



2017–2018 Minerals Yearbook

ITALY

THE MINERAL INDUSTRY OF ITALY

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Note: In this chapter, information for 2017 is followed by information for 2018.

The mineral industry of Italy was composed mostly of companies that manufacture and process metals (including steel), construction products, and industrial products, although a variety of industrial minerals were still being mined in the country. Italy is one of the leading producers, in terms of volume, of construction materials, mineral manufacturing components, and stone in the world. Italy had largely ceased mining for metals and relied on secondary scrap recovery or imports for necessary materials. Italy was the third-ranked producer of feldspar and nepheline syenite, accounting for 14% of world production, and of industrial sand and gravel, accounting for 5.1% of world production (Dolley, 2019; Tanner, 2019).

Minerals in the National Economy

In 2017, Italy's nominal gross domestic product (GDP) was \$1.95 trillion.¹ The country's real GDP increased by 1.7% compared with that of 2016. In 2017, total industrial production in Italy increased by 3.1% compared with that of 2016. The output of the mining sector remained relatively unchanged in terms of value compared with that of 2016, and the output of the metallurgical and metal manufacturing sector increased by 3.7%. Manufacturing accounted for 14.8% of the GDP in 2017; mining and other industrial activities accounted for 2.2%. Employment in the mining sector decreased by 2.4% to about 19,000 employees from about 20,000 employees in 2016 (Istituto Nazionale di Statistica, 2018, p. 318, 438, 571; International Monetary Fund, 2019).

Government Policies and Programs

The Government played a significant role in the mineral industry through regulation of the ownership of large financial and industrial companies; however, privatizations and regulatory reform in accordance with European Union directives 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 of 1982. All petroleum and natural 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 eight

divisions that compose the UNMIG 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 established to carry out UNMIG's duties. The committee performs technical advisory tasks related to mining, hydrocarbons, and mineral royalties. Law No. 239 of August 23, 2004, established regulations for the hydrocarbon sector and defines the rights and duties of the state with regard to the energy sector. In February 2017, the Ministry of Economic Development launched Industria 4.0, which is a national plan and strategy aimed to increase investment in, and dissemination of, new digital technologies in the manufacturing and industrial sector. The plan includes tax incentives and credits to aid in capital formation, including a reduction of the corporate tax to 24% from 27.5% (Ministero dello Sviluppo Economico, 2010; European Commission, 2017).

Production

The production of bentonite clay increased by 87% to 86,000 metric tons (t); ball clay, by 39% to 569,000 t; pozzolan, by 38% to 42,500 t; calcareous alabaster stone (dimension), by 36% to 9.08 million metric tons (Mt); refined copper (secondary), by 32% to 8,700 t; sandstone (dimension), by 28% to 570,000 t; dolomite, by 25% to 743,000 t; common clay, by 24% to 4.57 Mt; table salt, by 19% to 576,000 t; and crude petroleum, by 17% to 31.4 million barrels. Major decreases in mineral production in 2017 included a 36% decrease in refined lead (primary) production to 30,400 t; gypsum, by 24% to 469,000 t; industrial salt, by 20% to 2.43 Mt; and pig iron, by 16% to 5.05 Mt. Data on mineral production are in table 1.

Structure of the Mineral Industry

The Government has ultimate control of Italy's mineral industry. Mineral resources, by law, are the property of the nation, but private and mixed public and private entities are the principal owners of Italy's mineral industry. Significant companies with operations in Italy were Glencore plc of Switzerland, which had a lead refinery at San Gavino; IMI FABI S.p.A., a talc mine at Orani; Italcementi S.p.A., major cement plants in Calusco, Collefero, and Monselice; Luccini S.p.A., a pig iron plant in Trieste; the Riva Group, steelworks in Taranto and several other steel plants; and the petroleum and hydrocarbons company ENI S.p.A., which had oilfields offshore in Sicily and in the Adriatic Sea, and onshore in the Po River Valley. Table 2 is a list of major mineral industry facilities.

Mineral Trade

In 2017, Italy exported a total of \$505 billion worth of goods and services, which was an increase of 7.4% compared with

¹Where necessary, values have been converted from euro area euros (EUR) to U.S. dollars (US\$) at an annual average exchange rate of EUR0.885=US\$1.00 for 2017 and EUR0.904=US\$1.00 for 2016.

\$462 billion in exports in 2016. The value of the country's imports totaled \$452 billion compared with \$407 billion in 2016, which was an increase of 9.0%. Italy accounted for 2.9% of global exports of goods in 2017. Italy exported \$281 billion worth of goods and services to the EU, or 55.6% of all its exports; it imported \$272 billion from EU countries, or 60.1% of all Italy's imports. The value of Italy's exports of base metals and metal products totaled \$53.3 billion. Exports of mining and quarrying products totaled \$1.4 billion, of which crude petroleum and natural gas accounted for \$412 million and metallic ores accounted for \$91 million. The value of imports of base metals and metal products totaled \$47.1 billion. Imports of mining and quarrying products totaled \$44.9 billion, of which metallic ores accounted for \$1.3 billion. Imports of substances and chemicals were valued at \$41.9 billion, and crude petroleum and natural gas, \$40.4 billion (Istituto Nazionale di Statistica, 2018, p. 522, 531–532).

In 2017, the United States exported about \$18.4 billion worth of goods and services to Italy. The most significant mineral-related items of these exports were, in order by value, pharmaceutical preparations valued at \$3.8 billion; crude petroleum, \$988 million; precious metals, \$767 million; other chemicals, \$337 million; metallurgical-grade coal, \$326 million; manufactured mineral supplies, \$255 million; nonferrous metals, \$238 million; other petroleum products, \$203 million; organic chemicals, \$192 million; nonmonetary gold, \$100 million; natural gas, \$26 million (U.S. Census Bureau, 2019b).

In 2017, the United States imported about \$49.9 billion worth of goods and services from Italy. The most significant mineral-related items of these imports were, in order by value, pharmaceutical preparations valued at \$5.7 billion; industrial supplies, \$614 million; iron and steel mill products, \$512 million; stone, sand, and cement, \$503 million; petroleum products, \$454 million; organic chemicals, \$419 million; finished metal shapes, \$412 million; iron and steel products, \$399 million; other chemicals, \$250 million; precious metals, \$248 million; and advanced iron and steel products, \$240 million (U.S. Census Bureau, 2019a).

Commodity Review

Metals

Iron and Steel.—In June 2017, a consortium led by ArcelorMittal S.A. of Luxembourg signed an agreement of lease and obligation to purchase Ilva S.p.A. and its subsidiaries from the Government. The \$2.24 billion sale was contingent upon approval by the European Commission. This sale represented a step towards consolidation of Europe's steel industry (ArcelorMittal, 2018, p. 42).

Lead and Zinc.—In October 2017, Alta Zinc Ltd. (formerly Energia Minerals Ltd.) of Australia was granted an exploration license for the historic Salafossa lead-zinc mine in northern Italy. The Salafossa Mine had been in production for 22 years, extracting a total of 11 Mt of sulfide ore with grades of 5% zinc and 1% lead. The mine's average production rate was about 500,000 metric tons per year. In December, Alta-Zinc updated its resource estimation for lead, zinc, and silver at the Colonna Zorzone zinc deposit within its 100%-owned Gorno zinc project

located near the Salafossa Mine. Alta-Zinc stated that the revised mineral resource estimation showed a 0.1% increase in overall zinc grade, which increased the total contained zinc by 3,000 t. The new indicated and inferred resource was estimated to be 3.3 Mt (using a 1% zinc cutoff grade) containing 163,000 t of zinc (or an average grade of 4.9%), 43,000 t of lead (1.3%), and 90,200 kilograms of silver (Webb, 2017a, b).

Industrial Minerals

Cement.—The production of cement remained stagnant in Italy at an estimated 19.3 Mt in 2017 after a 7% decrease in 2016. Italy's cement sector had been in decline since the financial crisis in 2008 and continued to consolidate in 2017. Buzzi Unicem Group followed the consolidation trend through its purchase of Cementizillo S.p.A in June. The \$117 million agreement included two cement plants at Fanna and Este in the northeastern part of the country; the two plants had a combined production capacity of 1.4 million metric tons per year (Mt/yr) (Perilli, 2017).

MINERAL INDUSTRY HIGHLIGHTS IN 2018

In 2018, Italy's nominal GDP was \$2.08 trillion.² The country's real GDP increased by 0.9% compared with that of 2017. Manufacturing accounted for 15.4% of the GDP; mining with other industrial activities accounted for 2.1%. Total industrial production in Italy in 2018 increased by 1.3% compared with that of 2017. The production of the mining sector decreased by 0.7% in terms of output compared with that of 2017. The production of the metallurgical and metal manufacturing sector increased by 1.6%. Employment in the mining sector decreased by 2.1% compared with that of 2017 to about 19,000 employees (International Monetary Fund, 2019; Istituto Nazionale di Statistica, 2019, p. 325, 591).

Italy exported a total of \$547 billion worth of goods and services in 2018, including exporting \$308 billion worth of goods and services to the EU, or 56.3% of all Italy's exports. Italy imported a total of \$501 billion in goods and services during the year, including \$295 billion from EU countries, or 59% of all Italy's imports. The value of the country's exports of base metals and metal products totaled \$58.8 billion. Exports of mining and quarrying products totaled \$1.4 billion, of which metal ores accounted for \$93 million. Imports of mining and quarrying products totaled about \$55 billion, of which metal ores accounted for about \$1.3 billion. The value of imports of base metals and metal products totaled \$53.1 billion. Imports of crude petroleum and natural gas were valued at \$50.6 billion, and substances and chemicals, \$46.4 billion (Istituto Nazionale di Statistica, 2019, p. 539–541, 547–548).

The United States exported about \$22.8 billion worth of goods to Italy in 2018. The most significant mineral-related items of these exports were, in order by value, pharmaceutical preparations valued at \$4.2 billion; petroleum products, \$2.5 billion; precious metals, \$1.2 billion; other chemicals,

²Where necessary, values have been converted from euro area euros (EUR) to U.S. dollars (US\$) at an annual average exchange rate of EUR0.847=US\$1.00 for 2018.

\$357 million; manufactured mineral supplies, \$336 million; metallurgical-grade coal, \$306 million; nonmonetary gold, \$291 million; other petroleum products, \$281 million; nonferrous metals, \$251 million; organic chemicals, \$221 million; and natural gas, \$91 million (U.S. Census Bureau, 2019a).

In 2018, the United States imported about \$54.7 billion worth of goods to Italy. The most significant mineral-related items of exports from the United States were, in order by value, pharmaceutical preparations valued at \$6.1 billion; petroleum products, \$982 million; industrial supplies, \$720 million; iron and steel mill products, \$580 million; stone, sand, and cement, \$511 million; organic chemicals, \$456 million; finished metal shapes and iron and steel projects, \$410 million each; other chemicals, \$314 million; precious metals, \$290 million; and advanced iron and steel products, \$274 million (U.S. Census Bureau, 2019b).

Production

Italy was the second-ranked producer of feldspar and nepheline syenite, accounting for 16% of world production. The country also was the fourth-ranked producer of industrial sand and gravel, having produced 4.2% of world production in 2018. In 2018, the production of calcareous dolomite increased by 140%; ball clay, by 72%; industrial salt, by 59%; bentonite, by 16%; calcareous alabaster stone (dimension), by 15%; and crude petroleum, by 13%. The production of refractory clay (excluding kaolinitic earth) decreased by 85%; gypsum, by 60%; common clay and slate, by 59% each; table salt, by 55%; sandstone, by 28%; granite, by 23%; and refined copper (secondary), by 14% (table 1; Dolley, 2020; Ghalayini, 2020).

Commodity Review

Metals

Iron and Steel.—In November 2018, ArcelorMittal completed the \$2.1 billion acquisition of Ilva S.p.A. after being granted merger clearance by the European Commission in May 2018. The company was required by the European Commission to divest from several steel plants in Europe. The agreement included industrial capital expenditure commitments of approximately \$1.4 billion over a 7-year period, with the purpose of bringing steel production to 8 Mt/yr by 2024 (ArcelorMittal S.A., 2019, p. 49).

Industrial Minerals

Cement.—In January 2018, Italcementi S.p.A., which was wholly owned by HeidelbergCement AG, acquired Betontir S.p.A., Cementir Italia S.p.A., and Cementir Sacci S.p.A. from Cementir Holding N.V. of the Netherlands. The acquisition comprised five cement plants, two grinding plants, and a network of terminals and ready-mix concrete plants. The \$373 million purchase represented further consolidation of the Italian cement industry (HeidelbergCement AG, 2019, p. 30, 31, 132).

Outlook

Economic growth is expected to continue at a slow pace. Although there are some exploration activities ongoing for metallic minerals, such as zinc, the country is not expected to resume mining of metallic ore in the near future. Consolidation within the industrial sectors will likely continue, which may result in further reorganization of mining and metal-processing companies. In general, the output of the mineral industry is expected to remain at about the current level (International Monetary Fund, 2019).

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TABLE 1
ITALY: PRODUCTION OF MINERAL COMMODITIES^{1,2}

(Metric tons, gross weight, unless otherwise specified)

Commodity	2014	2015	2016	2017	2018
METALS					
Aluminum, metal, secondary	734,600 ^r	706,700 ^r	721,600 ^r	743,000	734,400
Copper, refinery, secondary	7,900 ^r	7,300 ^r	6,600 ^r	8,700	7,500
Iron and steel:					
Pig iron	6,371	5,051	6,048	5,052	4,836
Raw steel	do.	23,714	22,018	23,373	24,068
Lead, refinery:					
Primary	50,000 ^e	52,100 ^r	47,300 ^r	30,400	32,900
Secondary	159,600 ^r	157,800 ^r	139,900 ^r	143,300	134,600
Zinc, smelter, primary and secondary	154,982	158,214	188,897 ^r	203,697	195,000 ^e
INDUSTRIAL MINERALS					
Cement, hydraulic	21,500 ^r	20,800 ^r	19,300	19,300	19,000 ^e
Clay:					
Ball clay	do.	372	305	409 ^r	569
Bentonite	do.	20 ^e	13	46 ^r	86
Common clay	do.	3,608	2,925	3,685 ^r	4,569
Refractory, excluding kaolinitic earth	do.	223 ^r	300 ^r	406 ^r	408
Feldspar ^e	do.	4,700	4,500	4,000	4,000
Gypsum, mine	do.	5,887	572	617	469
Iron oxide pigments	30,000 ^r	37,962 ^r	36,837 ^r	34,902	35,000 ^e
Lime, hydrated, hydraulic, and quicklime ^e	thousand metric tons	3,600	3,500	3,500	3,600
Pumice and related minerals: ^e					
Pozzolan	30,000	30,300	30,900	42,500	46,500
Pumice and pumiceous lapilli	28,000	43,000	43,000	43,000	43,000
Salt:					
Industrial salt	thousand metric tons	3,288 ^r	3,335 ^r	3,035 ^r	2,430
Table salt	do.	468	305	484 ^r	576
Sand and gravel, industrial	do.	11,602	13,900	13,900	14,000 ^e
Stone, sand and gravel, construction:					
Sand and gravel	do.	73,690	74,000 ^{r, e}	75,000 ^e	75,000 ^e
Stone:					
Crushed:					
Limestone, for lime and cement	do.	17,075 ^r	22,044 ^r	18,938 ^r	20,250
Other, unspecified	do.	44,143	36,922 ^r	40,000 ^{r, e}	40,000 ^e
Dimension:					
Alabaster, calcareous	do.	4,423	5,122	6,682 ^r	9,080
Chalk, calcareous	do.	719	720 ^{r, e}	135 ^r	130 ^e
Dolomite, calcareous	do.	706	516	595 ^r	743
Granite	do.	466	673	547 ^r	487
Marble, including travertine, crude, calcareous	do.	1,128	1,310	1,463 ^r	1,590
Sandstone	do.	323	322	444 ^r	570
Slate	do.	85	59	43 ^r	41
Sulfur, byproduct, metallurgy, S content	40,200	40,200	40,000	40,000 ^e	40,000 ^e
MINERAL FUELS AND RELATED MATERIALS					
Natural gas	million cubic meters	6,859 ^r	6,497 ^r	5,550	5,314
Petroleum:					
Crude	thousand 42-gallon barrels	38,690	38,690	26,800	31,405
Refinery	do.	437,198 ^r	491,784 ^r	472,122 ^r	508,098
491,363					

^eEstimated. ^rRevised. do. Ditto.

¹Table includes data available through October 16, 2019. All data are reported unless otherwise noted. Estimated data are rounded to no more than three significant digits.

²In addition to the commodities listed, barite, magnesium metal, nitrogen, potash, refined silver, synthetic soda ash, byproduct sulfur from petroleum, and talc and related materials may have been produced, but available information was inadequate to make reliable estimates of output.

TABLE 2
ITALY: STRUCTURE OF THE MINERAL INDUSTRY IN 2018

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum, secondary	Raffmetal S.p.A.	Three plants at Costo and Odolo	300
Do.	Teksif Aluminum SRL	Plant at Carmagnola	32
Do.	Aluminum Company Carisio S.p.A. (Cordifin S.p.A., 100%)	Plant at Carisio	NA
Barite	Bariosarda S.p.A. (Ente Mineraria Sarda)	Barega and Mont'Ega Mines on Sardinia	100
Do.	Edem S.p.A. (Government, 100%)	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
Cement	11 companies, of which the largest are: Italcementi S.p.A. (HeidelbergCement AG, 100%)	18 plants, of which the largest are Calusco, Monselice, and Colleferro	15,000
Do.	Buzzi Unicem Group	11 plants, of which Fanna, Ests, Guidonia, Lugagnano, Morano, Piacenza, S'Arcangelo di Romagna, and Settimello are the largest	10,800
Do.	W&P Cementi S.p.A.	Cadola plant near Ponte nelle Alpi	300
Clay, bentonite	Industria Chimica Carlo Laviosa S.p.A.	Mines and plant on Sardinia and a plant near Pisa	250
Copper:			
Refined	Simar S.p.A. (Cordifin S.p.A., 100%)	Refinery at Porto Marghera, Vinice	60
Refined, secondary	KME Italy S.A. (KME Group S.p.A.)	Refinery at Fornaci di Barga and Scrivia	24
Do.	Sitindustrie S.p.A.	Refinery at Pieve Vergonte	22
Feldspar	At least 5 companies, of which the largest are: Maffei Sarda Silicati S.r.l. do. Miniera di Fragne S.p.A. Sabbie Silicee Fossanova S.p.A.	Locations: Surface mines at Pinzolo and Campiglia Underground mine at Vipiteno Surface mine at Alagna Valsesia Surface mine at Fossanova	4,000
Gypsum	Fassa S.r.l.	Plant at Moncalvo, Asti	NA
Do.	Gyroc Saint Gobain	Quarry in Tondo	NA
Iron and steel:			
Pig iron	Acciaieria Arvedi S.p.A. (Finarvedi S.p.A., 100%)	Pig iron and coke plant at Trieste	900
Steel	Riva Acciaio S.p.A. (Riva Group)	7 steel plants	7,000
Do.	ArcelorMittal Italia S.p.A. (ArcelorMittal S.A., 100%)	5 steel plants, the largest of which is Taranto	6,000
Do.	Acciaieria Arvedi S.p.A. (Finarvedi S.p.A., 100%)	Steel plant in Cremona	3,400
Do.	Do.	Steel plant in Trieste	1,200
Do.	Aferpi S.p.A. (JSW Steel Italy S.r.l., 100%)	Steel plant in Piombino	1,320
Do.	Acciaierie e Ferriere Vicentine Beltrame S.p.A. (AFV-Beltrame S.p.A.)	Steel plant at Vicenza	1,000
Do.	Scrap Metalli Italia S.p.A. (Cordifin S.p.A.)	2 steel plants at Castelnuovo Del Garda and Lainate	100
Lead, metal	do.	Kivcet smelter and Imperial smelter at Portovesme, Sardinia	85
Do.	Portovesme S.r.l. (Glencore plc, 100%)	Refinery at San Gavino, Sardinia	80
Lime	Unicale S.p.A.	Plants in Lombardy region	3,500
Magnesium, metal	Società Italiana Magnesio S.p.A.	Plant at Bolzano	8
Natural gas	Eni S.p.A.	Fields in Adriatic and Ionian seas	NA
Nitrogen, N content of ammonia	Hydro Agri S.p.A.	Plant at Ferrara	570

See footnotes at end of table.

TABLE 2—Continued
ITALY: STRUCTURE OF THE MINERAL INDUSTRY IN 2018

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners		Location of main facilities	Annual capacity
Petroleum:				
Crude	Eni S.p.A.		Oilfields offshore Sicily and in the Adriatic Sea, and onshore in the Po River Valley	NA
Refined thousand 42-gallon barrels per day	A number of companies, of which the largest include: AgipPetroli S.p.A. Exxon Mobil ISAB S.r.l. (Lukoil Oil Company) do. Saras S.p.A.		About 14 refineries, including: Sannazaro, Pavia; Gela, Ragusa San Marino di Treconte; Augusta, Siracusa ERG Reffinerie Mediterranee North, Priola, Sicily Melilly, Sicily Syracuse, Italy Saroch, Sardinia	2,000
Potash, ore	Industria Sali Otassici e Affini per Aziono S.p.A.		Underground mines at Corvillo, Pasquasia, and Racalmuto, Sicily	1,300
Do.	Societa Italiana Sali Alcalini S.p.A. (Italkali)		Underground mines at Casteltermini and Pasquasia, Sicily	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
Salt, rock	Atisale S.p.A.		Puglia salt pan	5,000
Do.	do.		Sardinia salt pan	2,000
Do.	Societa Italiana Sali Alcalini S.p.A. (Italkali)		Underground mines at Petralia, Racalmuto, and Realmonte, Sicily	2,000
Do.	Solvay S.p.A.		Underground mines at Buriano, Ponteginori	2,000
Stone, marble	A number of companies, of which the largest include: Figaia S.p.A. Industria dei Marmi Vicentini S.p.A. Mineraria Marittima S.r.l.		Quarries in the Carrara and Massa areas do. do.	2,000
Sulfuric acid	Nuova Solmine S.p.A.		Plant in Scarlino, Grosseto	600
Do.	do.		Plant in Serravalle Scrivia, Alessandria	70
Talc	Luzenac Val Chisone S.p.A.		Mines at Pinerolo, near Turin, and an open pit mine in Orani, Sardinia	150
Do.	IMI FABI S.p.A.		Mine at Orani, Sardinia	20
Zinc:				
Metal	Portovesme S.r.l. (Glencore plc, 100%)		Plant at Portovesme, Sardinia	140
Do.	Pertulosa Sud S.p.A.		Plant at Crotone, Calabria	100
Alloy	Simar S.p.A. (Cordifin S.p.A.)		Smelter at Porto Marghera	60

Do., do. Ditto. NA Not available.