Instituto Nacional de Estadística

Press Release

19 November 2013

Material flow accounts. Base 2008.
2008 – 2011 accounting series

The Domestic material consumption registered 516.5 million tonnes in 2011, 11.9% less than in 2010

The resource productivity of the Spanish economy increased 13.6% in 2011

In the framework of the European Union Regulation on Environmental Accounts, the National Statistics Institute (INE) published today, for the first time, this press release on material flow accounts. The 2008 – 2011 accounting series is presented.

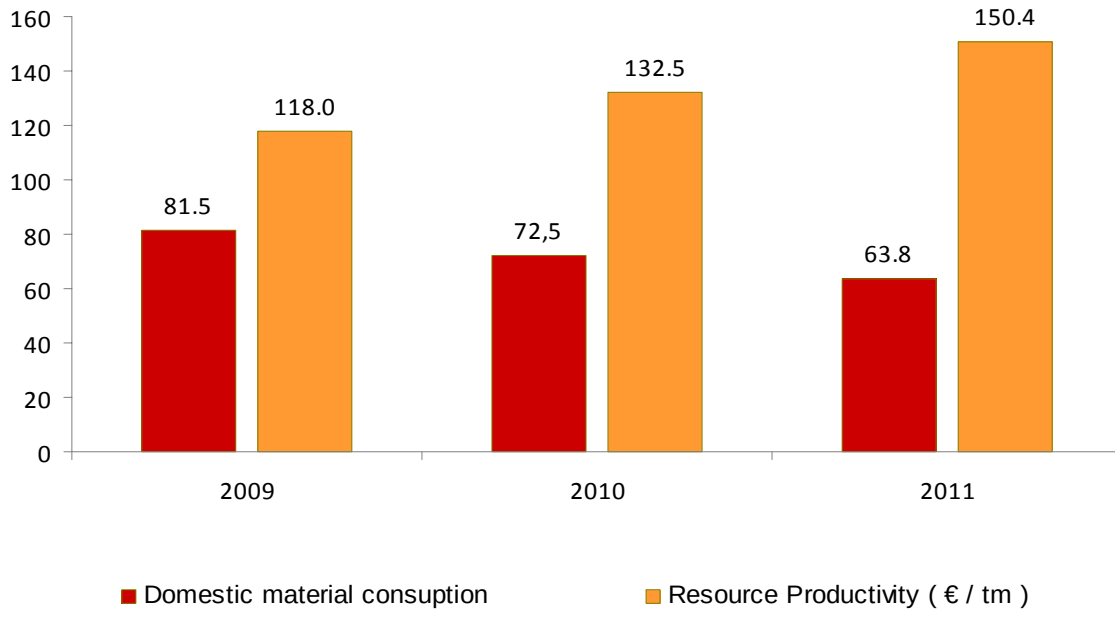
The domestic material consumption, a measure of the total quantity of materials directly used by the economy, increased to 516.5 million tonnes in 2011, representing a decrease of 11.9% as compared with 2010 and of 36.2% as compared with 2008.

As for resource productivity (the amount of Gross Domestic Product created per domestic material consumption unit) there was a 13.5% growth between 2010 and 2011, while in the 2008-2011 period there was a 50.4% increase.

In the 2008-2011 period, a gradual disconnection between the use of resources and economic growth had occurred.

Main indicators.

Indices. Reference Year 2008=100



Components of the domestic material consumption

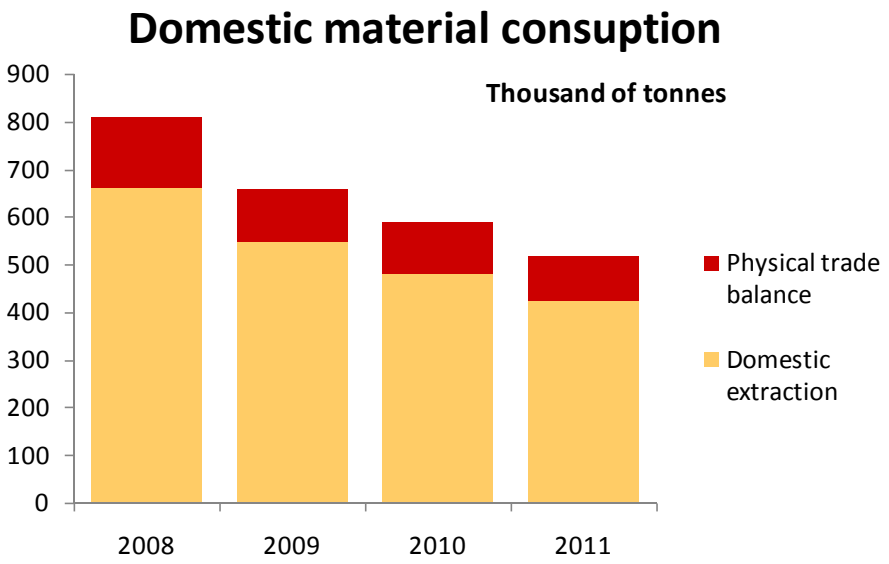
The domestic extraction of materials was the main component of domestic material consumption in 2011, with 423.3 million tonnes, which represented 82.0% of the total. Regarding the year 2010, there was a 12.1% decrease.

The physical balance of trade, which is the physical trade surplus or deficit of an economy (imports - exports), was of 93.2 million tonnes in 2011 (representing 18.0% of the domestic material consumption). This figure represented a 10.9% decrease as compared with the previous year.

Domestic material consumption. 2008-2011 Series.

Units: Thousands of tonnes

	2008	2009	2010	2011
Domestic extraction	**661,310.4**	**546,347.6**	**481,519.6**	**423,289.0**
Physical trade balance	**147,714.0**	**113,121.3**	**104,590.3**	**93,160.7**
Imports	276,818.3	232,248.7	234,149.5	233,417.3
Exports	129,104.3	119,127.4	129,559.2	140,256.6
Domestic material consuption	**809,024.4**	**659,468.9**	**586,109.9**	**516,449.7**



Domestic extraction of materials

The main materials extracted within the domestic territory in 2011 were non-metallic minerals and biomass with 284.7 and 128.1 million tonnes respectively.

In the 2008-2011 period, biomass extraction decreased 2.1% while the extraction of non-metallic minerals decreased 45.0%. In 2008, biomass represented 19.8% of the total extraction. It reached 30.3% in 2011.

The strong decrease of non-metallic minerals during the 2008-2011 period, which represented 67.3% of total extractions in 2011, was due to the behaviour of limestone, gypsum, sand and gravel (71.6% of this kind of minerals).

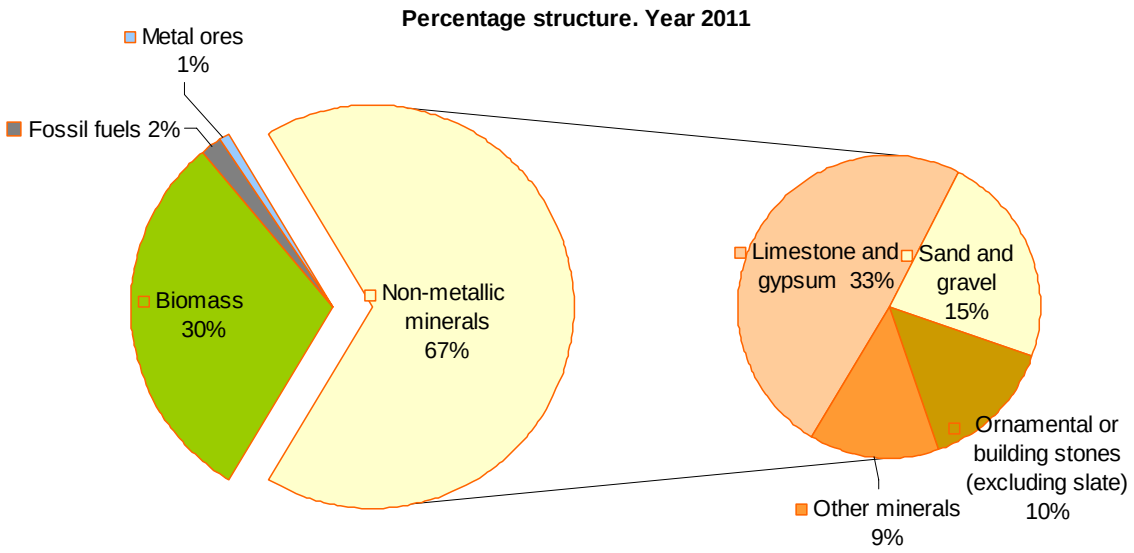
Domestic Extraction in thousands of tonnes. 2008-2011 Series.

Units: Thousands of tonnes

	2008	2009		2010		2011
Domestic Extraction Used (DEU)	**661,310.4**	**546,347.6**	**0.0**	**481,519.6**	**0.0**	**423,289.0**
Biomass	**130,887.9**	**120,365.7**		**124,274.0**		**128,123.2**
Metal ores	**1,960.2**	**4,031.8**		**6,783.1**		**3,601.3**
Non-metallic minerals	**518,010.2**	**412,070.9**	**0.0**	**341,794.1**	**0.00**	**284,706.2**
Limestone and gypsum	256,995.8	204,711.8		169,441.7		139,024.8
Sand and gravel	125,714.6	100,842.6		77,250.2		64,837.0
Ornamental or building stones (excluding slate)	69,383.2	60,202.6		50,879.2		40,985.5
Chalk and dolomite	18,334.5	14,587.0		14,006.3		11,606.5
Slate	1,821.8	1,026.6		946.9		1,058.6
Minerals for fertilizers and chemicals	4,406.8	4,104.2		3,690.3		3,819.3
Salt	4,302.7	3,540.8		4,451.3		4,503.8
Clays and kaolin	25,102.9	14,720.3		13,840.4		11,648.1
Other minerals	11,947.9	8,335.0		7,287.8		7,222.6
Fossil fuels	**10,452.1**	**9,879.2**		**8,668.4**		**6,858.3**

Percentage structure. Year 2011

Domestic material consuption



Physical balance of trade

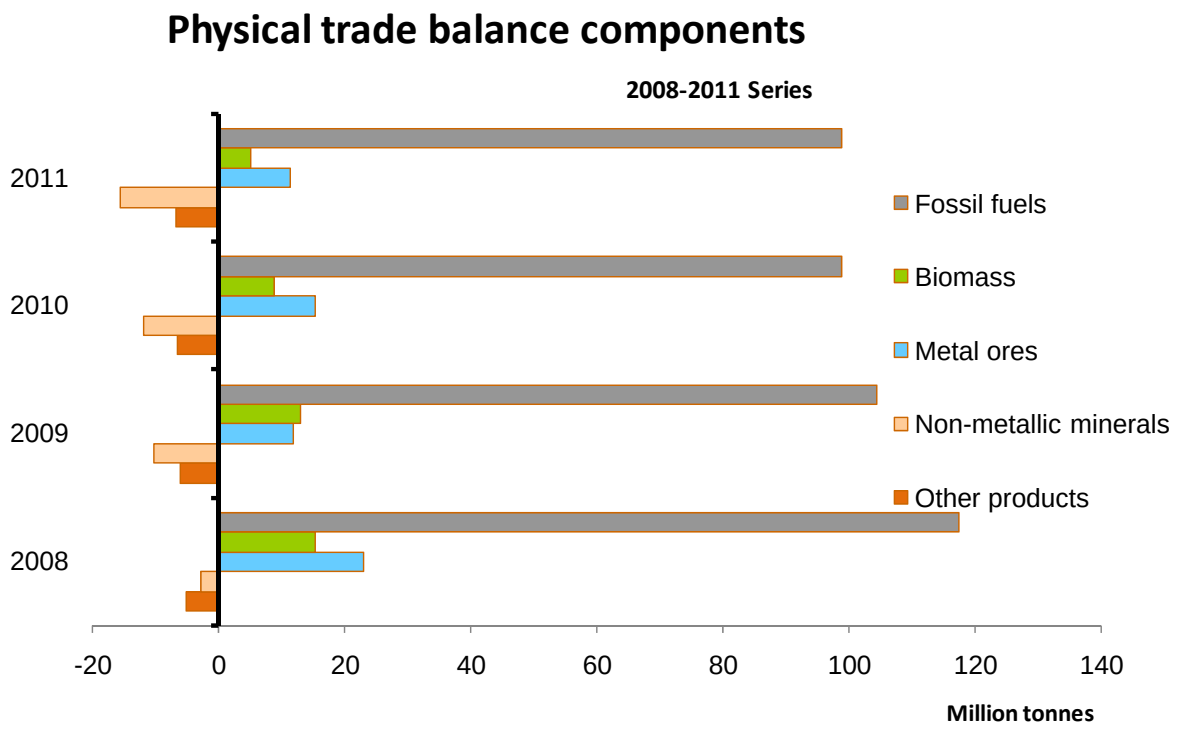
Imports reached 233.4 million tonnes in 2011, as compared with the 140.3 millions tones in exports. The physical balance of trade reached 93.2 million tonnes, a 10.9% less than in 2010.

In the 2008-2011 period, the decrease represented 38.9%.

Components of the Physical Trade Balance. 2008-2011 Series

Unit: Thousand tonnes

	2008	2009	2010	2011
Physical trade balance	**147,714.0**	**113,121.3**	**104,590.3**	**93,160.7**
Fossil fuels	117,388.3	104,525.8	98,821.4	98,850.6
Biomass	15,236.8	13,008.0	8,934.9	5,183.0
Metal ores	23,054.7	11,837.9	15,267.6	11,449.7
Non-metallic minerals	-2,789.6	-10,299.1	-11,822.1	-15,585.4
Other products	-5,176.2	-5,951.3	-6,611.5	-6,737.2



Indicators derived from Material Flow Accounts

The main indicators derived from the Material Flow Accounts are Resource Productivity and Domestic material consumption per inhabitant.

Resource Productivity refers to the quantity of GDP created per domestic material consumption unit, in euro per tonne. We use the ratio between GDP and domestic material consumption, which enables to understand the behaviour of the economy in relation to the environment.

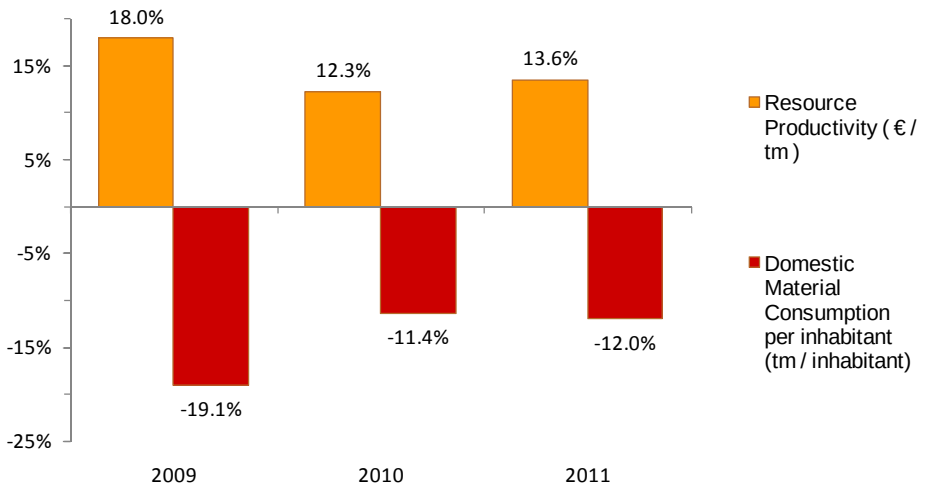
In 2011, it reached 2,022.5 euros per tonne of materials, with a 13.6% decrease as compared with the previous year. In the 2008-2011 period, the resource productivity increased 50.4%.

The **Domestic consumption of materials per inhabitant** may be observed by relating the domestic material consumption with the size of the population. The average consumption of materials decreased 11.2 tonnes per inhabitant in 2011, 11.8% less than in 2010. In the 2008-2011 period, there was 36.7% decrease.

Material flows indicators. 2008-2011 Series.

	2008	2009	2010	2011
Resource productivity (€ / tm)	1,344.6	1,586.3	1,781.2	2,022.5
Domestic Material Consumption (DMC) (tm / inhabitant)	17.7	14.4	12.7	11.2

Material flows. Interannual variation rates.



Methodological note

The ***Environmental Accounts*** (EA) are a synthesis statistical option 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 2011, 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 for the first time includes a module of such accounts for their annual dissemination.

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 usually an increase of the need of materials, such as the ones for construction and energy resources, which is 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.

- *Domestic material consumption* *is obtained by d*educting 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 account.