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Production data and best available estimates for various mineral commodities produced in Greece in the years 2009 and 2010 are listed in the following table.

Reported values relating to mineral production are combined data from a) the statistics kept by the Mineral Resources Policy Directorate of the Ministry of Environment, Energy and Climate Change (YPEKA) and b) the annual statistics kept by the Mining Enterprises Association (SME).

For the first time after a long period of positive economic growth which stimulated increased output, in 2009 the minerals industry experienced a significant decline in production and sales. This decline followed the sharp fall in demand of raw materials in the construction field, including steel, cement and concrete. Production levels of mineral commodities in Greece during 2009 have been reduced, varying from 20-30% and sometimes more than 50%, below the 2008 numbers.

2010 was also a negative year as the recession continued and was deepened by the severe financial problems of the country and the lack of investment initiatives. More specifically, there was a drop by 20% in aggregate production output and a significant drop in production of gypsum, silica and pozzolan (a decade low record of around 500 tonnes) due to shrinkage of domestic building and construction activity, which exceeded a drop of 40%. Also, there was a significant drop in output in the pottery industry, products of cement/concrete, and products of attapoulgite clay, while pumice remained at the low levels of 2009 (producing less than 500 thousand tn).

However, the industrial minerals sector, predominantly export sector, which had a severe downturn in 2009, soared to a significant extent above the earlier levels, mainly due to the improvement presented by the international commodity markets: A 40% increase in production of bentonite, 60% in production of huntite/hydromagnesite (crude product), a significant increase in quartz products, and a first-ever recorded even rudimentary increase (300 tonnes) in zeolite production from reservoir of Petrota Evros Thrace (which is known to be among the richest in the

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world). Production in perlite was back at 800 thousand tn, but with obvious signs of crisis that mainly concerns its use as building material (approximately 65% of all perlite end uses), while the remaining 30-40% that goes to non-building applications (agricultural, insulation, foundry, filtration, etc.) did not indicate any decrease in production. Pozzolans with specific properties (e.g., for special building mortars, fillers, etc.) showed a significant increase, despite their prices approaching the 80 thousand tonnes.

Also encouraging was the small-scale mining in diatomite ore (1500 tn for research purposes from the region Sarantaporou-Elassona Central Greece), a mineral that laboratory tests indicate is an excellent material for both absorbent and lightweight building material.

In 2010, the results of basic metal production of primary non-ferrous metals (alumina/aluminum and ferronickel/nickel) significantly increased their production and export activity in all the individual products. The production of Al approached 140 tn, absorbing 80% of Greek production of bauxite ore and achieving profitable use (30 million € profit before taxes). During the year 2010, the share of exports in total sales of aluminum products from Aluminium SA increased by 10% (from 45% in 2009 to 55% of sales in 2010). In the nickel (Ni) sector, where in 2009 production reached a record low of 8269 tn, we had a serious resurgence of about 40% (approximately 14.000 tonnes in 2010). This was mainly due to increased demand for stainless steel and the reopening of electric furnaces in Larymna ferronickel plants. There was a corresponding increase in production of nickeliferous laterite ore (30% approximately), while the domestic production of bauxite was maintained at around the 2009 levels (around 2 million tn), due to other reasons (delay in obtaining licenses for mining exploitation, court decisions etc.).

Production in mixed sulphide Pb-Zn ores (lead, zinc and iron concentrates) was also maintained at previous levels, while enrichment products (lead sulphide and zinc sulphide concentrates) exported as a whole exceeded a value of 38 million €. There was a significant recovery in production of magnesium compounds (over 18% in dead-burned and caustic-calcined magnesia and refractories) and an encouraging retention in 2009 levels in production of feldspar, olivine, amphibolites and products of calcium.

Emery production (from Naxos island) fell to 7.000 (approximately 10%) in an effort to control the stock of almost 140 thousand tonnes kept in outdoor storage for which unfortunately the market

promotion efforts, either as a crude product or after processing, have not been successful yet.

In 2010, the domestic production of energy minerals ("lignite") decreased by 10% mainly due to reduced production by the Lignite Centre of Western Macedonia, resulting in a return to 2008 level (58.8%) of the participation of lignite in the energy mix on the grid of the country.

There was a significant increase in crude petroleum production (by 25% compared with 2009) mainly because of the new drilling in the deposit of the North Prinos.

Also, despite the large decline in building activity and the serious impact on marble and decorative stones sector during the last two years, the marble sector managed to maintain and improve (about 10%) its positions of 2009. In 2010, production in all marble products (and by-products) exceeded 1 million tonnes, while Greek exports in the marble sector totalled 150 million €.

During 2010, there was a significant intervention of the state (after 27 years of maintaining the earlier status quo) in reforming the Regulation on Mining and Quarrying Activities (KMLE). The draft law on biodiversity was adopted, while in the hydrocarbon sector, a new bill established the National Hydrocarbons Agency. All of above initiatives, together with the issue of integration of the European Initiative for raw materials (RMI), launched or completed to a large extent in 2011.

However, the need for a clear, structured National Minerals Policy remains. This policy should be based on a balanced approach that conserves the environment, while equally recognizing the need for minerals. More specifically, what remains is the necessity of establishing a licensing framework that is as simple, stable and predictable as possible, which would inspire investor confidence and ensure access to mineral resources, while taking into account the peculiarities of mining activity and other sectoral development policies.

For 2011, despite the recession, prospects for recovery have already appeared in the industry globally, leading to strengthening of the export sector of mineral commodities in the global market (industrial minerals, aluminium, nickel, etc.) where demand and prices have largely recovered to pre-crisis levels. At the same time there is a continuing trend toward shrinkage of the domestic market mainly in the literal construction products (aggregates, cement, ceramic, etc.), the reversal of which is unfortunately not anticipated in the near future.

*GREECE: PRODUCTION OF MINERAL COMMODITIES
METALS, INDUSTRIAL MINERALS, MINERAL FUELS AND RELATED MATERIALS*

COMMODITY PRODUCTION	Quantity in Metric tons unless otherwise specified	
	2009	2010
Bauxite	1.935.000	1.993.826
Aluminium, primary (Foundry Line)	134.737 ¹	139.824 ¹
Alumina, calcined (Al ₂ O ₃)	718.797	661.882 ²
Alumina, hydrated (Al ₂ O ₃)	795.500	785.100
Mixed sulphide ore	225.054	230.134 ³
Galena, PbS (metric tons of concentrates)	17.027	17.674
Zinc blend , ZnS (metric tons of concentrates)	34.255	40.592
FeS ₂ (metric tons of concentrates)	116.706	0
Nickeliferous ores (laterites)	1.400.000	1.902.976
Ferronickel:		
Gross weight	42.423	69.596 ⁴
Ni content of ferronickel	8.269	13.956
Slag by-product (coarse)	62.022	57.156
Slag by-product (fine, -5mm)	52.696	59.500
Magnesite, crude	250.234	513.487
Dead-burned magnesia	22.370	31.594
Caustic-calcined magnesia	55.545	61.628
Basic monolithic refractories	31.634	36.031
Bentonite, crude	844.804 ⁵	1.384.118 ⁵
Attapulgitic clay ⁶	81.382 ⁶	39.012 ⁶
Huntite, crude	10.652	16.350
Pozzolan, Santorin earth	830.000	550.000
Pozzolan, specific use (not cement industry)	21532 ⁷	79.600 ⁷
Kaolin, crude	0	1.045
Perlite, crude	862.935 ⁸	790.100 ⁸
Perlite, treated	398.451 ⁹	440.000 ⁹
Pumice	381.000	412.700
Silica (SiO ₂)	37.905	5.742
Gypsum and anhydrite, crude	730.000 ¹⁰	574.768 ¹⁰
Olivine	48.050	35.300
Amphibolite	25.902	23.453
Calcium Carbonate (CaCO ₃), processed all sources	580.000 ¹¹	450.000 ¹¹
Feldspar	28.617 ¹²	17.380 ¹²
Quartz	10.909	30.794
CO ₂ [liquid]	8.000	9.980
Zeolite	NA	200
Lignite	61.800.000	56.366.202
Crude oil, in barrels	628.278	894.002
Natural gas , in NM ³ ¹³	11.123.714	6.124.844
Salt, sea salt	189.000	164.765
Mineral Aggregates (sand, gravel, crushed stones etc.)	65.000.000*	50.000.000*
Marble, rough blocks in cubic meters	255.516	268.033

Marble, rough shapeless blocks	254.491	358.963
Marble chips	761.933	598.111
Emery	8.000	7.000
<i>NA: not available, *: estimated</i>		(source: MinEnv, SME)

¹ electrolysis line 129.774 tonnes (for 2009) and 136.765 tonnes (for 2010)

² drop compared with 2009 production due to simultaneous increase in sales of hydrated alumina to 119.520 tonnes in 2010

³ Metal content: Pb: 12.231 tn, Zn: 20.458 tn, Fe: 54.161 tn, Ag: 36.859 Kg, Au: 1.202 Kg

⁴ 20,05%Ni Ni Larco GMMSA

⁵ Bentonite: S&B Industrial Minerals S.A., BENTOMINE S.A., Sud Chiemie Hellas, Greek Mining Ltd., Mavroyiannis

⁶ attapulgitis/palygorskite plus smectite/saponite clay

⁷ Pozzolan for specific use: construction pozzolanic mortars, fillers, e.g. from KYBOS SA and Greek Pozzolans SA

⁸ Perlite: S&B Industrial Minerals S.A., EEKOM SA, Aegean Perlites S.A., MILOPAN S.A.

⁹ S&B Industrial Minerals S.A.

¹⁰ Gypsum: Interbeton Construction Materials SA., Lava Mining and Quarrying Co, BPB HELLAS SA (BPB group), Knauf Gypsopoiia SA

¹¹ Calcium Carbonate (CaCO₃) products, both amorphous and crystalline: construction mortars, fillers, marble powder, adhesive and sealant, marmoline, alfamix, iokal e.g.

¹² feldspar: MEVIOR SA

¹³ Normal cubic meter (Nm³) is the Cubic meter measured at standard conditions (0 °C and 1 atm. pressure)