



2011 Minerals Yearbook

ITALY

THE MINERAL INDUSTRY OF ITALY

By Alberto Alexander Perez

In 2011, Italy's gross domestic product (GDP) amounted to an estimated \$2.164 trillion, which was an increase of 0.4% compared with that of 2010. In terms of its GDP, the country ranked fourth in the European Union (EU) after Germany, the United Kingdom, and France. Italy's industrial sector accounted for about 24.7% of the GDP in 2010, which was just under a 0.2% increase from that of the previous year. The Italian industrial sector was dependent on imported nonfuel and fuel mineral inputs. In 2011, Italy had significant industrial mineral resources—in particular its Carrara and Sienese marbles and its clays. Italy was the 14th ranked manufacturer of cement in the world, measured by tonnage of production. Italy, similar to France, Germany, the United Kingdom, and other highly industrialized countries, had a services-based economy. In 1970, its industry's share of the GDP was 30% whereas that of services was 51.9%. In 2011, industry accounted for only 24.2% of the GDP, and services accounted for 73.4% (Cembureau, 2012, p. 5; U.S. Central Intelligence Agency, 2012).

Minerals in the National Economy

Italy's mineral industries produced such metals as copper, iron and steel, lead, and zinc, all of which were important materials for the country's manufacturing sector. The raw materials used to produce these and other metals were imported ores and concentrates or they were obtained from secondary scrap recovery. Italy was a significant world producer of a variety of industrial minerals, including cement, clays, feldspar, lime, marble, pumice, and sand and gravel (table 1).

Italy was highly dependent on imported mineral fuels. Eni S.p.A. (Eni), which was 30% owned by the Italian Government, was the country's leading petroleum and natural gas company (table 2).

Government Policies and Programs

The Government played a significant role in the economy through regulation of ownership of large financial and industrial companies; privatization and regulatory reform in accordance with EU directives, however, has reduced that role in recent years. Italy's basic mining legislation is mining law No. 1443 of July 29, 1927, which gives subsoil ownership of minerals to the state. The reimbursement of the state by mining concessionaires is regulated by law No. 752 of June 10, 1982. Quarrying operations are regulated by law No. 44 of September 1982.

All petroleum and gas upstream activities are supervised by the Ufficio Nazionale Minerario per gli Idrocarburi e la Geotermia [National Office for Mining, Hydrocarbons, and Geothermal Resources] (UNMIG), which operates within the Ministero dello Sviluppo Economico [Ministry of Economic Development]. After various organizational changes, the seven offices that compose UNMIG now all operate within the Directorate General for Energy and Mineral Resources. By

presidential Decree, in 2007, the Committee for Hydrocarbons and Mineral Resources (CIRM) was set up to carry out UNMIG's duties. The committee performs technical advisory tasks related to mining, hydrocarbons, and royalties (Ministero dello Sviluppo Economico, 2010).

Environmental issues in Italy were focused on three main problem areas—air pollution from industrial emissions, such as sulfur dioxide; water pollution of coastal and inland rivers from industrial and agricultural effluents; and such natural hazards as avalanches, landslides, land subsidence in Venice, and volcanic eruptions (U.S. Central Intelligence Agency, 2012).

Production

In 2011, pig iron production increased by 15% compared with that of 2010 to 9.84 million metric tons (Mt), and crude steel production increased by 11.6% to 28.74 Mt; silicomanganese production increased by 7.4%, and ferromanganese increased by 5.9%. In the industrial minerals sector, gypsum production increased by 33.7% and the production of sand and gravel increased by 9.17%. Salt production, however, decreased by 27.3%, and production of common clay decreased by 19.5%, bentonite, by 8.1%; and cement, by 3.7%. Crude petroleum production increased by 3.31% to 36.2 million barrels (Mbbbl) (table 1).

Structure of the Mineral Industry

The Italian Government has ultimate control of Italy's mineral industry. Mineral resources, by law, are the property of the Italian nation, but private and mixed public and private entities were the principal owners of Italy's mineral industry. Full Government (public) ownership continued mainly in the mineral fuels sector, where the Government retained 30% ownership in Eni (table 2).

Mineral Trade

In 2010 (the latest year for which detailed data were available), exports of nonferrous metals¹ from Italy to other countries within the EU totaled \$5.7 billion² and those of metalliferous ores and metal scraps totaled \$922 million. Imports of goods to Italy from other countries in the EU included manufactured metals valued at \$6.186 billion, nonferrous metals valued at \$8.28 billion, and metalliferous ores and metal scrap valued at \$3.6 billion. In contrast, Italy's largest mineral industry imports, in terms of value, from a non-EU country (not including mineral fuels) were iron and steel (valued at \$8.6 billion) and nonferrous metals (\$5.7 billion). The leading

¹The classifications stated are from the United Nations Statistics Division's Standard International trade classification, Revision 4 (Series M, no. 34, Rev. 4, March 2006).

²Where necessary, values have been converted from euro area Euros (€) to U.S. dollars (US\$) at an average exchange rate of €.755=US\$1.00.

exports from Italy to non-EU countries were iron and steel and manufactured metals that were valued at \$5.3 billion and \$6.6 billion, respectively (Eurostat, 2012, p. 110–112, 118–120, 126–128, 134–136).

The most significant component of Italy's mineral trade in 2010 (the latest year for which data were available) was the net import of energy; Italy imported 149,536,000 metric tons (t) of oil equivalent, which was a decrease of 4.8% compared with the level of energy imports in 2009. Of this amount, Italy imported its crude oil, in order of tonnage, mainly from the Commonwealth of Independent States (principally from Russia, Azerbaijan, and Kazakhstan) as well as from Libya, Iraq, Iran, Saudi Arabia, Norway, and various other sources (Eurostat, 2010, 2013).

Commodity Review

Metals

Aluminum and Bauxite and Alumina.—In 2011, Italy did not produce alumina. United Company RUSAL (RUSAL) continued its suspension of operations at its Eurallumina facility in Italy owing to the high cost of running the facilities; there was no production reported from the plant in 2011 (table 1; United Company RUSAL, 2012, p. 5).

On January 9, 2012, Alcoa announced the permanent closing of the Portovesme plant. This closure was expected to have a major effect on Italy's production, as the country's chief producers of alumina and primary aluminum were Alcoa Italia S.p.A. and Eurallumina S.p.A. (table 2; Alcoa Inc. 2012).

Copper.—Production of copper decreased to 23,924 t from 25,200 t owing mostly to the volatility of prices in 2011. The main copper producers in Italy were KME Group S.p.A., which had operations at Barga and at Scrvia under its subsidiary KME Italy S.p.A., and Simar S.p.A (Simar) (a member of the Cordofin Group S.p.A.), which had a refinery at Porto Marghera, near Venice. Simar produced mainly copper-zinc-titanium alloys (KME Group S.p.A., 2010, p. 4; Simar S.p.A., 2010). For its copper production, Italy imported small amounts of copper concentrate and relied mainly on imports of copper metal and on scrap recovery.

Lead and Zinc.—A minor amount of lead and zinc concentrate was produced in Sardinia. Domestic mine production of lead and zinc was not sufficient to meet demand, and the country imported most of its requirements for lead and zinc concentrates. Glencore International plc. of Switzerland remained the country's principal processor (smelter and refinery) of lead and zinc (table 2). A large increase in the primary and secondary lead production was reported by Eurostat's Prodcom. This increase in production was likely owing to an increase in the imports of lead concentrate because Italy does not produce mined lead.

Industrial Minerals

In 2011, Italy remained a leading European and global producer of such industrial minerals as feldspar (24% of world output), pumice (18%), gypsum (3%), bentonite (2%),

lime (2%), and cement (1%) (Crangle, 2012a, b; Miller, 2012; van Oss, 2012; Virta, 2012).

Cement.—Italian cement production decreased by 3.7% owing to a continued decrease in construction activity, which was driven by a sharp reduction of 10.5% in the civil engineering works sector and a reduction of 2.9% in the residential construction sector. Public investment would be the likely source of a revival in the construction sector (Cembureau, 2012, p. 5, 9).

Mineral Fuels and Other Sources of Energy

Natural Gas and Petroleum.—In 2011, Italy's output of natural gas increased by more than 1.7% compared with production levels in 2010. Crude petroleum production increased by 3.31% to 36.2 Mbbbl (table 1).

Outlook

Italy's manufacturing industries remain those most affected by the decrease in international and domestic demand. The construction sector continues to be affected by a lack of investment sources. Italy is one of the largest EU members in terms of population and the size of its industrial sector, and, as such, Italy is expected to continue to be a major consumer and producer of durable goods and to continue to rely on imported and recycled mineral materials. The country is likely to continue to rely on major imports of mineral fuels despite increases in domestic production from new deposits coming onstream in the near term. Economic reforms and austerity programs may curtail increases in domestic consumption. Because it is part of the euro area (that is, one of the EU countries that have adopted the euro as their currency), Italy's recovery in the near future could also be affected by monetary decisions of the European Central bank.

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TABLE 1
ITALY: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	2007	2008	2009	2010	2011
METALS					
Aluminum:					
Alumina, calcined basis	1,327,364	1,327,566	752,873	--	--
Metal:					
Primary	182,600	188,400	170,600 ^r	168,000	168,000 ^e
Secondary ²	1,318,884 ^r	1,282,917 ^r	826,977	1,246,236	1,049,101
Total	1,501,484	1,471,317	997,577 ^r	1,414,236	1,217,101
Bismuth, metal ^e	5	5	5	5	5
Copper, metal, refined, all kinds ^e	28,600	24,200	6,500	25,200	23,924 ³
Iron and steel, metal:					
Pig iron	11,110	10,377	5,692	8,555	9,838
Ferroalloys, electric furnace:					
Ferromanganese	4,800	8,500	5,500	17,000 ^r	18,000
Ferrosilicon ^e	10,000	10,000	10,000	10,000	10,000
Silicomanganese	37,000	25,500	17,000	22,900 ^r	24,600
Other ^e	10,000	10,000	10,000	10,000	10,000
Total	61,800	54,000	42,500	59,900	62,600
Steel, crude	31,990	30,600	19,848	25,750	28,735
Lead:					
Mine output, Pb content ^e	800	800	800	800	800
Metal, refined:					
Primary	47,800	48,000	15,000 ^e	15,000 ^e	66,624
Secondary	164,000	164,000	134,000 ^e	134,000 ^e	170,135
Total	211,800	212,000	149,000 ^e	149,000 ^e	236,759
Zinc, metal, primary	102,100	107,100	100,000 ^e	100,000 ^e	105,000
INDUSTRIAL MINERALS					
Barite ^e	5,000	5,000	3,500	3,500	3,500
Bromine ^e	300	300	300	300	300
Cement, hydraulic	47,541	43,000	36,317	34,408	33,120
Clays, crude:					
Common clay	3,900	4,472	6,324	5,900	4,750
Bentonite	306	281	146	111	102
Refractory, excluding kaolinitic earth	1,960	942	844	844 ^e	844 ^e
Ball clay	635	591	1,070	612	638
Fuller's earth ^e	3	3	3	3	3
Kaolin ^e	5 ^r	5 ^r	5 ^r	6 ^r	8
Diatomite ^e	25,000	25,000	25,000	25,000	25,000
Feldspar ^e	4,727 ³	4,700	4,700	4,700	4,700
Gypsum	5,458	5,450 ^e	5,101	4,441	5,939
Lime, hydrated, hydraulic, and quicklime ^e	6,000	6,000	6,000	5,800	5,800
Magnesia ^e	100	100	100	100	100
Nitrogen, N content of ammonia ^e	460	460	460 ^r	460 ^r	460

See footnotes at end of table.

TABLE 1—Continued
ITALY: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	2007	2008	2009	2010	2011
INDUSTRIAL MINERALS—Continued					
Perlite ^c	60,000	60,000	60,000	60,000	60,000
Pigments, mineral, iron oxides, natural ^c	500	500	105 ³	117 ³	112
Pumice and related materials: ^c					
Pumice thousand metric tons	30	30	30	30	30
Pozzolan do.	4,000	4,000	4,000	4,000	4,000
Salt do.	2,214	2,200 ^e	3,471	4,006	2,912
Sand and gravel do.	210,000 ^e	210,000 ^e	164,218	150,996	164,844
Silica sand do.	14,000 ^e	14,000 ^e	19,759	17,656	16,369
Sodium compounds, n.e.s.: ^{c,4}					
Soda ash do.	500	500	500	500	500
Sodium sulfate do.	125	125	125	125	125
Stone:					
Calcareous:					
Alabaster ^c do.	7,000	7,000	7,000	7,000	7,000
Chalk ^c do.	228	228	228	200	200
Dolomite do.	1,726	1,700 ^e	1,601	1,572	1,139
Limestone for lime and cement	32,953	32,900	41,090	38,440	37,269
Marble and travertine, crude	4,643	4,600 ^e	4,604	5,500	3,516
Crushed and broken ⁵ do.	60,000 ^e	60,000 ^e	84,718	80,336	76,793
Granite do.	1,477	1,480	1,009	1,614	1,585
Sandstone do.	397 ^e	397 ^e	451	497	440
Slate do.	288	288 ^e	52	55	61
Sulfur: ^c					
From metallurgy do.	90	90	90	90	90
From hydrocarbons do.	650	650	650	650	650
Talc and related materials	112,080	112,000 ^e	112,000 ^e	110,000	110,000 ^e
MINERAL FUELS AND RELATED MATERIALS					
Asphalt and bituminous rock, natural thousand metric tons	1,810	1,800 ^e	1,030	1,454	2,169
Coke, metallurgical ^c do.	4,000	4,000	4,000	4,000	4,000
Gas, natural million cubic meters	9,713	9,260	8,127	8,296	8,438
Natural gas liquids ^c thousand 42-gallon barrels	350	350	350	350	350
Petroleum:					
Crude do.	30,012	36,300	30,215	35,040	36,201
Refinery products do.	770,892	719,499	665,541	688,646 [†]	688,600

^cEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [†]Revised. do. Ditto. -- Zero.

¹Table includes data available through December 20, 2012.

²Unwrought aluminum alloys in secondary form.

³Reported figure.

⁴Not elsewhere specified.

⁵Output of limestone and serpentine for dimension stone is included with "Stone, crushed and broken."

TABLE 2
ITALY: STRUCTURE OF THE MINERAL INDUSTRY IN 2011

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Alumina	Eurallumina S.p.A. (United Company RUSAL, 56.2%)	Plant at Portoscuso, Sardinia	1,000
Aluminum	Alcoa Italia S.p.A. (Alcoa Inc., 100%)	Smelters at Porto Vesme, Sardinia, and Fusina, near Venice	188
Asbestos	Amiantifera di Balangero S.p.A.	Mine at Balangero, near Turin	100
Barite	Bariosarda S.p.A. (Ente Mineraria Sarda)	Barega and Mont 'Ega Mines on Sardinia	100
Do.	Edem S.p.A. (Government)	Mines at Val di Castello, Lucca	20
Do.	Edemsarda S.p.A. (Soc. Imprese Industriali)	Mines at Su Benatzu, Sto. Stefano, and Peppixeddu, Sardinia	20
Do.	Società Mineraria Baritina S.p.A.	Mines at Marigolek, Monte Elto, and Primaluna, near Milan	20
Bauxite	Sardabauxiti S.p.A. (Cogein S.p.A., 40%; Comtec S.p.A., 40%; Icofin Co., 20%)	Mine at Olmedo, Sardinia	350
Bentonite	Industria Chimica Carlo Laviosa S.p.A.	Mines and plant on Sardinia and a plant near Pisa	250
Cement	52 companies, of which the largest are:		
Do.	Italcementi Fabbriche Riunite Cemento S.p.A.	18 plants, of which the largest are Calusco, Monselice, and Collefero	15,000
Do.	Buzzi Unicem Group	11 plants, of which Guidonia, Lugagnano, Morano, Piacenza, S'Arcangelo di Romagna, and Settimello are the largest	9,000
Do.	Cementerie del Tirreno S.p.A.	6 plants at Arquasta Scivia, Livorno, Maddaloni, Napoli, Spoleto, and Taranto	5,300
Copper:			
Refined	Simar S.p.A.	Refinery at Porto Marghera	60
Refined, secondary	KME Italy S.P.A.	Refinery at Fornaci di Barga	24
Do.	Sitindustrie S.p.A.	Refinery at Pieve Vergonte	22
Feldspar	At least 5 companies, of which the largest are:	Locations:	1,500
Do.	Maffei S.p.A.	Surface mines at Pinzolo and Campiglia	(200)
Do.	do.	Underground mine at Vipiteno	(300)
Do.	Miniera di Fragne S.p.A.	Surface mine at Alagna Valsesia	(60)
Do.	Sabbie Silicee Fossanova S.P.A.	Surface mine at Fossanova	(30)
Gold	kilograms Sargold Resources plc.	Furtei Mine near Cagliari, Sardinia	1,400
Gypsum	Fassa S.r.l.	Plant at Moncalvo, Asti	90
Lead, metal	Glencore International plc.	Refinery at San Gavino, Sardinia	100
Do.	do.	Kivcet smelter and Imperial smelter at Porto Vesme, Sardinia	80
Lignite	Ente Nazionale per l'Energia Electrica	Surface mine at Santa Barbara (closed)	1,000
Lime	Unicale S.p.A.	Plants in Lombardy region	500
Magnesium, metal	Società Italiana Magnesio S.p.A.	Plant at Bolzano	8
Marble	A number of companies, of which the largest include:	Locations:	2,000
Do.	Mineraria Marittima Srl	Quarries in the Carrara and Massa areas	(500)
Do.	Industria dei Marmi Vicentini S.p.A.	do.	(300)
Do.	Figaia S.p.A.	do.	(100)
Nitrogen, N content of ammonia	Hydro Agri S.p.A.	Plant at Ferrara	410
Petroleum:			
Crude	Ente Nazionale Idrocarburi	Oilfields: offshore Sicily, in the Adriatic Sea, and onshore in Po River Valley	90
Refined	thousand 42-gallon barrels per day do.	About 30 refineries	2,000

See footnotes at end of table.

TABLE 2—Continued
 ITALY: STRUCTURE OF THE MINERAL INDUSTRY IN 2011

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Potash, ore	Industria Sali Otassici e Affini per Aziono S.p.A.	Underground mines at Corvillo, Pasquasia, Racalmuto, and San Cataldo, Sicily (closed)	1,300
Do.	Sta. Italiana Sali Alcalini S.p.A. (Italkali)	Underground mines at Casteltermini	700
Pumice	Pumex S.p.A.	Quarries, Lipari Island, north of Sicily	600
Do.	Sta. Siciliana per l'Industria ed il Commercio della Pomice di Lipari S.p.A. (Italpomice S.p.A.)	do.	200
Pyrite	Nuova Solmine S.p.A.	Underground mines at Campiano and Niccioleta	900
Salt, rock	Sta Italiana Sali Alcalini S.p.A. (Italkali)	Underground mines at Petralia, Racalmuto, and Realmonte, Sicily	4,000
Do.	Solvay S.p.A.	Underground mines at Buriano, Ponteginori, and Querceto, Tuscany	2,000
Steel	Ilva S.p.A. (Riva Group)	5 steel plants, the largest of which is Taranto (1,500)	4,000
Do.	Riva Acciaio S.p.A. (Riva Group)	7 steel plants	7,000
Do.	Acciaierie e Ferriere Vicentine Beltrame S.p.A. (AFV-Beltrame S.p.A.)	Steel plant at Vicenza	1,000
Talc	Luzenac Val Chisone S.p.A.	Mines at Pinerolo, near Turin, and an open-pit mine in Orani, Sardinia	120
Do.	IMI FABI S.p.A.	Mine at Orani, Sardinia	20
Zinc, metal	Glencore International plc	Plant at Porto Vesme, Sardinia	120
Do.	Pertulosa Sud S.p.A.	Plant at Crotone, Calabria	100
Do., do. Ditto.			