4.1	83.6
Non-metallic minerals	182,369.7	55.2	-4.9
Fossil fuels	1,458.9	0.4	-56.6

Percentage distribution of the National Extraction. 2010-2016 series.



Components of the physical trade balance

Fossil fuels were the materials with the greatest weight in the physical trade balance of 2016, both in imports (52.4%) and exports (28.3%). It was followed by biomass (20.1% and 26.9%, respectively).

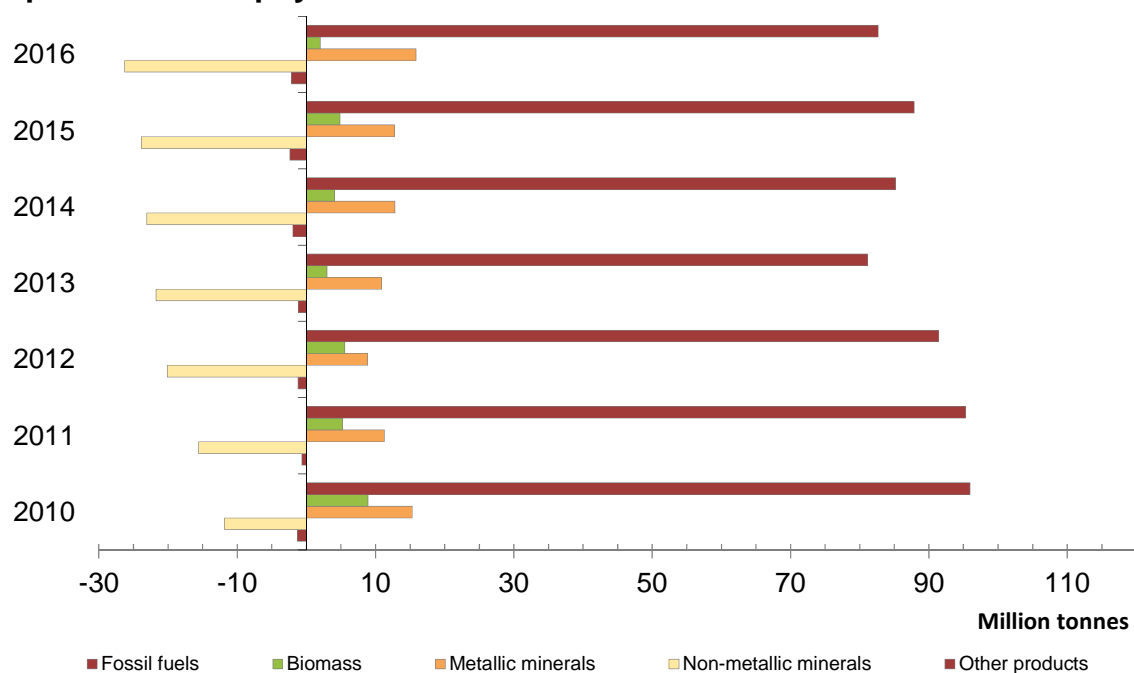
As regards non-metallic minerals, imports amounted to 13,051.5 thousand tonnes and exports to 39,339.1 thousand tonnes, resulting in a negative balance of 26,287.5 thousand tonnes.

Components of the physical trade balance Year 2016

Unit: Thousand tonnes

	Physical trade balance	Imports	%	Exports	%
			100.		100.
TOTAL	72,095.9	257,500.0	0	185,404.1	0
Fossil fuels	82,691.9	135,149.7	52.4	52,457.8	28.3
Biomass	2,002.6	51,818.9	20.1	49,816.3	26.9
Metallic minerals	15,872.2	45,694.2	17.8	29,822.0	16.1
Non-metallic minerals	-26,287.5	13,051.5	5.1	39,339.1	21.2
Other products	-2,183.3	11,785.6	4.6	13,968.9	7.5

Components of the physical trade balance 2010-2016 Series



Indicators derived from Material Flow Accounts

The main indicators derived from the Material Flow Accounts are the Productivity of materials and the National consumption of materials per inhabitant.

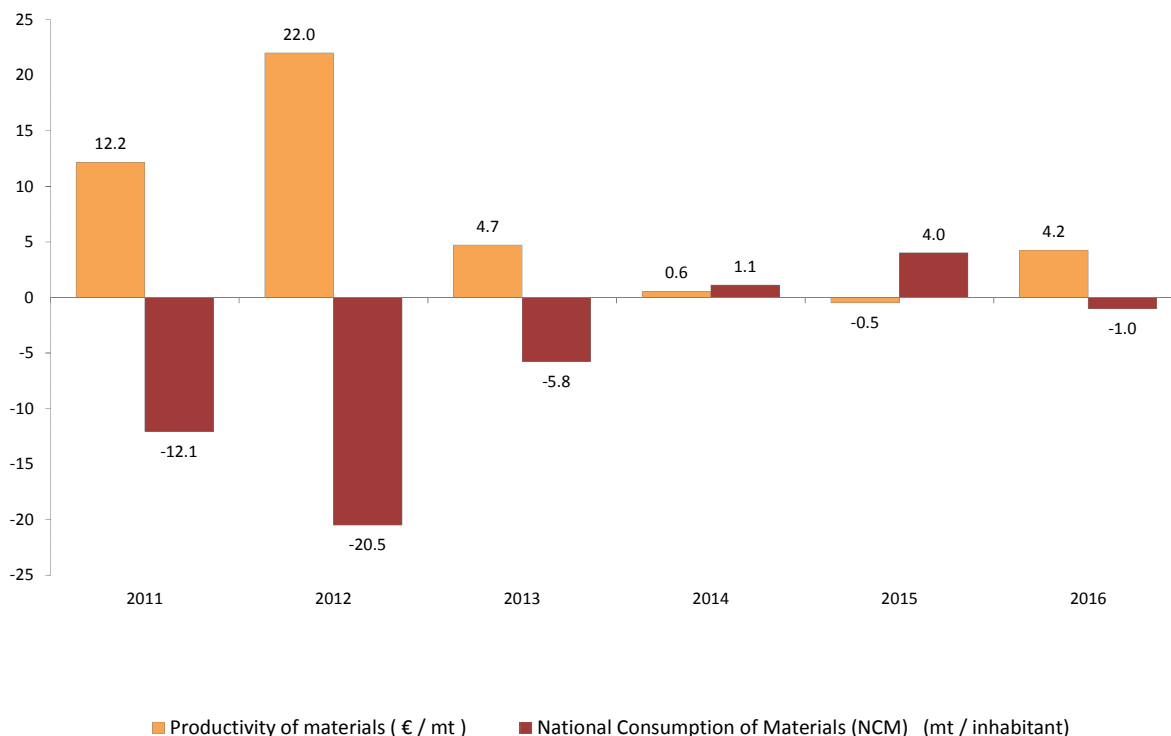
Productivity of materials is calculated as the ratio between GDP and national consumption of materials and allows us to know the behaviour of the economy in relation to the environment. In 2016 it reached 2,745.3 euros per tonne, with an increase of 4.2%.

By linking the national consumption of materials to the population, we can observe the evolution of the **National consumption of materials per inhabitant**. This average consumption stood at 8.7 tonnes per inhabitant, 1.0% less than in the previous year.

Material flow indicators. Year 2016

	2016	Inter-annual variation %
Productivity of materials (€/mt)	2,745.3	4.2
National Consumption of Materials (NCM) (mt / inhabitant)	8.7	-1.0

Material flows Inter-annual variation rates



In addition to the 2016 results, the INE is also publishing today the complete estimates of the Material Flow Accounts for the 2008-2015 series.

Methodological note

The **Environmental Accounts** (EA) are a synthesis statistical operation with the general objective of integrating environmental information coherently in the central system of National Accounts, following the methodology of the United Nations System of Integrated Environmental and Economic Accounting (UNSD), which constitutes the conceptual framework of the EA.

The European Parliament and Council Regulation (EU) No. 691/2011, of 6 July 2012, regarding the European economic environmental accounts, constitutes the frame of reference of concepts, definitions, classifications and common accounting standards for the compilation of the Environmental Accounts and includes a module of such accounts for annual transmission.

Material Flow Accounts reflect the physical inputs of materials that enter the national economic system in physical units (tonnes). These accounts provide a set of aggregate indicators on the use of natural resources for 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 the intensity of materials in lifestyles, considering the size of the population and other demographic indicators.

There is an increase of the need of materials, such as the ones for construction and energy resources, which is usually linked to the growth of the economy. A more rational use of natural resources provides a greater economic value to each used unit and thus the growth rate of the use of resources may be lower than the economic growth rate. When this happens, it is said that a **decoupling takes place between the use of materials and economic growth**.

One of the main goals of the EU is to achieve a decoupling between economic growth and environmental degradation. An efficient use of resources constitutes one of the flagship initiatives of the Europe 2020 strategy.

Main definitions:

- **Domestic extraction** is the annual quantity of solid, liquid and gaseous materials (excluding air and water) that are extracted from the natural environment to be used as inputs in the economy.
- **Physical imports and exports** include all goods imported or exported, in mass units. Goods exchanged include assets in all transformation stages, from basic products to finished products.
- **Direct material input** registers as resource the direct input of materials in the economic system, from the natural environment of the country and of the rest of the world, that is, domestic extraction and imports.
- **Domestic material consumption** is obtained by deducting exports from the Direct Material Input indicator.
- **Resource productivity** is defined as the amount of GDP created per unit of domestic material consumption (euros per tonne).

The INE website <http://www.ine.es> shows the complete published methodology of the operation.