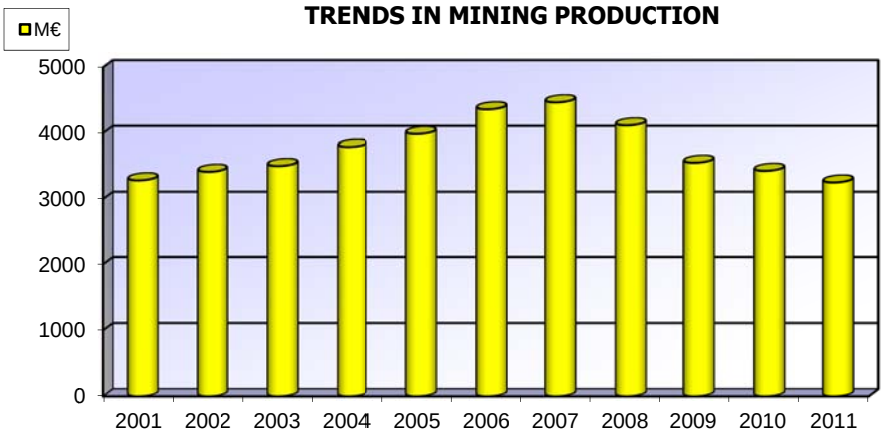
MINING IN SPAIN 2011- SUMMARY

DOMESTIC MINING

1.1.- Mining production

Ex-works Spanish mining production in 2011 reached 3250 M€, 5.2% less than previous year.



The economic crisis seems to maintain its effects, particularly in those sectors related with the construction industry.

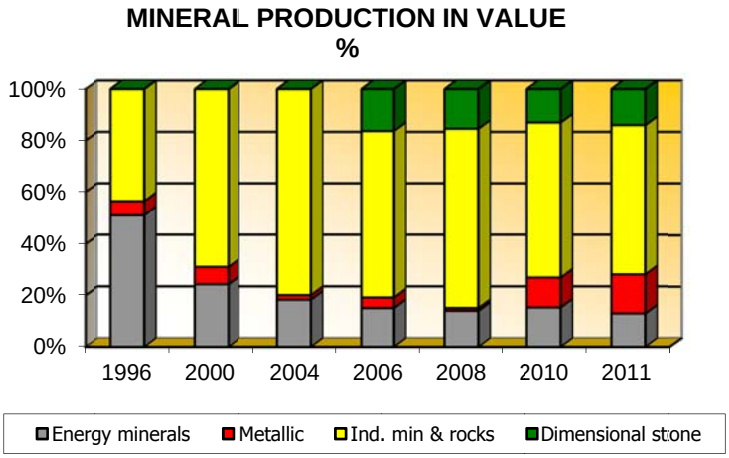
With regards to energy minerals, coal mining keeps its reduction trend, due to the progressive closures of exploitations and drastic job cuts. In 2011 production drop has been even sharper than in previous years.

The production of metallic minerals has experienced an important growth due to the reopening of several mines, although this has not been sufficient to compensate the losses experienced by other sectors. The dimensional stone sub-sector has slightly increased its production value.

TABLE I TRENDS IN THE MINING PRODUCTION VALUE (thousand €)

	2007	2008	2009	2010	2011
Energy mineral resources	657 205	574 603	543 623	522 362	418 250
Metallic ores	147 676	45 485	179 416	396 538	492 632
Industrial minerals & rocks	2 979 066	2 859 028	2 339 663	2 064 376	1 882 222
Dimensional stone	681 451	635 691	458 464	443 868	457 198
TOTAL	**4 465 398**	**4 114 807**	**3 549 581**	**3 427 144**	**3 250 302**

Source: Spanish Mining Statistics (value of raw production)



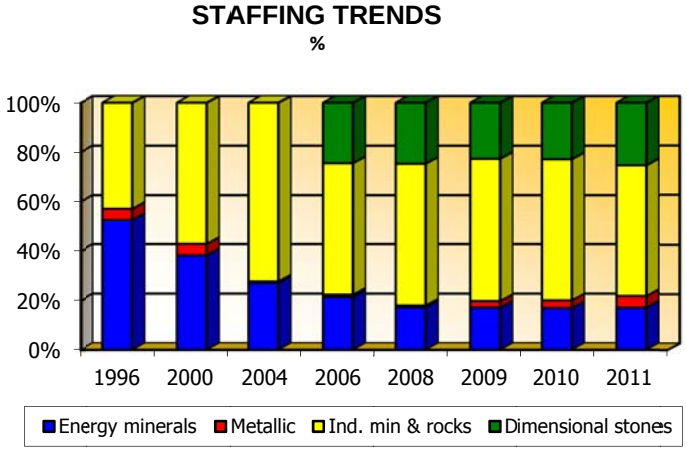
The graph above shows that during this century, the industrial minerals and rocks sector[1] has been the most important mining sector in terms of value, due to the great number of substances included and the numerous works in operation. Energy minerals have slowly dropped in terms of production value, a trend that will probably be maintained in the future. Metallic mining is regaining relative weight overall.

The five-years trend of the mining staffing is included in table II. Employment has dropped in the last year in all sectors, except in the metallic sector, in accordance with the halting or closure of many exploitations.

TABLE II TREND IN MINING STAFFING

	2007	2008	2009	2010	2011
Energy mineral resources	6 930	5 969	5 427	4 948	4 180
Metallic ores	168	241	837	904	1 159
Industrial minerals & rocks	20 130	19 926	18 286	16 811	12 973
Dimensional stone	9 380	8 547	7 163	6 708	6 167
TOTAL	**36 608**	**34 683**	**31 713**	**29 371**	**26 745**

Fuente: Spanish Mining Statistics



In 2011, subcontracting has been about the same in terms of total employment although it has slightly increased in percentage.

[1] Up until 2005 the dimensional stones are included in industrial minerals & rocks sector

TABLE II bis PERMANENT/SUBCONTRACTED STAFF

	2010			2011		
	Subcontracted	Permanent	Total	Subcontracted	Permanent	Total
Energy mineral resources	1 628	4 948	6 576	1 862	4 180	6 042
Metallic ores	1 069	904	1 973	1 361	1 159	2 520
Industrial minerals & rocks	4 839	16 811	21 650	4 438	15 539	19 677
Dimensional stone	791	6 708	7 499	856	6 167	7 023
TOTAL	**8 327**	**29 371**	**37 698**	**8 517**	**26 745**	**35 262**

Fuente: Spanish Mining Statistics

Table II bis shows that it is in the metallic ores sub sector where subcontracting represents the higher % of employment (54%) followed by the energy mineral resources sector. In the dimensional stone sector, permanent staff is higher than the subcontracted staffing.

Table III includes the trend in number of operations in production 2007-2011.

TABLE III TRENDS IN NUMBER OF OPERATIONS

	2007	2008	2009	2010	2011
Energy mineral resources	62	53	46	46	44
Metallic ores	2	3	6	6	7
Industrial minerals & rocks	3 301	3 213	3 058	2 886	2 715
Dimensional stone	917	845	742	674	635
TOTAL	**4 282**	**4 114**	**3 852**	**3 612**	**3 411**

Fuente: Spanish Mining Statistics

Table IV shows a detailed mining production trends 2007-2011 including most of the minerals resources produced in Spain.

TABLE IV DETAILED MINING PRODUCTION TRENDS

	2007	2008	2009	2010	2011
Anthracite (t)	3 485 083	3 148 603	4 060 539	3 212 603	2 489 797
Coal (t)	4 387 416	4 156 918	2 894 325	2 776 918	1 774 992
Sub. bituminous coal (t)	3 128 081	2 896 654	2 493 647	2 443 677	2 358 930
Brown lignite	6 208 581	---	---	---	---
Oil (t)	142 879	127 286	106 817	121 528	99 925
Natural gas 10^3 Nm^3	22 267	21 732	18 944	58 425	57 687
Copper (t contained)	---	--	141 810	36 245	75 064
Tin (kg)	529	3 889	214	124	8 699
Nickel (t concentrate)	91 146	115 665	119 035	94 282	---
Gold (kg)	--	-	--	--	529
Silver (kg)	---	--	--	413	9 182
Lead (t mineral)	---	--	80	379	7 813
Tungsten (t WO_3 concentrate)	---	194	284	303	425
Speciality clays (t)	889 596	919 541	742 137	742 704	703 022
Barite (t)	26 770	11 110	5 212	2 050	---
Kaolin (t)	486 428	355 739	261 298	298 993	661 587
Celestine (t)	141 100	138 590	57 466	83 035	97 102
Diatomite (t)	47 820	46 192	29 194	64 346	83 624
Feldspar (t)	683 134	690 256	597 496	691 894	662 418
Fluorspar (t)	155 197	148 736	122 408	132 341	117 333

Sodium sulphate (t)	1 096 096	1 103 572	1 200 514	1 280 767	1 156 045
Lithium (t lepidolite)	10 326	9 342	4 270	7 825	---
Magnesite (raw) (t MgO)	464 498	442 339	390 311	462 959	577 725
Mica (t)	5 569	4 254	3 655	4 034	3 775
Iron pigments (t)	123 287	112 218	45 520	29 808	92 122
Pumice (t)	879 383	567 415	436 542	432 364	303 462
Potash (t K_2O)	474 287	472 952	481 455	418 778	436 026
Salt (t)	4 144 429	4 303 088	4 201 723	4 451 302	4 503 772
Industrial silica (t) e	5 081 522	4 000 000	2 612 942	2 612 942	4 962 478
Talc (t)	78 042	59 299	47 218	51 897	11 957
Peat (t)	87 167	81 225	58 678	64 962	86 571
Common clay (t)	46 000 000 e	32 000 000 e	13 294 900	12 185 240	9 267 360
Aggregate (kt) (1)	479 000	332 200	235 000	271 300	204 183
Calcium carbonate (t) e	3 000 000	3 000 000	3 000 000	3 000 000	sd
Industrial dolomite (t)	1 333 773	1 790 757	1 190 376	1 209 000	875 000
Dunite (t)	1 379 395	1 434 671	1 660 555	1 469 999	1 237 209
Granite (t)	1 914 779	1 571 090	1 271 698	1 093 101	901 013
Marble (t)	4 666 847	3 538 628	2 359 765	2 448 914	721 984
Roofing slate (t)	943 365	877 341	611 073	581 529	642 102
Other dimensional stone (t)	482 303	489 550	344 952	304 096	254 899
Cement raw materials (t) (2)	54 284 252	46 421 076	38 632 596	36 855 497	28 670 093
Gypsum (t)	14 535 422	11 768 907	8 181 315	6 990 249	7 825 747

Sources: IGME, based in Spanish Mining Statistic data
1) National Aggregate Association (ANEFA) ;(2) Spanish Cement Association (OFICEMEN);e: IGME estimates

Follows a detailed revision of the mining subsectors.

1.1.1.- Energy minerals

Table V includes mineral production of each substance. In the last three years the production trend has been:

TABLE V ENERGY MINERALS PRODUCTION TREND (thousand €)

	2009	2010	2011	Variation 11/10 (%)
Anthracite (t)	265 347	221 132	167 952	-24,1
Coal (t)	160 281	158 121	110 407	-31
Sub. bituminous coal (t)	78 537	80 428	83 352	3,6
Total coal	504 165	459 681	361 711	-21,3
Oil	34 712	46 741	41 198	-11,9
Natural gas	4 746	15 939	15 342	-3,8
TOTAL	**543 623**	**522 361**	**418 251**	**-20**

Fuente: Spanish Mining Statistic (mining sales)

Total coal resources production experienced a sharp drop, both in value (-21,3%) and in tonnage.

Oil and gas production, on the contrary, have maintained previous years levels, albeit the value has slightly dropped.

1.1.2.-Metallic minerals

As commented above, metallic minerals are recovering its overall weight in the national mining industry. The number of active operations is low, with only 7 mines in production, but the value of the exploited ores is high due to the high market values of metals.

The two operating Pyrite Belt mines (Aguas Teñidas and Las Cruces) have increased their production rate, yielding higher copper amounts, and in the case of the complex sulphides mine, also zinc, lead and silver concentrates.

TABLE VI METALLIC MINERALS PRODUCTION VALUE (thousand €)

	2009	2010	2011	Variation 10/09 (%)
TOTAL	**179 416**	**396 538**	**492 632**	**24,3**

Fuente: Spanish Mining Statistic

Tungsten and tin-tungsten mining has also increased production, although up until now production is not really high (San Finx and Los Santos mines).

The reopening of the gold mining in the Valle-Boinás-Carles region in Asturias, has resulted in a recovery of gold production in the last quarter of the year -as well as some copper and silver- which was halted since 2007.

The only negative note in this sector was the temporal closure of the extraction of copper-nickel in Extremadura, due to technical problems in the Aguablanca mine.

Many other metallic mining projects are now being developed, thus the future of metallic mining in Spain seems promising.

1.1.3.-Industrial minerals & rocks

Spain is a very relevant player in the global industrial minerals & rocks market. Is currently the sole European sodium sulphate producer, hosts 70% of the known world resources of sepiolite, is the 1st European fluorspar producer, the 5th gypsum world producer and 1st in Europe, 2nd world producer of celestine and only European producer and also has the biggest feldspar sand reserves in the whole Europe.

In general terms, those minerals not directly related to the construction sector maintain their production levels, but those related to construction show a clear reduction trend in production.

Table VII shows the production of the most relevant minerals & rocks

TABLE VII INDUSTRIAL MINERALS & ROCKS PRODUCTION VALUE TRENDS (thousands €)

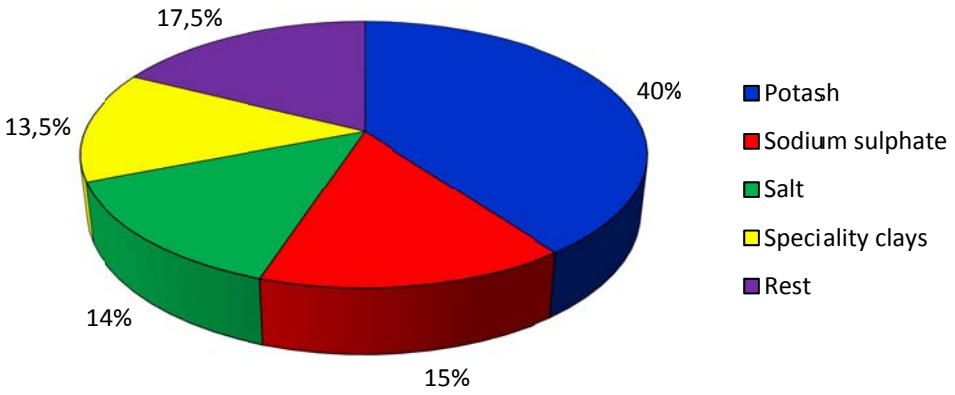
	2009	2010	2011	Variación 11/10 (%)
Potash (e)	307 090	263 300	300 700	14,2
Speciality clays	98 370	103 388	100 717	-2,6
Salt	99 383	101 749	104 720	2,9
Sodium sulphate	98 271	114 081	115 700	1,4
Gypsum	51 583	38 169	51 258	34,3
Kaolin	17 518	22 224	24 522	10,3
Feldspar	17 703	21 046	18 977	9,8

Magnesite (e)	14 200	15 272	15 900	4,1
Industrial silica	47 539	61 861	66 100	6,8
Fluorspar	10 921	12 030	11 960	-0,6
Talc (e)	6 700	7 000	2 500	-64,3
Celestite (e)	3 000	4 500	4 900	8,9
Aggregates (e)	1 550 000	1 350 000	1 160 000	-14,0
Industrial dolomites (e)	10 000	9 672	6 151	-35,5
Cement raw materials *(e)*	200 000	182 270	168 000	-7,8
TOTAL	**2 532 278**	**2 306 562**	**2 152 105**	**-6,7**

Fuente: IGME, based in Spanish Mining Statistic, Associations and enterprises data
(e): IGME estimates

As shown in Table VII, the production value of industrial minerals & rocks in Spain has dropped 6,7%. In the specific case of talc, the sharp national production drop is due to the closure of the exploitation in Leon. The rest of minerals not related to construction have greatly improved in most cases. The graph clearly shows that four minerals represent 80% of the production value.

Industrial minerals

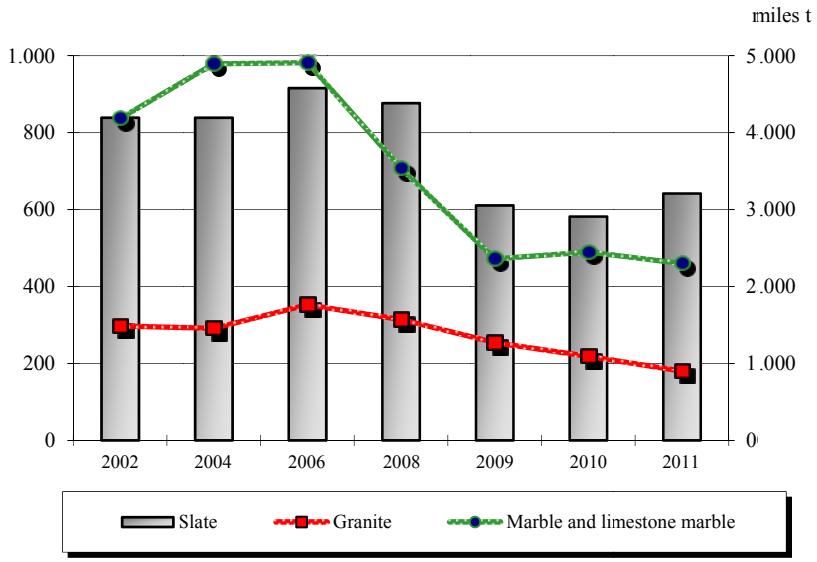


The construction crisis, which resulted in a drastic reduction of the construction of buildings, civil works and all other subsectors, has clearly affected to the production of aggregates and the manufacture of fired clay products (bricks and roof tiles), all other ceramics and cement. Cement, whose general production trend runs parallel to the GDP evolution, has dropped so sharply that the last production data are similar to those in the 80s, lowest in the last 40 years.

1.1.4. Dimensional stone

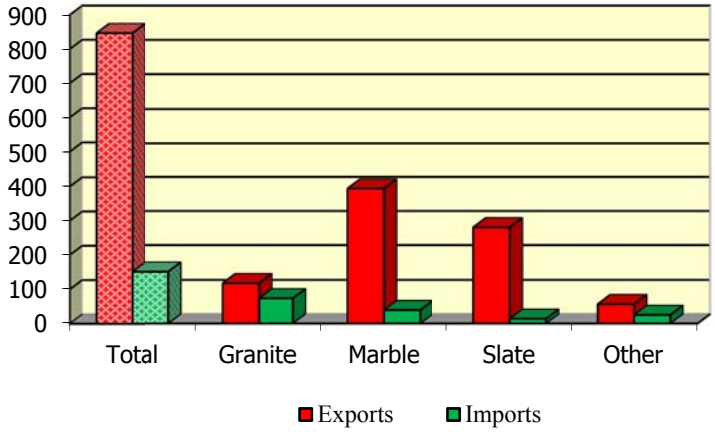
Sealable dimensional stone production, reached in 2011, 457 M€, slightly higher than 2010. In terms of tonnage, only roofing slate has clearly recovered part of the production, the rest of the subsectors have continued falling, although slightly less than at the beginning of the crisis. Internal demand has maintained its downward trend, and only thanks to exports the exploitations are mantained open.

NATURAL STONE PRODUCTION



During 2011, the external trade balance of the natural stone sector reached 695,4 M€, thus this industry is vital for the Spanish economy. The graph below shows the weight of exports versus imports of natural stone.

EXTERNAL TRADE M€



2.- INTERNATIONAL TRADE

Table VIII summarizes the value in €x1000 of imports and exports in 2010 and 2011of minerals and rocks on one side and of the rest of mineral raw materials (1st transformation products, metals and semi elaborated products), and the global balance.

TABLE VIII – INTERNATIONAL TRADE OF INDUSTRIAL MINERALS & ROCKS AND OTHER MINERAL RAW MATERIALS 2010-2011

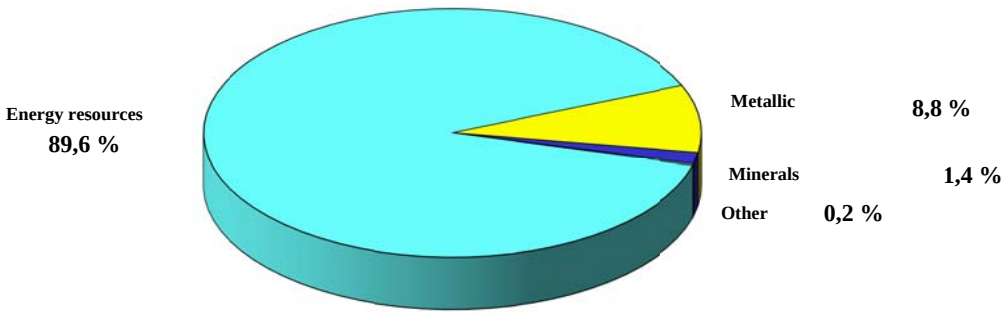
IMPORTS (10^3 €)						
	2010			2011		
	Mineral &	Other MRM.	Total	Mineral &	Other MRM.	Total

	rocks			rocks		
Energy resources	31.669.734,7	12.762.456,6	44.432.191,3	40.586.680,9	16.068.678,6	56.655.359,5
Metallic minerals	3.278.953,7	7.234.503,0	10.513.456,7	3.997.155,0	8.899.061,9	12.896.216,9
Industrial minerals	502.003,0	1.003.243,1	1.505.246,1	622.175,5	1.301.880,1	1.924.055,6
Dimensional stone.	80.363,4	106.208,8	186.572,2	76.107,9	75.142,3	151.250,2
Other quarry products	23.270,4	134.100,2	157.370,6	19.889,9	86.646,6	106.536,5
Mineral natural waters	7.576,8	–	7.576,8	8.504,2	–	8.504,2
TOTAL	**35.561.902,0**	**21.240.511,7**	**56.802.413,7**	**45.310.513,4**	**26.431.409,5**	**71.741.922,9**
EXPORTS (10^3 €)						
	2010			**2011**		
Energy resources	162.443,3	9.333.238,6	9.495.681,9	345.749,5	13.151.013,6	13.496.763,1
Metallic minerals	464.932,6	6.827.112,1	7.292.044,7	1.083.747,9	9.510.663,3	10.594.411,2
Industrial minerals	657.336,4	576.522,5	1.233.858,9	783.236,1	600.214,9	1.383.451,0
Dimensional stone.	249.573,5	538.260,2	787.833,7	269.255,5	577.303,0	846.558,5
Other quarry products	72.910,6	343.473,5	416.384,1	74.433,8	356.420,2	430.854,0
Mineral natural waters	10.017,7	–	10.017,7	10.385,3	–	10.385,3
TOTAL	**1.617.214,1**	**17.618.606,9**	**19.235.821,0**	**2.566.808,1**	**24.195.615,0**	**26.762.423,1**
BALANCE (I – E)	**33.944.687,9**	**3.621.904,8**	**37.566.592,7**	**42.743.705,3**	**2.235.794,5**	**44.979.499,8**

Source: IGME based on Foreign Trade Statistics of Spain (AEAT)

The value of raw materials international trade increased considerably in 2011, but this was not due to an increasing demand, but to a sharp rise in the prices of most of them, particularly energy resources and metallic ores. The value of imports rose a 26,3 % in 2011 and exports grew 39,1%.

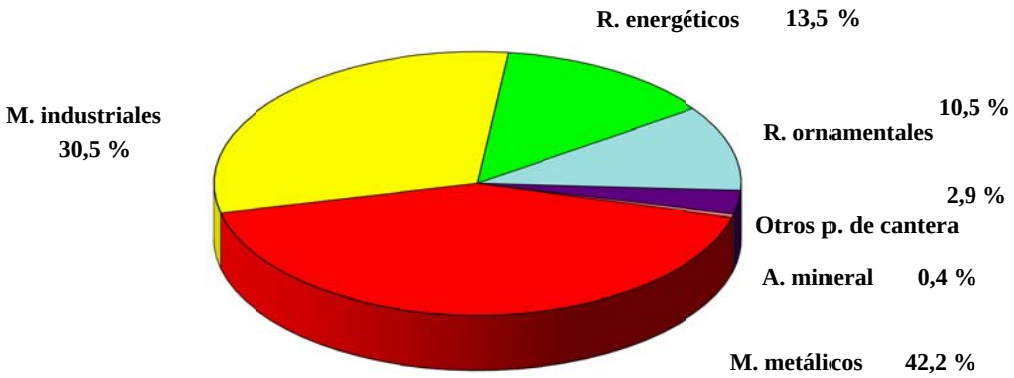
The value of imports of minerals and rocks which added up 63,2% of the total rose 27,4% in 2011, with cuts in the products related to construction (dimensional stone, – 5,3%; other quarry products, – 14,5%), and rises in the rest: 28,1% in the purchases of energy resources, 21,9% in metallic ores, 23,9% in industrial minerals & rocks 12,2% in mineral waters. The graph below shows the percentage composition of imports of minerals and rocks. Natural stone represented only 0,17%, other quarry products represented 0,04% and mineral water 0,02%.



Imports of minerals and rocks 2011

The value of mineral and rocks exports (9,6% of the total) rose 58,7% in 2011, and experienced increases in all chapters: energy resources, 114,1%; metallic ores, 133,1%; industrial minerals, 19,1%; dimensional stone, 7,9%; other quarry products, 2,1%, and natural waters, 3,7%. In percentage, sales where leaded by metallic ores surpassing industrial minerals

in the first place, followed by energy resources, dimensional stone, other quarry products and mineral waters.

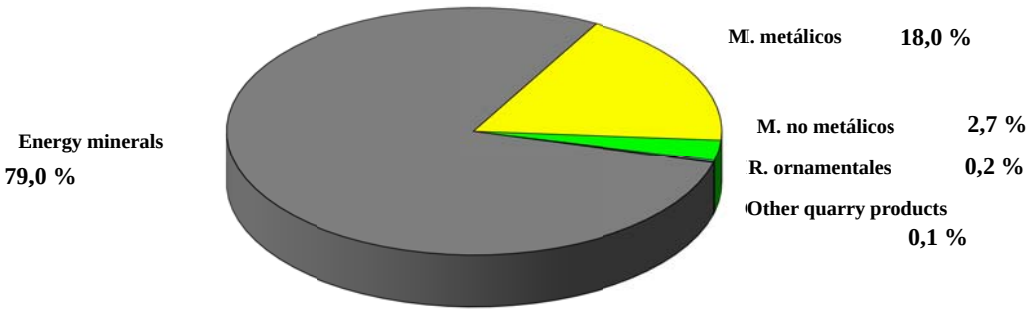


Minerals and rocks exports 2011

The increase of imports with respect to exports resulted in a notable increase of the negative balance, which reached 44 979,500 M€, 19,7% higher than in 2010. Such deficit was generated by the energy resources and metallic and industrial minerals, while dimensional stone, other quarry products and mineral water showed a partial positive balance (Table).

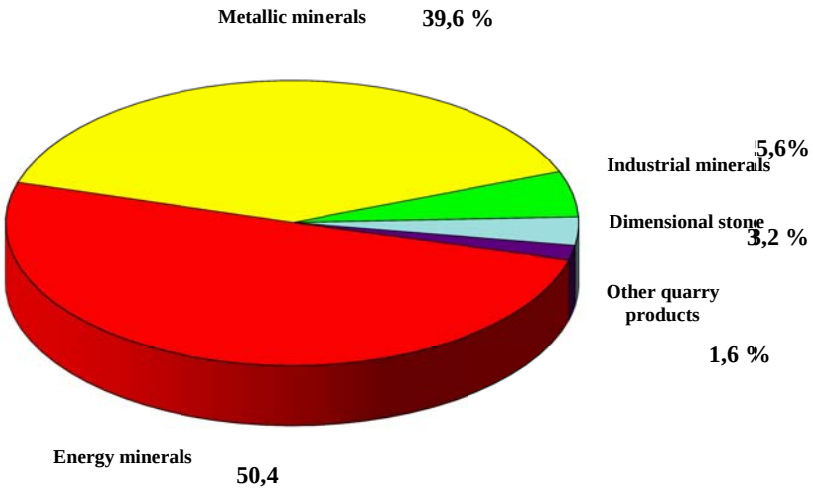
If we analyze mineral raw materials as a whole, we can see that imports of intermediate and semi elaborated products multiplied by 1,58 in 2011 (1,60 in 2010). Such relative relevance of exports of semi elaborated meant that the global deficit in 2011 (44 979,500 M€, 19,7% higher than in 2010), was only 5,2% higher in 2011 (10,7% en 2010) to that of minerals and rocks. Dimensional stone, other quarry products and mineral water (table) showed a surplus.

Import of mineral raw materials was similar to that of minerals, except that the participation of energy resources was softened by the higher relevance of metallic ores and by the even higher relevance of industrial minerals. Mineral waters were only 0,01% of the total. Altogether 2011 saw an increase of 26,3%, which meant that in view of the already commented increase in imports of minerals and rocks, the rest of mineral raw materials rose only 24,4%. Energy minerals rose 27,5%, metallic minerals 22,7%, industrial minerals 27,8% and mineral waters 12,2%, but dimensional stone dropped 18,9% and other quarry products 32,3%.



Imports of mineral raw materials 2011

Exports of mineral raw materials shows a similar structure to that of minerals, leaded by energy minerals, followed by metallic and industrial minerals, mineral waters only represented 0,04%. Altogether imports rose 39,1% in 2011 (58,7% in minerals and 37,3% in other raw materials), with increases in all chapters: energy 42,1%, metallic minerals 45,3%, industrial minerals 12,1%, dimensional stone 7,4%, other quarry products 7,4% and mineral waters 3,7%.



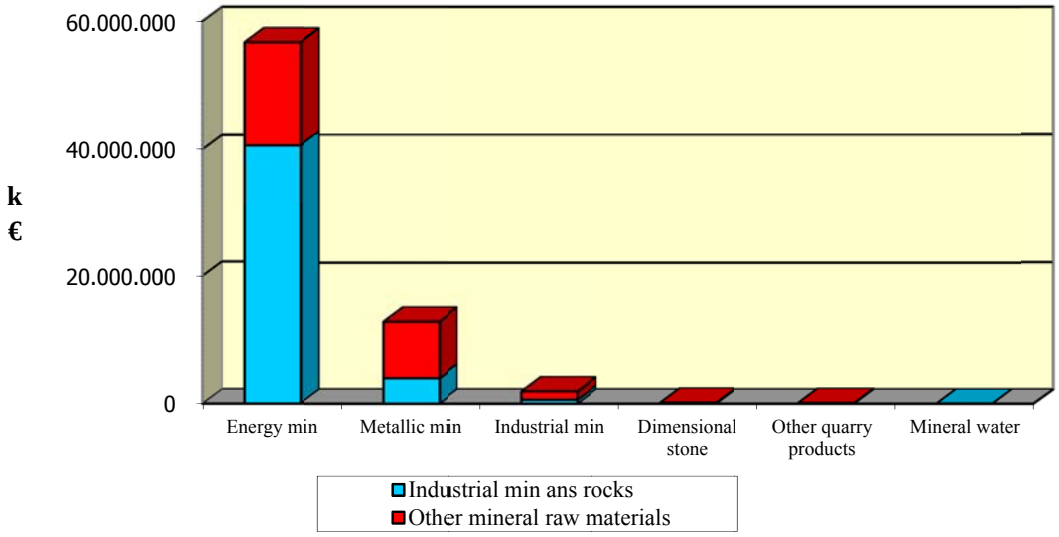
Exports of mineral raw materials 2011

TABLE IX INTERNATIONAL TRADE BALANCE 2011 (x10³ €)

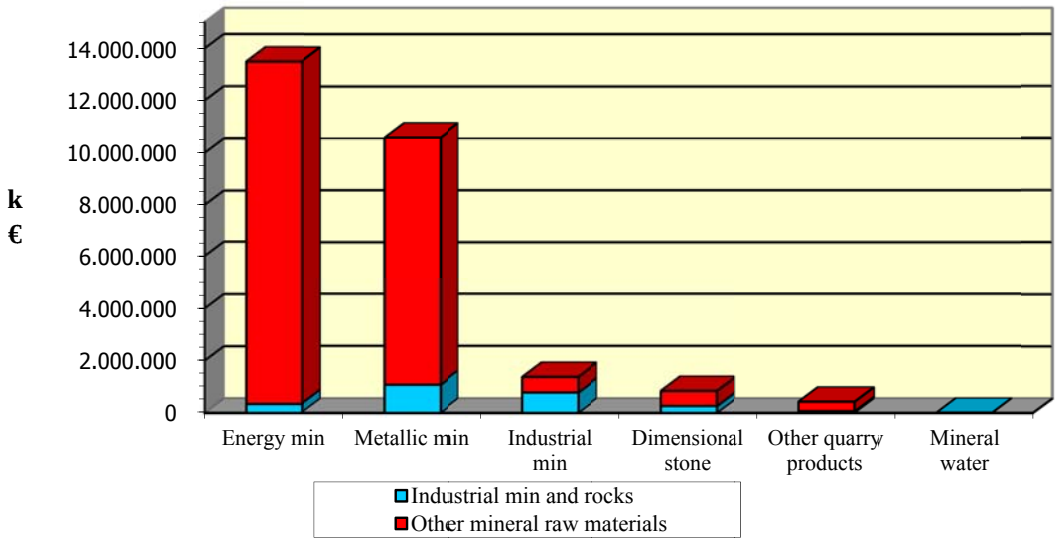
	Minerals & rocks	Other mineral raw materials	Total	Δ 11/10
Energy resources	–40 240 931,4	–2 917 665,0	–43 158 596,4	23,5%
Metallic minerals	–2 913 407,1	+611 601,4	–2 301 805,7	–28,5%
Industrial minerals	+161 060,6	–701 665,2	–540 604,6	99,2%
Dimensional stone.	+193 147,6	+502 160,7	+695 308,3	15,6%
Other quarry products	+54 543,9	+269 773,6	+324 317,5	25,2%
Mineral natural waters	+1 881,1	–	+1 881,1	–22,9%
TOTAL	–42 743 705,3	–2 235 794,5	–44 979 499,8	19,7%

Source: IGME

The following figures show graphically the value of imports of the six groups of substances considered and the relative importance that minerals and rocks have over the rest of groups



Imports of minerals and other raw materials 2011



Exports of minerals and other raw materials 2011