Instituto Nacional de Estadística

Press Release

13 November 2019

Environmental accounts
Physical Energy Flow Accounts
Year 2017

The consumption of energy products by households as final consumers increased 1.9% in 2017

The total supply of energy products grew 5.1% as compared to 2016 and domestic production increased by 5.5%

In 2017, the total energy flows amounted to 20,064.0 thousand terajoules (TJ), representing an increase of 5.1% compared with the previous year.

Origin of physical energy flows

Physical energy flows originate in the environment (natural energy resources), in production and import (energy products) and in the consumption and accumulation of energy waste.

According to their origin, the natural energy resources extracted from the environment reached 1,387.9 thousand TJ in 2017, 0.1% more than in 2016.

On the other hand, the supply of energy products amounted to 13,368.1 thousand TJ, 6.6% more than in the previous year (of this figure, 7,640.5 thousand TJ corresponded to domestic production and 5,727.7 thousand TJ to imports).

Finally, the energetic residue produced (mainly heat dissipated in combustion processes) increased by 2.8%, up to 5,306.6 thousand TJ.

Origin of the energy. 2017

	Total (Thousand TJ)	Over total %	Annual change %
Natural energy inputs	1,389.3	6.9	0.1
Energy products	13,368.1	66.7	6.6
Energy residuals	5,306.6	26.4	2.8
Total	20,064.0	100.0	5.1

Domestic production of energy products accounted for 57.2% of the total supply of this type of physical flow, 5.5% more than in 2016. Meanwhile, imports represented 42.8%, with an increase of 8.1%.

By type of energy product, the highest production corresponded to *Coke and refined petroleum products* (56.6% of the total), *Extractive industry products* (23.7%) and *Electric power and heat* (15.0%).

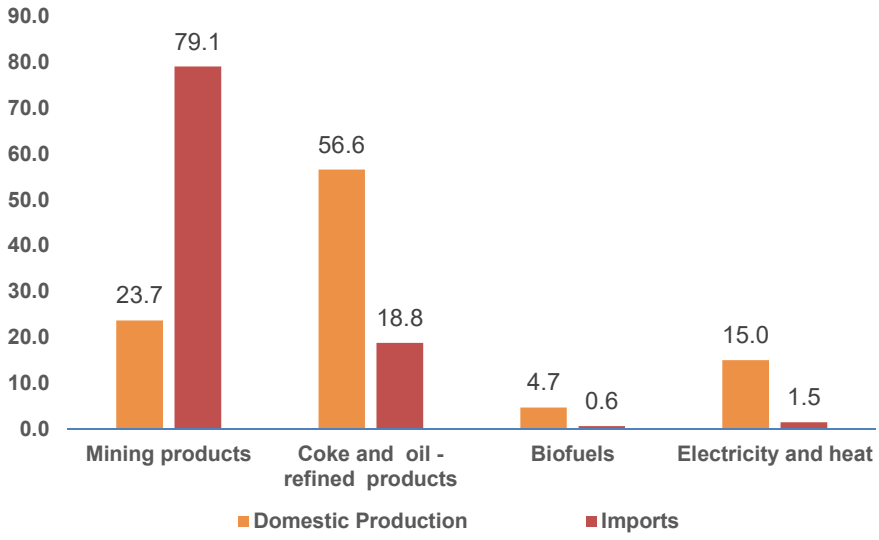
The energy products with the greatest weight in imports were *Extractive industry products* (79.1% of the total) and *Coke and refined petroleum products* (18.8%).

On the other hand, the imports with the lowest weight were *Electric power and heat* (1.5%) and *Biofuels* (0.6%).

Energy products by type and origin. Year 2017

	Domestic Production			Imports		
	Amount (Thousand TJ)	Over total %	Annual change %	Amount (Thousand TJ)	Over total %	Annual change %
Energy products	7,640.5	100.0	5.5	5,727.7	100.0	8.1
Mining products	1,814.3	23.7	5.5	4,531.6	79.1	7.4
Coke and oil - refined products	4,321.5	56.6	6.2	1,074.0	18.8	10.9
Biofuels	355.8	4.7	5.5	36.6	0.6	16.9
Electricity and heat	1,148.9	15.0	3.1	85.5	1.5	8.8

Origin of energy products. 2017 Percentage



The destination of physical energy flows

The branches of activity of the economy used 57.7% of the total physical energy flows in 2017, representing an increase of 4.7% as compared to the previous year. Of this intermediate energy consumption, 87.5% were *Energy products*, 12.0% *Natural energy resources* and 0.5% *Energy waste*.

On the other hand, households as final consumers of energy products consumed 6.6% of the total, with an increase of 1.9% compared with the previous year. Exports, which accounted for 9.2% of the total, increased by 5.2%.

Finally, 25.5% of the total physical energy flows were emitted to the environment, mostly as energy losses (dissipated heat) due to different production processes and final consumption activities. These physical flows of energy destined for the environment increased by 3.8% compared to 2016.

Energy destination. Year 2017

	Total (Thousand TJ)	Over total %	Annual change %
Industries	11,569.8	57.7	4.7
Households	1,318.8	6.6	1.9
Exports	1,847.1	9.2	5.2
Environment (energy residuals)	5,122.8	25.5	3.8
Accumulation[1] and statistical differences	205.5	1.0	..
Total	20,064.0	100.0	5.1

1. Changes in stocks

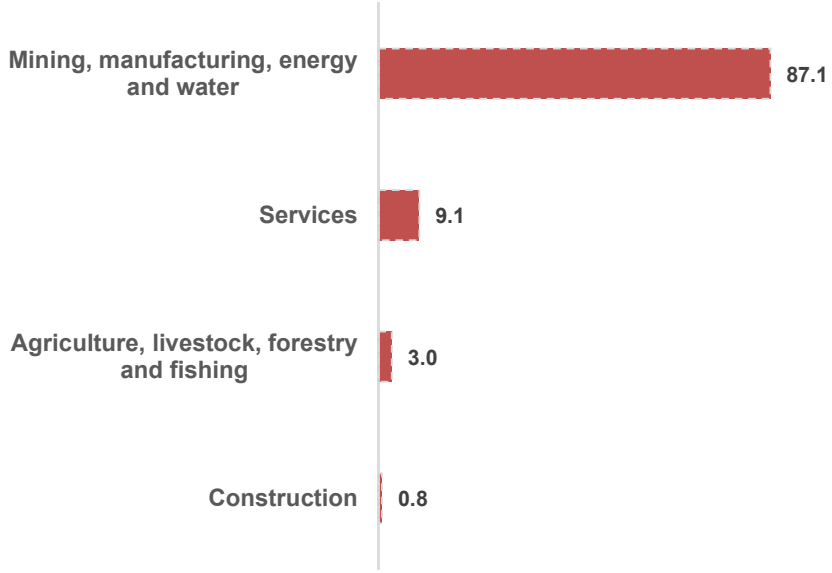
By branch of activity, the economic sectors that consumed the most *Energy products* were *Extractive, manufacturing and energy and water industry* (with 87.1% of the total) and *Services* (10.6%).

Energy destination by type of energy flow and activity branch. Year 2017
Unit: thousand terajoules

	Agriculture, livestock, forestry and fishing	Over total %	Mining, manufacturing, energy and water	Over total %	Construction	Over total %	Services	Over total %	Total
Total	349.5	3.0	10,072.0	87.1	76.6	0.8	1,071.7	9.1	11,569.8
Natural energy inputs	201.7	14.5	1,187.5	85.5	0.0	0.0	0.0	0.0	1,389.3
Energy products	147.8	1.5	8,826.6	87.1	76.6	0.8	1,071.7	10.6	10,131.4
Energy residuals	0.0	0.0	57.9	99.0	0.0	0.0	0.7	1.0	58.5

Of the total energy used, 87.1% went to the *Extractive, manufacturing and energy and water* industry and 9.1% to the *Services* sector.

Distribution of physical energy flows by branch of activity. Year 2017. Percentage



Physical trade balance of energy products

The physical trade balance (or difference between exports and imports of energy products) had a negative result of 3,880.7 thousand TJ in 2017.

By components, imports of *Extractive industry products* represented 79.1% of the total, while exports represented 6.0%, resulting in a negative balance of 4,420.3 thousand TJ.

The energy products that generated a positive trade balance were *Coke and refined petroleum products* (547.1 thousand TJ) and *Biofuels* (25.5 thousand TJ).

Physical trade balance components of energy products. 2017
Unit: thousand terajoules

	Physical trade balance	Imports	Over total %	Exports	Over total %
TOTAL	-3,880.7	5,727.7	100.0	1,847.0	100.0
Products of the mining industry	-4,420.3	4,531.6	79.1	111.3	6.0
Coke and oil - refined products	547.1	1,074.0	18.8	1,621.1	87.8
Biofuels	25.5	36.6	0.6	62.1	3.4
Electricity and heat	-33.0	85.5	1.5	52.5	2.8

Data review and update

The data published today are provisional and will be revised when next year's data are released.

Methodological note

The objective of the Environmental Accounts (EA) is to coherently integrate environmental information into the central system of National Accounts. They include a set of satellite accounts, with annual transmission, compiled using the accounting formats applicable to the different sectoral and territorial areas, with a strong presence of physical data. They show the interaction between the economy, households and environmental factors.

The Physical energy flow accounts record flows of energy from the environment to a country's economic system, within the economic system, and from the economic system to the environment. It also calculates the flows of energy products with the rest of the world (imports and exports). These accounts make it possible to obtain a set of aggregate indicators on the origin and destination of natural energy resources which enable the evaluation of energy and environmental sustainability in economic development.

For more information you can access the methodology at:
http://www.ine.es

And the standardised methodological report at:
http://www.ine.es/dynt3/metadatos/en/RespuestaDatos.html?oe=30063