



# 2012 Minerals Yearbook

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ITALY

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# THE MINERAL INDUSTRY OF ITALY

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In 2012, Italy's gross domestic product (GDP) amounted to an estimated \$1.838 trillion, which was a decrease of 2.4% compared with that of 2011. In terms of its GDP, the country ranked fourth in the European Union (EU) after Germany, the United Kingdom, and France. The Italian industrial sector was dependent on imported nonfuel and fuel mineral inputs. In 2012, Italy produced a significant amount of industrial mineral commodities—in particular, its Carrara and Siense marbles and its clays. Italy was the 14th-ranked manufacturer of cement in the world, as measured by tonnage of production. Italy, similar to France, Germany, the United Kingdom, and other highly industrialized countries, was undergoing a shift towards a more services-based economy. In 1970, its industry's share of the GDP was 30% whereas that of services was 51.9%. In 2012, industry accounted for only 24.2% of the GDP, and services accounted for 73.8% (Cembureau, 2013, p. 7; U.S. Central Intelligence Agency, 2014).

## Minerals in the National Economy

Italy's mineral industry produced such metals as copper, iron and steel, lead, and zinc, all of which were important materials for the country's manufacturing sector. All raw materials (ores and concentrates) used to produce these and other metals were imported or 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; privatizations and regulatory reform in accordance with EU directives, however, had 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 some of the UNMIG's duties. The committee performs technical advisory tasks related to mining, hydrocarbons, and mineral 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, 2014).

## Production

In 2012, pig iron production decreased by 4.2% compared with that of 2011 to 9.42 million metric tons (Mt), and crude steel production decreased by 5.1% to 27.3 Mt. In the industrial minerals sector, cement production decreased by 20.9%. Crude petroleum production remained about the same at 36.9 million barrels (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. Government (public) ownership continued mainly in the mineral fuels sector (table 2).

## Mineral Trade

In 2010 (the latest year for which detailed data were available), exports of nonferrous metals<sup>1</sup> from Italy to other countries within the EU totaled \$5.4 billion<sup>2</sup> 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 \$6.2 billion, nonferrous metals valued at \$8.3 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 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).

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

<sup>2</sup>Where necessary, values have been converted from euro area euros (€) to U.S. dollars (US\$) at an average exchange rate of €0.755=US\$1.00.

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, mainly from (in order of tonnage) 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.**—Italy did not produce alumina in 2012. United Company RUSAL (RUSAL) of Russia continued its suspension of operations at its Eurallumina facility in Italy owing to the high cost of running the facilities (particularly the cost of electricity), and no production was reported from the plant in 2012 (table 1; United Company RUSAL, 2012, p. 5).

On January 9, 2012, Alcoa Inc. (Alcoa) of the United States announced the permanent closing of the Porto Vesme alumina plant. This closure was expected to have a major effect on Italy's production of alumina, as the Fusina aluminum smelter had been in curtailment since 2010. Italy had been found in violation of EU law by subsidizing electricity to the Sardinian plants and was instructed to recover the amount of the subsidy from the companies involved, mainly Eurallumina S.p.A. The country's chief producers of alumina and primary aluminum were Eurallumina and Alcoa, respectively (table 2; Alcoa Inc., 2012, 2013).

**Copper.**—The main copper producers in Italy were KME Group S.p.A., which had operations at Fornaci di Barga and at Scrivia 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.

**Iron and Steel.**—Lucchini S.p.A. (Lucchini), a subsidiary of OAO Severstal of Russia, stated that it was temporarily shutting down its Piombino blast furnace in December in response to market conditions. The Piombino plant, which was Lucchini's main production site, had the capacity to produce 2.5 million metric tons per year of steel. The shutdown was likely to last about 40 days. Piombino had already shut down twice in 2012, in May and August; those closures each lasted 2 to 3 weeks (Thomson Reuters, 2012).

In July, the ILVA steel plant in Taranto, which was owned by the Riva Group, was shut down following a Government probe into whether dioxin and other chemicals from the plant had spread and affected the population in the Taranto region. Taranto prosecutors ordered the seizure of the production sections responsible for the making of coke and the storage of minerals. By the end of the year, ILVA was still engaged in a protracted court battle over the full reopening of the plant (Di Giorgio, 2012).

**Lead and Zinc.**—Glencore International plc of Switzerland remained the country's principal processor (smelter and refinery) of lead and zinc (table 2). The company operated a plant at Porto Vesme, Sardinia.

### Industrial Minerals

In 2012, Italy remained a leading European producer and a significant world producer of such industrial minerals as feldspar (24.7% of world output), pumice (18%), gypsum (3%), bentonite (2%), and lime (2%) (Crangle, 2013a, b; Miller, 2013; Tanner, 2013; Virta, 2013).

**Cement.**—Italian cement production decreased by 20.9% owing to a generalized and continued decrease in construction activity, which was driven by the contraction of the economy in 2012. Reductions of 10.6% and 9.1% in the civil engineering works sector and nonresidential construction sector, respectively, were the most significant, although a reduction of 6.3% in the residential construction sector was quite significant as well (Cembureau, 2013, p. 11).

### Outlook

Italy's manufacturing industries remain those most affected by the decrease in domestic demand. The construction sector continues to be affected by low investment. Italy is one of the largest EU members in terms of population and the size of its industrial sector; however, the economic recession continues to affect its mineral and industrial production sectors. Italy will likely continue to rely on imported and recycled primary mineral materials for its industrial sector. The country is also likely to continue to rely on major imports of mineral fuels despite potential increases in domestic mineral fuels production from new deposits coming onstream in the near term. Economic reforms and austerity programs may continue to curtail increases in domestic consumption.

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TABLE 1  
ITALY: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons unless otherwise specified)

Commodity	2008	2009	2010	2011	2012
<b>METALS</b>					
<b>Aluminum:</b>					
Alumina, calcined basis	1,327,566	752,873	--	--	--
<b>Metal:</b>					
Primary	188,400	170,600	168,000	141,000 <sup>r</sup>	110,000
Secondary <sup>2</sup>	1,282,917	826,977	1,246,236	1,049,101	1,002,814
Total	1,471,317	997,577	1,414,236	1,190,101 <sup>r</sup>	1,112,814
Bismuth, metal <sup>c</sup>	5	5	5	5	5
Copper, metal, refined, all kinds <sup>c</sup>	24,200	6,500	1,800 <sup>r</sup>	7,600 <sup>r</sup>	7,700
<b>Iron and steel, metal:</b>					
Pig iron	10,377	5,692	8,555	9,838	9,424
<b>Ferroalloys, electric furnace:</b>					
Ferromanganese	8,500	5,500	17,000	18,000	18,000
Ferrosilicon <sup>c</sup>	10,000	10,000	10,000	10,000	10,000
Silicomanganese	25,500	17,000	22,900	24,600	24,600
Other <sup>c</sup>	10,000	10,000	10,000	10,000	10,000
Total	54,000	42,500	59,900	62,600	62,600
Steel, crude	30,600	19,848	25,750	28,735	27,257
<b>Lead:</b>					
Mine output, Pb content <sup>c</sup>	800	800	800	800	--
<b>Metal, refined:</b>					
Primary	42,400 <sup>r</sup>	17,000 <sup>r</sup>	--	--	--
Secondary	157,500 <sup>r</sup>	132,000 <sup>r</sup>	150,000 <sup>r</sup>	149,500 <sup>r</sup>	138,400
Total	199,900 <sup>r</sup>	149,000 <sup>r</sup>	150,000 <sup>r</sup>	149,500 <sup>r</sup>	138,400
Zinc, metal, primary	107,100	103,400 <sup>r</sup>	104,700 <sup>r</sup>	110,200 <sup>r</sup>	97,200
<b>INDUSTRIAL MINERALS</b>					
Barite <sup>c</sup>	5,000	3,500	3,500	3,500	3,500
Bromine <sup>c</sup>	300	300	300	300	--
Cement, hydraulic	43,000	36,317	34,408	33,120	26,200
<b>Clays, crude:</b>					
Common clay	4,472	6,324	5,900	4,750	3,777
Bentonite	281	146	111	102	144
Refractory, excluding kaolinitic earth	942	844	844 <sup>e</sup>	844 <sup>e</sup>	878
Ball clay	591	1,070	612	638	746
Fuller's earth <sup>c</sup>	3	3	3	3	3
Kaolin <sup>c</sup>	5	5	6	8	8
Diatomite <sup>c</sup>	25,000	25,000	25,000	25,000	25,000
Feldspar <sup>c</sup>	4,700	4,700	4,700	4,700	4,700
Gypsum	5,450 <sup>e</sup>	5,101	4,441	5,939	2,563

See footnotes at end of table.

TABLE 1—Continued  
ITALY: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons unless otherwise specified)

Commodity	2008	2009	2010	2011	2012
INDUSTRIAL MINERALS—Continued					
Lime, hydrated, hydraulic, and quicklime <sup>e</sup> thousand metric tons	6,000	6,000	5,800	5,800	5,800
Magnesia <sup>e</sup> do.	100	100	100	100	100
Nitrogen, N content of ammonia <sup>e</sup> do.	460	460	460	460	2,365 <sup>3</sup>
Perlite <sup>e</sup>	60,000	60,000	60,000	60,000	60,000
Pigments, mineral, iron oxides, natural	500 <sup>e</sup>	105	117	112	118
Pumice and related materials: <sup>e</sup>					
Pumice thousand metric tons	30	30	30	30	30
Pozzolan do.	4,000	4,000	4,000	4,000	4,000
Salt do.	2,200 <sup>e</sup>	3,471	4,006	2,912	3,098
Sand and gravel do.	210,000 <sup>e</sup>	164,218	150,996	164,844	123,049
Silica sand do.	14,000 <sup>e</sup>	19,759	17,656	16,369	13,946
Sodium compounds, n.e.s.: <sup>e,4</sup>					
Soda ash thousand metric tons	500	500	500	500	500
Sodium sulfate do.	125	125	125	125	125
Stone:					
Calcareous:					
Alabaster <sup>e</sup> do.	7,000	7,000	7,000	7,000	7,000
Chalk <sup>e</sup> do.	228	228	200	200	200
Dolomite do.	1,700 <sup>e</sup>	1,601	1,572	1,139	1,069
Limestone for lime and cement do.	32,900	41,090	38,440	37,269	28,524
Marble and travertine, crude do.	4,600 <sup>e</sup>	4,604	5,500	3,516	3,348
Crushed and broken <sup>5</sup> do.	60,000	84,718	80,336	76,793	74,169
Granite do.	1,480	1,009	1,614	1,585	1,734
Sandstone do.	397	451	497	440	281
Slate do.	288	52	55	61	44
Sulfur: <sup>e</sup>					
From metallurgy do.	90	90	90	90	90
From hydrocarbons do.	650	650	650	650	650
Talc and related materials	112,000	112,000	110,000	110,000	110,000
MINERAL FUELS AND RELATED MATERIALS					
Asphalt and bituminous rock, natural thousand metric tons	1,800 <sup>e</sup>	1,030	1,454	2,169	2,100 <sup>e</sup>
Coke, metallurgical <sup>f</sup> do.	4,000	4,000	4,000	4,000	4,000
Gas, natural million cubic meters	9,260	8,127	8,296	8,438	8,400 <sup>e</sup>
Natural gas liquids <sup>e</sup> thousand 42-gallon barrels	350	350	350	350	350
Petroleum:					
Crude do.	36,300	30,215	35,040	36,201	36,865
Refinery products do.	719,499	665,541	688,646	688,600	688,000

<sup>e</sup>Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. <sup>f</sup>Revised. do. Ditto. -- Zero.

<sup>1</sup>Table includes data available through January 5, 2014.

<sup>2</sup>Unwrought aluminum alloys in secondary form.

<sup>3</sup>Reported figure.

<sup>4</sup>Not elsewhere specified.

<sup>5</sup>Output of limestone and serpentine for dimension stone is included with "Stone: Crushed and broken."

TABLE 2  
ITALY: STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum	Alcoa Inc.	Smelter at Fusina	44
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	11 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. (Cordifin S.p.A.)	Refinery at Porto Marghera	60
Refined, secondary	KME Italy S.p.A. (KME Group S.p.A.)	Refinery at Fornaci di Barga and Scrvia	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)
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
Iron	Altiforni e Ferriere di Servola S.p.A. (Lucchini S.p.A.)	Pig iron and coke plant at Trieste	500
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	Eni S.p.A.	Oilfields: offshore Sicily, in the Adriatic Sea, and onshore in Po River Valley	90
Refined	thousand 42-gallon barrels per day	Various companies	About 14 refineries
Potash, ore	Industria Sali Otassici e Affini per Aziono S.p.A.	Underground mines at Corvillo, Pasquasia, and Racalmuto, Sicily.	1,300
Do.	Sta. Italiana Sali Alcalini S.p.A. (Italkali)	Underground mines at Casteltermini and Pasquasia, Sicily	700

See footnotes at end of table.

TABLE 2—Continued  
 ITALY: STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
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 in Taranto (1,500)	4,000
Do.	Riva Acciaio S.p.A. (Riva Group)	7 steel plants	7,000
Do.	Luccini S.p.A. (OAO Sverstal)	Steel plant in Piombino	2,500
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 in Orani, Sardinia	20
Zinc, metal	Glencore International plc	Plant at Porto Vesme, Sardinia	120
Do.	Pertulosa Sud S.p.A.	Plant at Crotona, Calabria	100
Do., do. Ditto.			