

2016 Minerals Yearbook

ALGERIA

THE MINERAL INDUSTRY OF ALGERIA

By Mowafa Taib

In 2016, Algeria supplied the world with such mineral commodities as ammonia, crude petroleum, helium, methanol, natural gas, phosphate rock, refined petroleum products, and urea. The country was the world's third-ranked producer of helium after the United States and Qatar and held 8.2 billion cubic meters of helium resources, including 1.8 billion cubic meters of proven reserves. The country was an important consumer of steel; it was the world's ninth-ranked net importer of steel (World Steel Association, 2017b, p. 27; Hamak, 2018).

In 2016, Algeria was the world's ninth-ranked producer of natural gas, accounting for 2.6% of world output and 2.4% of total proven reserves. The country was also the second-ranked supplier of natural gas to Europe after Russia. Algeria was estimated to hold 20 trillion cubic meters of shale gas, which was the third-largest volume of shale gas resources in the world. Algeria was also the third-ranked crude petroleum producer in Africa after Angola and Nigeria, accounting for 1.6% of the world's crude petroleum and condensate production; it held 12.2 billion barrels of proven crude petroleum reserves, which accounted for 0.7% of the world's total reserves (U.S. Energy Information Administration, 2016, p. 1–2, 13; BP p.l.c., 2017, p. 12, 14, 26, 28).

Algeria's nonfuel mineral production included modest quantities of such metals as gold and silver, iron and steel, secondary aluminum, secondary copper, secondary lead, and zinc. In addition to ammonia, phosphate rock, and urea, the country produced a wide variety of industrial minerals, such as barite, bentonite, cement, common clay, kaolin, diatomite, dolomite, feldspar, gypsum, lime, perlite, pozzolan, rhyolite, salt, sand and gravel, stone (limestone and marble), sulfur, and tuff. Algeria accounted for about 2% of the world's pumice (pozzolan) output (table 1; Crangle, 2018).

Minerals in the National Economy

Algeria's gross domestic product (GDP) increased in real terms by 3.3% in 2016 compared with an increase of 3.7% in 2015. The mining and quarrying sector contributed less than 1% to the GDP in 2016 and employed 32,000 people. The value of hydrocarbon sector activity, which accounted for 17.4% of the GDP in 2016 compared with 18.8% of the GDP in 2015, increased in real terms by 7.7% compared with a revised increase of 0.2% in 2015. The increase in the value of hydrocarbon sector activity was mainly attributed to increased natural gas production (Banque d'Algérie, 2017, p. 13, 17, 19, 107).

Government Policies and Programs

The current mining law, law No. 14–05 of February 24, 2014, replaced the mining law No. 1–10 of July 3, 2001. The mining law guarantees parity for all investors, allows separate surface

and underground mine tenure, ensures that disputes can be appealed to international arbitrators, gives incentives for importing equipment for mining operations, and provides custom-tariff exemptions and rebates on mineral extraction royalties. The law no longer gives priority to state-owned companies over private companies in issuing mining permits, which was previously the case under ordinance No. 07–02 of March 1, 2007. Environmental laws applicable to the mineral industry include law No. 03–10 of July 19, 2003, and associated decrees and law No. 05–12 of September 4, 2005. The Government continued its golden share policy, which was initiated in 2010, concerning foreign investment in the country. The policy gives the Government majority ownership (that is, at least a 51% share) in the operations of new mineral sector ventures in the country as well as a seat on the company's board of directors, but not voting rights (Library of Congress, 2014; EY, 2015, p. 11; PricewaterhouseCoopers, 2015, p. 20).

In 2016, the Algerian mining sector was administered by the Ministry of Industry and Mines (MIM). The MIM was responsible for regulating geologic and mining activities in the country through its respective agencies. Law No. 14 of February 24, 2014, assigns the Agence du Service Géologique de d'Algérie [Geological Survey Agency of Algeria (ASGA)], which was formerly known as the Office National de Recherche Géologique et Manière [National Office of Geologic and Mining Research (ORGM)], the responsibility of overseeing the country's geologic activities and research. Agence Nationale des Activités Minières [National Agency for Mining Activity (ANAM)] is responsible for issuing mining and quarrying permits and promoting investment opportunities in the mining sector. The MIM was pursuing economic diversity in the country, which was centered around mineral fuels, by promoting investment in the aluminum, iron ore, and steel industries as well as the nitrogen and phosphate fertilizer industries (Library of Congress, 2014; Agence Nationale des Activités Minières, 2015; EY, 2015, p. 11; National Agency of Investment Development, 2015, p. 15; Ministère de l'Industrie et des Mines, 2016, p. 52).

The hydrocarbon sector was regulated by ordinance No. 06–10 of July 29, 2006, which is a supplement to law No. 05–07 of April 28, 2005. The ordinance grants state-owned Sonatrach S.p.A. a 51% ownership of all hydrocarbon projects in the country. The Ministère de l'Énergie [Ministry of Energy], which is responsible for the country's energy resources, had been trying to increase the participation of international petroleum companies in the petroleum and natural gas operations by introducing amendments to the hydrocarbon law. Under the revised law (law No. 13–01 of February 20, 2013, which amended the hydrocarbon law No. 05–07 of April 28, 2005), taxes are assessed on profits rather than on revenue; this change is intended to make exploration of smaller oilfields more viable. An important

challenge for the Government is to be able to produce sufficient quantities of natural gas for fertilizer plants and steel mills, meet the increased domestic demand for natural gas for electric power generation and other types of consumption, and account for 20% of Europe's consumption of natural gas (EY, 2015, p. 20, 22; Ministère de l'Energie, 2016).

In 2016, the Government approved the Eastern mining railway project, which involves double-tracking and upgrading of the Annaba-Djebel Onk-Tebessa segment of the country's railway network to improve access to and from mining and processing facilities. The first phase of the Eastern mining railway project was expected to be completed in 2018. When fully completed in 2020, the railway is expected to be extended by 177 kilometers (km) and to have the capacity to carry 26 million metric tons per year (Mt/yr) of iron ore, phosphate rock, and phosphate derivatives produced by phosphate rock-processing plants under construction in the town of Oued Keberit (Oxford Business Group, 2016).

The state-owned industrial group Manal S.p.A. [also known as Société de Manadjem El Djazair (Algerian Mines Co.)] was created by Presidential Decree No. 11–85 of February 16, 2011. Manal assumed responsibility for the development, exploration, mining, distribution, and marketing of the country's nonferrous metals, marble, and salt resources. Manal also oversaw financial, industrial, and partnership aspects of mining operations in Algeria (Ministry of Energy, 2014).

Production

Notable increases in Algeria's mineral commodity production in 2016 compared with that of 2015 included that of zinc, which increased by 527% owing to the ramping up of production at the Ghazaouet Mine; pozzolan, which increased by 98%; kaolin, 88%; marble blocks, 60%; urea, 34%; ammonia, 23%, crude barite, 18%; and dry natural gas, 8%. Notable decreases in production included that of helium, which decreased by 58%; primary zinc, 50%; iron ore, 35%; crushed marble, 26%; and calcite and salt, 10% each. Data on mineral production are in table 1.

Structure of the Mineral Industry

Algeria's hydrocarbon sector operations were conducted by Sonatrach and several international petroleum companies that were working in Algeria under production-sharing agreements with Sonatrach. In 2016, Sonatrach was responsible for 85% of the country's natural gas production, 78% of its condensate production, 72% of its liquefied petroleum gas (LPG) production, and 56% of its crude petroleum production. The remaining output was produced by international petroleum companies working in partnership with Sonatrach in Algeria. These included Anadarko Petroleum Corp. of the United States; BP Algeria, which was a subsidiary of BP p.l.c. of the United Kingdom; Compañía Española de Petróleos, S.A.U. (CEPSA) of Spain; Eni Algeria Production BV of Italy; OAO Gazprom of Russia; Repsol YPF S.A. of Spain; Maersk Olie og Gas AS of Denmark; Statoil ASA of Norway; Talisman Energy Inc. of Canada; and Total Algeria S.p.A. of France (U.S. Energy Information Administration, 2016; Sonatrach S.p.A., 2017).

The Government-owned Entreprise Nationale du Fer et du Phosphate (Ferphos Group S.p.A.) managed Algeria's production of iron ore, phosphate rock, pozzolan, and other building materials. Its subsidiaries included Société des Mines de Phosphates S.p.A. (SOMIPHOS), which was the state's sole phosphate rock mining company; Société des Mines de Fer d'Algérie S.p.A. (SOMIFER), which was an iron ore mining company; and Société des Pouzzolanes et des Matériaux de Construction S.p.A. (SPMC), which produced pozzolan and other building materials. Table 2 is a list of major mineral industry facilities.

Mineral Trade

In 2016, Algeria's total exports decreased by 15% to \$29.3 billion from \$34.6 billion in 2015 and \$60.1 billion in 2014. The value of hydrocarbon exports, which accounted for 95% of the country's total exports in 2016, decreased to \$27.9 billion from \$33.1 billion in 2015. They included 198.1 million barrels (Mbbl) of crude petroleum valued at about \$8.9 billion, 125.8 Mbbl of refinery products valued at \$5.6 billion, 79.4 Mbbl of LPG valued at \$2.2 billion, 46.6 Mbbl of condensate valued at \$2.0 billion, 25.7 million cubic meters of liquefied natural gas (LNG) valued at \$3.1 billion, and 39.1 billion cubic meters of natural gas valued at \$6.2 billion. Nonfuel mineral exports included ammonium nitrate valued at \$429 million; anhydrous ammonia, \$138 million¹; urea, \$42 million; phosphate rock, \$69 million; methanol, \$32 million; helium and hydrogen, \$23 million each; zinc metal, \$10 million; and other minerals, \$7 million. Crude petroleum exports accounted for 30% of Algeria's total exports; refined petroleum products, 19%; natural gas, 21%; LNG, 11%; LPG, 8%; and condensate, 7% (Banque d'Algérie, 2017, p. 120, 123; CEIC Data, 2017).

Algeria's exports to the United States have been decreasing since 2008 when they peaked at about \$19.4 billion. The decrease in Algeria's exports to the United States followed the general trend of decreased global petroleum exports to the United States because of the increase in United States domestic production. Algeria's exports to the United States, which were mainly hydrocarbon products, decreased by about 6% to \$3.2 billion in 2016 from \$3.4 billion in 2015. Fuel oil exports decreased to \$2.1 billion from \$3.1 billion in 2015; crude petroleum exports increased to \$883 million from \$65 million in 2015 compared with a peak of \$11.4 billion in 2007. Exports of LPG increased to \$20 million from zero in 2015 compared with a peak of \$4.7 billion in 2008, and exports of other petroleum products decreased to about \$75 million from \$85 million in 2015 (U.S. Census Bureau, 2017a).

Algeria's total imports decreased by about 9% to \$47.1 billion in 2016 from \$51.6 billion in 2015. The country's imports of semifinished and finished steel products decreased to 5.5 million metric tons (Mt) in 2016 from 6.3 Mt in 2015. They included 3.7 Mt of long products, 800,000 metric tons (t) of flat products, and 513,000 t of tubular products. The country's cement imports

¹Where necessary, currency values have been converted from Algerian dinars (AD) to U.S. dollars (US\$) at the annual average exchange rate of DA109.84=US\$1.00.

decreased to 3.9 Mt in 2016 from 6.5 Mt in 2015 (Banque d'Algérie, 2017, p. 28; International Cement Review, 2017, p. 31; World Steel Association, 2017a, p. 57; 2017b, p. 27).

Algeria's imports from the United States increased by about 17% to \$2.2 billion in 2016 from about \$1.9 billion in 2015. The main mineral-related export categories included drilling and oilfield equipment (\$93 million), fuel oil (\$56 million), other petroleum products (\$54 million), chemicals (\$26 million), excavation machinery (\$24 million), and iron and steel products (\$11 million) (U.S. Census Bureau, 2017b).

Commodity Review

Metals

Iron Ore and Iron and Steel.—Algeria's iron ore production decreased to 610,000 t in 2016 from 944,000 t in 2015. The decrease was attributed to interruptions in production owing to changes of management and ownership at the Boukhadra and the Ouenza Mines. Crude (raw) steel output of 650,000 t was unchanged from that of 2015. The country's apparent consumption of crude steel equivalent had been steadily increasing in recent years; it was estimated to be 6.3 Mt in 2016, or 156 kilograms per capita (table 1; World Steel Association, 2017b, p. 2, 57, 83).

In 2016, ArcelorMittal S.A. of Luxembourg sold its 49% share in ArcelorMittal Algérie and ArcelorMittal Tebessa and its 70% interest in the subsidiary ArcelorMittal Pipes and Tubes Algeria to the Government and withdrew completely from Algeria. The Government transferred ArcelorMittal's share at the Annaba steel complex to the newly restructured state-owned company IMETAL S.p.A. The Annaba steel complex produced crude steel and other steel products at its electric arc furnace plant and mill in El Hadjar, Annaba Province. In 2016, the Boukhadra and the Ouenza iron ore mines in Tebessa Province became wholly owned and operated by the state-owned companies Ferphos and Groupe Industriel Sider (Sider), respectively (ArcelorMittal S.A., 2016, p. 76).

Construction at the \$2 billion Algerian-Qatar joint-venture steel complex, which began in early 2015, continued throughout 2016. Production from the first mill was expected in May 2017. Joint-venture partners Qatar Steel International Co. of Qatar, Sider, and Fonds National de l'Investissement planned to build a 4.2-Mt/yr steel complex in the Bellara Industrial Zone, which is located in Jijel Province about 300 km east of Algiers. Ownership in the Algerian Qatari Steel complex (AQS) would follow Algeria's new partnership rules, which give the Government a 51% share and Qatar Steel International a 49% share. The Government's share would be divided equally between Sider and Fonds National de l'Investissement. The complex was being built in two stages, and a 2.5-Mt/yr-capacity DRI-based steelworks, including 600,000 metric tons per year (t/yr) of crude steel capacity, would be added at each stage. In 2016, AQS contracted Midrex Technology Inc. of the United States and its consortium partner Paul Wurth S.A. of Luxembourg to build a new 2.5-Mt/yr natural gas-based direct-reduced iron (DRI) plant. The plant would be able to produce both cold and hot DRI simultaneously (Paul Wurth S.A., 2016; Maghreb Times, The, 2017).

Tosyali Industrie du Fer et de l'Acier Algérie (Tosyali Algeria), which was owned by Tosyali Holding of Turkey, had been producing steel products at its iron and steel plant in the city of Oran since 2013. Tosyali's Algeria plant had the capacity to produce 1.6 Mt/yr of liquid steel using 1.4 Mt/yr of domestic and imported scrap iron and steel to produce steel billets and rebar. Tosyali Algeria signed a contract with Sinosteel Corp. of China to build a pelletizing plant in Oran that would produce iron ore for the DRI plant. Imported iron ore would be transferred from Arzew Port to the pellet plant. The pelletizing plant, which would have the capacity to produce 4 Mt/yr of iron ore pellets for use by the DRI plant, was expected to be completed in early 2018. The company was also building a DRI plant that would have the capacity to produce 2.5 Mt/yr of DRI; the plant, which would use pelletized iron ore as a feedstock, was expected to be completed by yearend 2017 (Tosyali Holding, 2017a, b).

Société Nationale du Fer et de l'Acier [National Iron and Steel Co. S.p.A. (Feraal)] was created by the Government in 2014 and owned by Sonatrach (55% interest), Manal (25% interest), and the Sider Group (20%). Feraal planned to explore for and develop iron ore deposits at Gara Djebilet and Mecheri Abdelaziz, which are located in southwestern Algeria near the border with Mauritania. Iron ore resources at Gara Djebilet and Mecheri Abdelaziz were estimated to be more than 2.2 billion metric tons (Gt). The iron ore deposits at Gara Djebilet are located in the Reguibat Shield, which extends into Mauritania; the deposits host an estimated 1.5 Gt of iron ore grading 56% iron. The Mecheri Abdelaziz deposit is located east of Gara Djebilet and holds an estimated 700 Mt of iron ore grading 52% iron. The Government planned to begin production of between 15 and 20 Mt/yr of iron from the Gara Djebilet project by 2025 (Algerian Press Service, 2015a; Société Nationale du Fer et de l'Acier, 2017; Zait and Bidaoui, 2017, p. 27).

Lead and Zinc.—The Directorate of Mines at the MIM reported production of modest quantities of mined zinc in Algeria in 2015 and 2016. In 2016, zinc production came from restarting underground mining at the Ain Hamra zinc mine, which is located in Setif Province. Production increased to 627 t of concentrate in 2016 from the initial production of 100 t of concentrate in 2015. Western Mediterranean Zinc S.p.A. (WMZ) was a joint venture of Terramin Australia Ltd. (65% interest), state-owned Entreprise Nationale des Produits Miniers Non Ferreux et Substances Utiles, S.p.A. (ENOF) (32.5% interest), and the ASGA (2.5% interest). The joint venture was formed in 2009 to develop the Tala Hamza lead and zinc project on the 125-square-kilometer Oued Amizour exploration permit, which is located 15 km southwest of the Port of Bejaia in northeastern Algeria. In 2013, Terramin entered into a technical cooperation agreement with Foreign Engineering and Construction Co. Ltd. of China, which was owned by China Nonferrous Metals Industry (NCF). NFC performed a technical and financial assessment of mining methods that were suggested for the Tala Hamza project and presented its findings to ENOF and the ASGA. The joint-venture partners discussed the results of a revised definitive feasibility study, which was completed in 2014, and approved a work program. In 2015, WMZ renewed its exploration license, and in 2016, the company was working

on finalizing the environmental impact assessment for the project. No date was given as to when mining would begin after receiving final Government approval. As of yearend 2016, the total resource (measured, indicated, and inferred) at the Tala Hamza deposit was 68.6 Mt grading 1.2% lead and 4.6% zinc at a 2.5% zinc cutoff grade (Terramin Australia Ltd., 2017).

Industrial Minerals

Cement.—Algeria's cement production increased to an estimated 23.5 Mt in 2016 from 20.0 Mt in 2015. The MIM projected that Algeria's cement output would increase to 40 Mt by 2020, of which between 12 Mt and 15 Mt would be exported. Cement consumption, on the other hand, was estimated to be about 27 Mt in 2016 compared with about 26 Mt in 2015 and was expected to further increase to 28 Mt in 2017. The state-owned Groupe Industriel des Ciments d'Algérie (GICA), which operated 12 cement plants and produced about 12 Mt in 2016, planned to increase its capacity to 20 Mt/yr by 2020. The increase was expected to come from the commissioning of a several plants throughout the country, including two 1-Mt/yr-capacity plants at Beni Zireg (Bechar Province) and El Bayadah Province; a 2-Mt/yr-capacity plant at Sigus, Oum El Bouaghi Province; 2-Mt/yr-capacity expansions at the Ain El Kebira (Setif Province) and the Oued Sly (Ech Chlef Province) properties; and a 1.5-Mt/yr plant at Shaana, Della Province. Cement imports decreased significantly to 3.9 Mt in 2016 from 6.5 Mt in 2015 and were expected to be zero in 2017 as more than 10 Mt/yr of additional capacity would become available (table 1; Groupe Industriel des Ciments d'Algérie, 2016; Gueddouh, 2017; International Cement Review, 2017, p. 30–31; Zait, 2017, p. 3).

Nitrogen.—In 2016, El Sharika El Djazairia El Omania lil Asmdia S.p.A. (AOA), Fertil S.p.A., and Sorfert Algeria S.p.A. were the three major companies that produced ammonia and urea in Algeria. AOA was a joint venture of Suhail Bahwan Group (Holding) L.L.C. of Oman (51% interest) and Sonatrach (49% interest); it owned two plants for ammonia and urea in the Arzew Industrial Zone near Oran in northwestern Algeria. AOA had the capacity to produce 1.5 Mt/yr of ammonia and 2.6 Mt/yr of urea, and the entire output of urea was exported to countries in the Americas and Europe. In 2015, Fertil was a joint venture of Grupo Villar Mir of Spain (66% interest) and Asmidal Group (34% interest) and had the capacity to produce 660,000 t/yr and 330,000 t/yr of ammonia at its plants in Arzew and Annaba, respectively. In 2016, Grupo Villar Mir sold 17% of its share in Fertil to the local ETRHB Haddad Group to comply with Government foreign investment laws, which restrict foreign ownership in an Algerian company to a maximum 49% share. Sorfert Algeria was a joint venture of OCI N.V. of the Netherlands (51% interest) and Sonatrach (49% interest); it produced 1.6 Mt of ammonia in 2016 and about 1.3 Mt of urea at its fertilizer complex in the Arzew Industrial Zone that included two plants—a 1.60-Mt/yr-capacity anhydrous ammonia plant and a 1.26-Mt/yr-capacity granulated urea plant. Sorfert Algeria planned to supply 1.1 Mt/yr of urea to the domestic market and 700,000 t/yr of ammonia for export, mainly to Western Europe (table 2; Fertiberia S.A., 2017, p. 10, 40; OCI N.V., 2017; Suhail Bahwan Group LLC, 2017).

A fourth ammonia plant was being built at Arzew. The El Bahia fertilizer plant had been proposed by Fertiberia S.A. (a subsidiary of Grupo Villar Mir of Spain) in 2007. In 2014, the Government signed an energy and investment contract with Fertiberia to reactivate the construction of the El Bahia fertilizer plant. The \$1.5 billion plant was expected to produce 1.1 Mt/yr of ammonia for export and would begin production in 2017 (Fertiberia S.A., 2017, p. 10, 40).

Phosphate Rock.—Most of the 1.3 Mt of phosphate rock that was produced by SOMIPHOS in 2016 was exported to such countries in Europe as France, Greece, Italy, Poland, and Ukraine as well as to Brazil, India, and Turkey. Algeria's output of phosphate rock, which averaged 1.3 Mt/yr in the past 5 years, was relatively small compared with the country's estimated resources of more than 2 Gt. Thus, the Government had set a target to increase the country's phosphate rock production capacity to 8 Mt/yr by 2022 and to 13 Mt/yr by 2025. In July, the Government signed an agreement with Indorama Corp. of Indonesia to develop a phosphate rock mine and to build two phosphate fertilizer plants at a total cost of \$4.5 billion (table 1; Algerian Press Service, 2015b; Thomson Reuters, 2016; Zait and Bidaoui, 2017, p. 26).

Mineral Fuels

Natural Gas and Petroleum.—Algeria's production of dry natural gas increased by 8% in 2016 compared with that in 2015. The number of producing wells in Algeria decreased to 1,936 from 1,968 in 2015, and the number of wells completed increased to 292 from 250 in 2015. Seventeen oil discoveries were made in Algeria in 2016 compared with 10 discoveries in 2015. Natural gas discoveries increased to 16 in 2016 from 13 in 2015 (table 1; Organization of Arab Petroleum Exporting Countries, 2017, p. 20, 22; Organization of the Petroleum Exporting Countries, 2017, p. 29–30).

Sonatrach planned to begin initial shale gas production in 2022 and set a production target of 28.3 million cubic meters per day by 2025 based on favorable market conditions and the acquisition of production technology. Sonatrach awarded 33 blocks, located in four sedimentary basins, for shale oil and shale gas exploration (Baxter, 2014; Aloulou, 2015).

Algeria, which was the first country in the world to export LNG in 1964, had two LNG export terminals at Arzew Port in the northwest and Skikda Port in the northeast of the country. The country exported natural gas to Europe through three transcontinental pipelines by way of Italy and Spain. The Government planned to construct two additional transcontinental natural gas pipelines—the Gasdotto Algeria Sardegna Italia (GALSI) pipeline and the Trans-Saharan Gas Pipeline (TSGP). The GALSI pipeline would have the capacity to transport 8 billion cubic meters per year of natural gas to Italy by way of a subsea section pipeline. The TSGP would run more than 4,000 km through the Sahara, and would be able to transport between 20 billion and 30 billion cubic meters per year of natural gas from Warri, Nigeria, to Hassi R'Mel, Algeria (by way of Niger), where it would connect to the Medgaz pipeline that reaches Spain (U.S. Energy Information Administration, 2016, p. 12–13).

Algeria's installed crude petroleum and condensate refining capacity remained at 650,800 barrels per day (bbl/d) in 2016. The country's largest refinery, which was owned by Société Nationale de Raffinage de Pétrole S.p.A., was located in Skikda Province and had the capacity to refine 355,300 bbl/d of crude petroleum and 122,200 bbl/d of condensate. Other petroleum refineries were located at Adrar (12,900 bbl/d), El Harrach (58,100 bbl/d), Arzew (80,800 bbl/d), and Hassi Messaoud (21,500 bbl/d). In 2016, the Government was building four new 100,000-bbl/d-capacity refineries in Biskra, Ghardaia, Hassi Messaoud, and Tairt Provinces. Construction of the new refineries was expected to be completed by 2018 (table 2; U.S. Energy Information Administration, 2016, p. 13; Organization of the Petroleum Exporting Countries, 2017, p. 38).

Outlook

In 2016, the Government was focused on developing the country's iron ore resources and planned to start producing between 15 and 20 Mt/yr of iron from the Gara Djebilet project by 2025. The Government also planned to increase phosphate rock production at Djebel Onk to 8 Mt/yr by 2022 and 13 Mt/yr by 2015 from the current (2016) production level of 1 Mt. Algeria, which has been a net importer of cement and steel, is likely to become self-sufficient in both mineral commodities by 2017 after new cement and steel plants become operational. Furthermore, Algeria is expected to become a net exporter of cement for the first time in 2018. Production and, to a large extent, exports of barite, crude petroleum, natural gas, nitrogen fertilizers, phosphate rock, phosphate-based fertilizers, refined petroleum products, and zinc are also likely to increase in the short term to medium term.

References Cited

- Agence Nationale des Activités Minières, 2015, Promotion: Agence Nationale des Activités Minier. (Accessed December 15, 2016, at http://www.anam.gov.dz/promotion/index.php?lang=_fr.)
- Algerian Press Service, 2015a, Mining—Feasibility study of Gara Djebilet deposit project launched: Algerian Press Service, December 4. (Accessed December 30, 2016, at <http://en.aps.dz/economy/9682-mining-feasibility-study-of-gara-djebilet-deposit-project-launched>.)
- Algerian Press Service, 2015b, Mining sector—Discussions ongoing for several partnership projects: Algerian Press Service, November 12. (Accessed April 25, 2016, at <http://www.aps.dz/en/economy/9355-mining-sector-discussions-ongoing-for-several-partnership-projects>.)
- Aloulou, Fouzi, 2015, Today in energy—Algeria is reforming its laws to attract foreign investment in hydrocarbons: U.S. Energy Information Administration, August 4. (Accessed December 10, 2015, at <https://www.eia.gov/todayinenergy/detail.cfm?id=22352>.)
- ArcelorMittal S.A., 2016, Annual report 2016: ArcelorMittal S.A., 179 p. (Accessed April 13, 2018, at <http://corporate.arcelormittal.com/~media/Files/A/ArcelorMittal/investors/annual-reports/Annual-Report-2016-mar.pdf>.)
- Banque d'Algérie, 2017, Rapport annuel de la Banque d'Algérie 2016 [Annual report of the Bank of Algeria 2016]: Banque d'Algérie, March, 124 p. (Accessed April 4, 2018, at http://www.bank-of-algeria.dz/pdf/rapportba_2016/rapportba_2016.pdf.)
- Baxter, Kevin, 2014, Algeria sets 2022 shale target: MEED, October 13. (Accessed December 14, 2016, at <http://www.meed.com/sectors/oil-and-gas/gas/algeria-sets-2022-shale-target/3196207.article>.)
- BP p.l.c., 2017, BP statistical review of world energy—June: London, United Kingdom, BP p.l.c., 45 p. (Accessed December 28, 2017, at <http://www.bp.com/content/dam/bp/pdf/energy-economics/statistical-review-2017/bp-statistical-review-of-world-energy-2017-full-report.pdf>.)
- CEIC Data, 2017, Algeria: CEIC Data database. (Accessed April 16, 2018, at <https://www.ceicdata.com/en/country/algeria>.)
- Crangle, R.D., Jr., 2018, Pumice and pumicite: U.S. Geological Survey Mineral Commodity Summaries 2018, p. 128–129.
- EY, 2015, Algeria—A key player in North Africa, in 2015 Pan-African oil and gas workshop: Paris, France, EY, February, 23 p. (Accessed December 7, 2016, at [http://www.ey.com/Publication/vwLUAssets/EY-algeria-a-key-player-in-north-africa/\\$FILE/EY-algeria-a-key-player-in-north-africa.pdf](http://www.ey.com/Publication/vwLUAssets/EY-algeria-a-key-player-in-north-africa/$FILE/EY-algeria-a-key-player-in-north-africa.pdf).)
- Fertiberia S.A., 2017, Annual report for the financial year 2016: Fertiberia S.A., 117 p. (Accessed April 5, 2018, at <http://www.fertiberia.com/media/605670/fertiberia-annual-report-2016.pdf>.)
- Groupe Industriel des Ciments d'Algérie, 2016, Plan de développement [Development plan]: Groupe Industriel des Ciments d'Algérie. (Accessed January 10, 2017, at <http://gica.dz/nos-projets>.)
- Gueddouh, Nadir, 2017, Cement in Algeria—GICA aims to produce 20 million tons by 2019–2020: Dzbearing.com, July 12. (Accessed April 10, 2018, at <https://www.dzbearing.com/2017/07/12/cement-algeria-gica-aims-produce-20-million-tons-2019-2020>.)
- Hamak, J.E., 2018, Helium: U.S. Geological Survey Mineral Commodity Summaries 2018, p. 76–77.
- International Cement Review, 2017, Algeria, in The global cement report (12th ed.): Dorking, United Kingdom, International Cement Review, 394 p.
- Library of Congress, 2014, Algeria—New mining law adopted: [U.S.] Library of Congress, May 30. (Accessed June 18, 2018, at <http://www.loc.gov/law/foreign-news/article/algeria-new-mining-law-adopted>.)
- Maghreb Times, The, 2017, Algeria—Bellara complex to be commissioned late April, steel industry set to soar: The Maghreb Times [Paris, France], April 8. (Accessed June 14, 2018, at <https://themaghrebtimes.com/04/08/algeria-bellara-complex-to-be-commissioned-late-april-steel-industry-set-to-soar>.)
- Ministère de l'Énergie, 2016, Hydrocarbures: Ministère de l'Énergie. (Accessed April 4, 2017, at <http://www.energy.gov.dz/francais/index.php?page=hydrocarbures-2>.)
- Ministère de l'Industrie et des Mines, 2016, Bulletin d'information statistique No 28: Ministère de l'Industrie et des Mines, May, 56 p. (Accessed January 17, 2017, at http://www.mdipi.gov.dz/IMG/pdf/Bulletin_PME_no28.pdf.)
- Ministry of Energy, 2014, Manal S.p.A.: Ministry of Energy. (Accessed April 26, 2016, at <http://www.energy.gov.dz/francais/index.php?page=manal-spa>.)
- National Agency of Investment Development [Algeria], 2015, Geological infrastructure and mineral resources: National Agency of Investment Development. (Accessed January 13, 2017, at <http://www.andi.dz/PDF/Article/Potentiel%20Mineral%20Algerien%20AN%202.pdf>.)
- OCI N.V., 2017, Sorfert Algérie: OCI N.V. (Accessed January 10, 2018, at <http://www.oci.nl/oci-fcg/our-facilities/sorfert-algerie/>.)
- Organization of Arab Petroleum Exporting Countries, 2017, Annual statistical report 2017: Organization of Arab Petroleum Exporting Countries, 148 p. (Accessed January 13, 2017, at <http://www.oapecorg.org/media/92042d77-ec09-471a-aafc-4ad1dce8bce/1262350241/Annual%20Statistical%20Report%20Annual%20Statistical%20Report%202016%20.pdf>.)
- Organization of the Petroleum Exporting Countries, 2017, Annual statistics bulletin—2017: Vienna, Austria, Organization of the Petroleum Exporting Countries, 145 p. (Accessed December 11, 2017, at http://www.opec.org/opec_web/static_files_project/media/downloads/publications/ASB2017.pdf.)
- Oxford Business Group, 2016, Algeria's mining output to soar thanks to abundant, underexplored mineral deposits: Oxford Business Group. (Accessed April 10, 2018, at <https://oxfordbusinessgroup.com/overview/cusp-thanks-abundant-underexplored-mineral-deposits-mining-output-set-soar>.)
- Paul Wurth S.A., 2016, Algerian Qatari Steel to build 2.5 mtpy Midrex® plant: Paul Wurth S.A. press release, June 14. (Accessed April 16, 2018, at <http://www.paulwurth.com/News-Media/News-and-Archives/Press-Release-Algerian-Qatari-Steel-to-build-2.5-MTPY-MIDREX%C2%AE-Plant>.)
- PricewaterhouseCoopers, 2015, Africa gearing up: PricewaterhouseCoopers, 91 p. (Accessed April 4, 2017, at <http://www.pwc.com/gx/en/transportation-logistics/publications/africa-infrastructure-investment/assets/africa-gearing-up.pdf>.)
- Société Nationale du Fer et de l'Acier, 2017, La Société: Société Nationale du Fer et de l'Acier. (Accessed January 18, 2017, at <http://www.feraal.dz/index.htm>.)
- Sonatrach S.p.A., 2017, Abstract 2016: Sonatrach S.p.A., 8 p. (Accessed January 10, 2017, at http://www.sonatrach.com/Abstract_2016.pdf.)
- Suhail Bahwan Group LLC, 2017, Algeria fertilizer JV: Suhail Bahwan Group LLC. (Accessed April 2, 2018, at <http://www.suhailbahwangroup.com/algeria-fertilizer-jv>.)

- Terramin Australia Ltd., 2017, Tala Hamza project: Terramin Australia Ltd. (Accessed April 6, 2018, at <http://www.terramin.com.au/project/tala-hamza-project>.)
- Thomson Reuters, 2016, Indonesia's Indorama signs \$4.5 bln of Algerian phosphate deals: Thomson Reuters, July 18. (Accessed April 6, 2018, at <https://www.reuters.com/article/algeria-indonesia-mining/indonesias-indorama-signs-4-5-bln-of-algerian-phosphate-deals-idUSL8N1A43TR>.)
- Tosyali Holding, 2017a, Algeria DRI pellet facilities: Tosyali Holding. (Accessed January 12, 2018, at <http://en.tosyaliholding.com.tr/companies/detail.aspx?SectionID=PN46WGg28DVyjFs69Rchrg%3D%3D>.)
- Tosyali Holding, 2017b, Tosyali Ind. du fer Algeria Co.: Tosyali Holding. (Accessed January 12, 2018, at <http://en.tosyaliholding.com.tr/companies/detail.aspx?SectionID=PN46WGg28DVyjFs69Rchrg%3D%3D>.)
- U.S. Census Bureau, 2017a, U.S. exports to Algeria by 5-digit end-use code 2007–2016: U.S. Census Bureau. (Accessed January 6, 2018, at <http://www.census.gov/foreign-trade/statistics/product/enduse/exports/c7210.html>.)
- U.S. Census Bureau, 2017b, U.S. imports from Algeria by 5-digit end-use code 2007–2016: U.S. Census Bureau. (Accessed January 6, 2018, at <http://www.census.gov/foreign-trade/statistics/product/enduse/imports/c7210.html>.)
- U.S. Energy Information Administration, 2016, Algeria: U.S. Energy Information Administration Country Analysis Brief, March 11, 16 p. (Accessed April 12, 2018, at <https://www.eia.gov/beta/international/analysis.cfm?iso=DZA>.)
- World Steel Association, 2017a, Steel statistical yearbook: Brussels, Belgium, World Steel Association, 121 p. (Accessed March 15, 2018, at <https://www.worldsteel.org/dms/internetDocumentList/bookshop/2017/Steel-Statistical-Yearbook-2017/document/Steel-Statistical-Yearbook-2017.pdf>.)
- World Steel Association, 2017b, World steel in figures: Brussels, Belgium, World Steel Association, 30 p. (Accessed December 15, 2017, at <http://www.worldsteel.org/dms/internetDocumentList/bookshop/World-Steel-in-Figures-2017/document/World-Steel-in-Figures-2017-Final.pdf>.)
- Zait, Meriem, 2017, Cement industry showed notable progress in latest years—Good performance and promising horizons: *Algerie Industrie*, no. 0, November–December, p. 3–12. (Accessed April 16, 2018, at http://www.industrie.gov.dz/IMG/pdf/revue_industrie_no0-ar_00.pdf.) [In Arabic.]
- Zait, M., and Bidaoui, S., 2017, Mining sector is the lever of growth for Algeria: *Algerie Industrie*, no. 0, November–December, p. 36–41. (Accessed April 16, 2018, at http://www.industrie.gov.dz/IMG/pdf/revue_industrie_no0-ar_00.pdf.) [In Arabic.]

TABLE 1
ALGERIA: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons, gross weight, unless otherwise specified)

Commodity ²	2012	2013	2014	2015	2016
METALS					
Gold, mine production, Au content kilograms	264	140	85 ^e	106 ^r	102
Iron and steel:					
Pig iron	350	300	300 ^e	300 ^e	300 ^e
Raw steel	557	417 ^r	415	650	650
Products, continuous cast	550	432 ^r	410 ^r	650	650
Iron ore, mine production:					
Gross weight	1,784	1,067	911	944 ^r	610
Fe content	946	565	483	500 ^r	323
Silver, mine production, Ag content kilograms	42	27	16	20 ^r	20
Zinc:					
Mine production, concentrate metric tons	--	--	--	100	627
Alloys do.	801	611	248	309	300 ^e
Smelter production, primary do.	20,000 ^r	15,000 ^r	15,000 ^r	10,000 ^r	5,000
INDUSTRIAL MINERALS					
Barite, crude metric tons	36,211	30,245	56,829	44,000 ^r	52,000
Cement, hydraulic	19,000 ^e	18,500 ^e	21,000 ^e	23,000 ^{r, e}	23,354
Clay and shale:					
Bentonite metric tons	26,278	27,668	31,510	34,000 ^r	37,000
Common clay do.	10,167	11,829	12,467	12,390 ^r	13,000
Kaolin do.	100,970	42,504	181,068	51,000 ^r	96,000
Diatomite do.	2,137	2,007	2,415	2,350 ^r	2,500
Feldspar, mine production	163	259	230	245	240
Gypsum	1,958	2,078	1,360 ^r	1,770 ^r	2,170
Helium, liquids million cubic meters	17 ^e	25 ^e	25 ^e	24 ^r	10
Lime, hydraulic	66 ^e	48	49	24 ^r	45
Nitrogen, N content:					
Ammonia	713	580	1,360 ^r	1,770 ^{r, e}	2,170 ^e
Urea	--	40 ^e	420	760 ^r	1,020
Phosphate rock:					
Gross weight	1,250	1,151	1,418	1,289	1,275
P ₂ O ₅ content ^c	375	345	415 ^r	380 ^r	375
Pumice and related materials, pozzolan	325	388	315	420	833
Salt, brine and sea	178	173	193	176 ^r	158
Stone, sand, and gravel:					
Sand and gravel, construction:					
Sand ³	4,637 ^r	4,216 ^r	4,797 ^r	2,840 ^r	3,000
Unspecified, aggregates, gravel ⁴	93,000 ^r	91,000 ^r	101,000 ^r	119,000 ^r	116,000
Silica, mine production, unspecified	95 ^{r, e}	100 ^{r, e}	100 ^{r, e}	65 ^r	60
Stone, crushed:					
Dolomite metric tons	743	60	60 ^e	22 ^r	--
Limestone, for cement	20,000	21,932	24,880	24,246 ^r	25,958
Marble, crushed marble rock	287	239	203	248 ^r	183
Stone, dimension:					
Marble, block	15	18	32	15 ^r	24
Tuff	1,700	1,700	1,700	3,228 ^r	3,300
Stone, size and shape unspecified, calcite	232	267	335	377 ^r	340
Sulfur compounds, sulfuric acid, S content	9	7	5	4	4
Sulfur, natural gas and petroleum, byproduct, S content metric tons	85,000	90,000	110,000	110,000	110,000
MINERAL FUELS AND RELATED MATERIALS					
Methanol	112 ^r	78	90 ^r	102	102
Natural gas liquids million 42-gallon barrels	14,128	13,216	16,047	16,047	16,047
Natural gas:					
Gross million cubic meters	182,599	179,489	186,824	183,825	183,825
Dry basis do.	85,195	81,543 ^r	83,296	84,583	91,300

See footnotes at end of table.

TABLE 1—Continued
ALGERIA: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons, gross weight, unless otherwise specified)

Commodity ²	2012	2013	2014	2015	2016
MINERAL FUELS AND RELATED MATERIALS—Continued					
Petroleum:					
Crude, including condensate thousand 42-gallon barrels	561,005	574,875	579,985	578,890	576,335
Refinery production:					
Bitumen do.	1,060	1,000	1,000	1,000	1,000
Distillate fuel oil do.	51,474	52,533	69,496	67,963	68,255
Gasoline, normal do.	10,000	9,600	9,270	11,430	11,430
Gasoline, super do.	8,944	8,618	10,105	10,105	10,105
Kerosene, including jet fuel do.	9,600	13,584	15,403	12,921	12,702
Liquefied petroleum gas do.	5,402	5,986	9,271	8,833	8,833
Lubricants do.	2,100	2,100	2,500	2,500	2,500
Naphtha do.	52,101	53,755	54,100	54,100	54,100
Residual fuel oil do.	31,646	35,684	50,881	50,954	52,816
Total do.	172,000	183,000	222,000	220,000	222,000

^cEstimated. ^rRevised. do. Ditto. -- Zero.

¹Table includes data available through March 13, 2018. All data are reported unless otherwise noted. Totals and estimated data are rounded to no more than three significant digits; may not add to totals shown.

²In addition to the commodities listed, secondary aluminum, secondary copper, secondary lead, caustic soda, fertilizer, fuller's earth, perlite and rhyolite, may have been produced in Algeria, but available information was inadequate to make reliable estimates of output.

³Converted from cubic meters to thousand metric tons by multiplying by a factor of 1.6.

⁴Converted from cubic meters to thousand metric tons by multiplying by a factor of 1.66.

TABLE 2
ALGERIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2016

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Barite	Société des Mines de Baryte d'Algérie S.p.A. (SOMIBAR) [Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles, S.p.A. (ENOF)]	Amin Mimoun Mine, Khenchela Province	35,000
Do.	do.	Boucaid Mine, Tissemsilt Province	20,000
Do.	do.	Mellal Mine, Tlemcen Province	NA
Do.	Société Nationale de la Baryte (BARYTAL) S.p.A.	Draissa Mine, Bechar Province	100,000 ¹
Do.	Société des Baryte SARL (SOBAR)	Mine at Chaabet Abou Fares, Tipaza Province	7,000
Bentonite	Société des Bentonites d'Algérie S.p.A. (BENTAL) [Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles, S.p.A. (ENOF)]	Mine at Hammam Boughrara, Tlemcen Province	18,000
Do.	do.	Mine in M'Sila Province	17,000
Do.	do.	Maghnia Mine, Tlemcen Province	16,000
Cement:			
Portland	Lafarge Ciment de M'Sila (LafargeHolcim Ltd., 99.99%)	Plant in M'Sila Province	5,000,000
Do.	Lafarge Ciment d'Oggaz (LafargeHolcim Ltd., 99.99%)	Plant at Oggaz, Mascara Province	4,400,000
Do.	Lafarge Logistique Algérie (LLA) S.p.A.	Plant at Bab-Ezzouar	1,200,000
Do.	Entreprise des Ciments et Dérivés d'Ech—Cheliff [Groupe Industriel des Ciments d'Algérie (GICA)]	Plant in Ech Cheliff Province	2,000,000
Do.	Société des Ciments Beni Saf [Groupe Industriel des Ciments d'Algérie (GICA), 65%, and Pharoan Group, 35%]	Plant at Beni Saf, Ain Temouchent Province	1,200,000
Do.	Société des Ciments Zahana [Groupe Industriel des Ciments d'Algérie (GICA), 65%, and ASEC Cement, 35%]	Plant at Zahana, Djefla Province	1,200,000
Do.	Société des Ciments d'Ain-Touta [Groupe Industriel des Ciments d'Algérie (GICA)]	Plant at Ain Touta, Batna Province	1,000,000
Do.	Société des Ciments d'Ain-Kébira [Groupe Industriel des Ciments d'Algérie (GICA)]	Plant at Ain El Kebira, Setif Province	1,000,000
Do.	Société des Ciments de Hamma-Bouziane [Groupe Industriel des Ciments d'Algérie (GICA)]	Plant at Hamma-Bouziane, Constantine Province	1,000,000
Do.	Société des Ciments de Sour El Ghoulane [Groupe Industriel des Ciments d'Algérie (GICA), 65%, and Buzzi Unicem S.p.A., 35%]	Plant at Sour El Ghoulane, Bouira Province	1,000,000
Do.	Société des Ciments de Hadjar Soud [Groupe Industriel des Ciments d'Algérie (GICA)]	Plant in Annaba Province	900,000
Do.	Société des Ciments de la Mitidja [Groupe Industriel des Ciments d'Algérie (GICA), 65%, and LafargeHolcim S.A., 35%]	Plant at Meftah, Blida Province	800,000
Do.	Société des Ciments Saïda [Groupe Industriel des Ciments d'Algérie (GICA)]	Plant at Hassasna, Ain Temouchent Province	500,000
Do.	Tabessa Cement Company S.p.A.	Plant in Tebessa Province	500,000
Do.	Société des Ciments de l'Algérois [Groupe Industriel des Ciments d'Algérie (GICA)]	Plant in Rais-Hamidou, Tipaza Province	450,000
White	Ciment Blanc d'Algérie S.p.A. (LafargeHolcim Ltd., 100%)	Plant at Oggaz, Mascara Province	550,000
Clay, kaolin	Société des Kaolins d'Algérie S.p.A. (SOALKA) [Federal White Cement Ltd., 63%, and Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles S.p.A. (ENOF), 37%]	El Milia Mine, Jijel Province	50,000
Do.	do.	Jebel Debbagh Mine, Guelma Province	15,000
Do.	SARL Faïenceries Algériennes	Mine at Adjerda, Chekfa, Jijel Province	95,000
Coke	IMETAL S.p.A. (Government, 100%)	El Hadjar, Annaba Province	1,200,000
Copper, cathode	Société Algérienne du Zinc S.p.A. (Entreprise Nationale de Métallurgie de Transformation des Métaux Non Ferreux, S.p.A., 100%)	Plant at Ghazaouet, Tlemcen Province	30,000
Diatomite	Société des Diatomees d'Algérie S.p.A. (DIATAL) [Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles, S.p.A. (ENOF)]	Tahalait quarry, Bir El Djir, Oran Province	2,000

See footnotes at end of table.

TABLE 2—Continued
ALGERIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2016

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Dolomite	Société Algérienne des Granulats S.p.A. (ALGRAN)	Mine at Djebel Taïoualet, Oum el Bouaghi Province	8,000
Feldspar	Tuféal SARL	Mine at Bouaita, Tizi Ouzou Province	83,000
Do.	La Société des Feldspaths d'Algérie (SOFELD) [Entreprise des Nationale des Produits Miniers Non Ferreux et des Substances Utiles, S.p.A. (ENOF), 57%, and Entreprise de la Céramique Ouest, 43%]	Mine at Ain Barbar, Annaba Province	200,000
Fertilizer:			
Compound, nitrogen-phosphate-potassium	Fertial S.p.A. (Grupo Villar Mir, 49%; Asmidal Group, 34%; Etrhb Haddad Group, 17%)	do.	150,000
Nitrogenous:			
Ammonia	Fertial S.p.A. (Grupo Villar Mir, 49%; Asmidal Group, 34%; Etrhb Haddad Group, 17%)	Petrochemical complex at Arzew, Oran Province	660,000
Do.	do.	Petrochemical complex in Annaba Province	330,000
Do.	Sofert Algerie S.p.A. (OCI N.V., 51%, and Sonatrach S.p.A., 49%)	Arzew Industrial Zone, Oran Province	1,600,000
Do.	Sharika El Djazairia El Omania lil Asmida S.p.A. [Suhail Bahwan Group (Holding) L.L.C., 51%, and Sonatrach S.p.A., 49%]	do.	1,460,000
Ammonium nitrate	Fertial S.p.A. (Grupo Villar Mir, 49%; Asmidal Group, 34%; Etrhb Haddad Group, 17%)	Petrochemical complex at Arzew, Oran Province	580,000
Urea	Sorfert Algerie S.p.A. [Orascom Construction Industries, S.A.E. (OCI), 100%]	Plant at Arzew, Oran Province	1,260,000
Do.	Fertial S.p.A. (Grupo Villar Mir, 49%; Asmidal Group, 34%; Etrhb Haddad Group, 17%)	Petrochemical complex at Arzew, Oran Province	400,000
Do.	Sharika El Djazairia El Omania lil Asmida S.p.A. [(Suhail Bahwan Group (Holding) L.L.C., 51%, and Sonatrach S.p.A., 49%)]	Plant at Arzew, Oran Province	2,555,000
Phosphatic	do.	do.	280,000
Do.	do.	Plant in Annaba Province	300,000
Gold kilograms	Entreprise d'Exploitation des Mines d'Or S.p.A. (ENOR) (Sonatrach S.p.A., 100%)	Amesmessia and Tirek Mines, Tamanrasset Province	500
Gypsum	32 private sector units and 13 public sector units	Batn, Bejaia, Biskra, Bouira, Chlef, Ghardaia, Mascara, Medbea, Milla, M'Sila, O.El Bouaghi, Oran, Setif, Tiara Mines	2,000,000
Helium million cubic meters	Helios S.p.A. (Sonatrach Valorisation Hydrocarbonés, 51%, and Helaps S.A., 49%)	GL1Z and GL3Z complexes, Arzew, Oran Province	17
Do.	do.	Helison Production S.p.A. (Linde AG, 50%, and Sonatrach S.p.A., 50%)	25
Iron and steel:			
Crude steel	IMETAL S.p.A. (Government, 100%)	Electric arc furnace plant at El Hadjar, Annaba Province	400,000
Do.	do.	Hot-strip mill at El Hadjar, Annaba Province	1,800,000
Do.	Tosyali Industrie du Fer et de l'acier Algerie (Tosyali Algeria) (Tosyali Holding, 50%)	Steel mill in Oran Province	1,600,000
Processed	do.	Cold-rolling mill at El Hadjar, Annaba Province	1,050,000
Do.	do.	Bar and wire rod mills at El Hadjar, Annaba Province	850,000
Do.	do.	Seamless tube mill at El Hadjar, Annaba Province	700,000
Do.	Entreprise Nationale de Tubes et de Transformation de Produits Plats (Groupe Industriel Sider, 100%)	Welded tube plant in Ghardaia Province	128,000
Do.	Société Algérienne de Fabrication Tubes en Spirale (Groupe Industriel Sider, 100%)	Welded tube plant at El Hadjar, Annaba Province	70,000

See footnotes at end of table.

TABLE 2—Continued
ALGERIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2016

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Iron and steel:—Continued				
Iron ore		Ferphos S.p.A. (Government, 100%)	Ouenza Mine, Tebessa Province	1,200,000
Do.		do.	Boukhadra Mine, Tebessa Province	525,000
Do.		Société des Mines de Fer d'Algérie S.p.A. (SOMIFER)	Khanguet Mine, Tebessa Province	50,000
Do.		do.	Anini Mine, Setif Province	170,000
Do.		do.	Rouina Mine, Ain Defla Province	140,000
Lime		SODEPAC (ERCO Group)	Mine at Hassasna	93,000
Do.		Société de Chaux de l'Ouest	Mine in Oran Province	65,000
Do.		Unité Chaux de Chettaba (Société des Produits Dérivés de l'Est, 100%)	Mine at Chettaba	11,000
Limestone		Mittal Steel Annaba SPA	Quarried at Oued N'hal	250,000
Marble:				
Blocks	cubic meters	Entreprise Nationale du Marbre S.p.A.	Quarries in Oran and Skikda Provinces	70,000
Do.	do.	SMS Bouhouita SARL	Quarries in Skikda Province	160
Crushed		Commercialisation du Marbre et de Dérivés de Marbre S.p.A. and Entreprise Nationale du Marbre S.p.A.	Quarries in Chlef, Oran, Skikda, Tizi Ouzou, and Tlemcen Provinces	17,000
Methanol		Société Nationale de Pétrochimie S.p.A. (Sonatrach S.p.A., 100%)	Complexe CP 1Z, Arzew, Oran Province	113,000
Natural gas:				
Crude	million cubic meters	Sonatrach S.p.A.	Numerous gasfields, including Adrar, Hamra, Hassi R'Mel, and Sbaa	45,000
Do.	do.	Statoil ASA, 49.5%; BP p.l.c., 46%; Sonatrach S.p.A., 4.5%	In Amenas	6,270
Do.	do.	Sonatrach S.p.A., 35%; BP p.l.c., 33.15%; Statoil ASA, 31.85%	In Salah	6,900
Do.	do.	Sonatrach S.p.A., 35%; Total S.A., 35%; Repsol S.A., 30%	Tin Fouye Tabankort	5,640
Do.	do.	Compañía Española de Petróleos, S.A.U. (CEPSA), 39%; Sonatrach S.p.A., 36%; Anadarko Petroleum Corp., 9%; Eni S.p.A., 5%; Maersk Olie og Gas AS, 5%; and Talisman Algeria, 2%	Ourhoud	22,000
Refined	do.	Société Nationale de Raffinage de Pétrole S.p.A. (NAFTEC)	RA1K refinery, Skikda Province	352,700
Liquefied	do.	do.	GL2Z complex, Arzew, Oran Province	17,820
Do.	do.	do.	GL1Z complex, Arzew, Oran Province	17,560
Do.	do.	do.	GL3Z complex, Arzew, Oran Province	5,576
Do.	do.	do.	GL1K complex, Skikda Province	6,942
Do.	do.	do.	GL2K complex, Arzew, Oran Province	2,992
Petroleum:				
Crude	42-gallon barrels per day	Sonatrach S.p.A.	About 50 oilfields, including Acheb West, Amassak/Tin-Yaguene, Draa Tamra, Edjeleh, El Borma, El Gassi, Gassi-Touil East, Guellala, Hassi Messaoud North and South, Ohanet North, Rhourde El Baguel, Tin-Fouye Tabankort, and Zarzaitine	1,700,000
Do.	do.	Sonatrach S.p.A., 25%; Anadarko Petroleum Corp., 25%; Lasma Oil Ltd., 25%; Maersk Olie og Gas AS, 25%	Hassi Berkine oilfield	285,000
Do.	do.	Sonatrach S.p.A., 37.70%; Anadarko Petroleum Corp., 18.10%; ConocoPhillips Algeria, 16.90%; Eni Oil Algeria, Maersk Olie Algeriet, and Talisman Algeria, 9.10% each	El Merk oilfield, Ouargla Province	135,000
Refined	do.	Société Nationale de Raffinage de Pétrole S.p.A. (NAFTEC)	RA1K refinery, Skikda Province	355,300
Do.	do.	do.	RA1K refinery, Skikda Province (condensate)	122,200
Do.	do.	do.	RHM refinery, Hassi Messaoud, Ouargla Province	21,500
Do.	do.	do.	RA1G refinery, El Harrach, Algiers	58,100
Do.	do.	do.	RA1Z refinery, Arzew, Oran Province	80,800
Do.	do.	Soralchin Refinery [Société Nationale de Raffinage de Pétrole S.p.A. (NAFTEC), 70%, and China National Petroleum Corp. (CNPC), 30%]	Refinery in Adrar Province	12,900

See footnotes at end of table.

TABLE 2—Continued
ALGERIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2016

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Phosphate:			
Phosphate rock	Société des Mines de Phosphates S.p.A. (SOMIPHOS) (Ferphos Group S.p.A)	Mine at Djebel Onk (Djemidjema and Kef Essenoun), Tebessa Province	1,600,000
Pumice, pozzolan	Société des Pouzzolanes et des Matériaux de Construction S.p.A.	Mine at Rockbet El Hassi	452,000
Do.	Entreprise Nationale de Fer et de Phosphate (Ferphos Group S.p.A.)	Mine at Beni Saf, Ain Temouchent Province	600,000
Salt, crude:			
Rock	Entreprise Nationale d'Exploitation des Carrières de Sels Industriels et Domestiques et Commercialisation des Sels (ENASEL) S.p.A.	Mine at El Outaya, Biskra Province	30,000
Solar	do.	Bethioua, Oran Province; El Meghaier, El Oued Province; Guergour Lamri, Setif Province; Ouled Zouai, Oum El Bouaghi Province; Sidi Bouziane, Relizane Province	400,000
Do.	Al Mallahate SARL	Chott Marouane Hamraia, El Oued Province	40,000
Stone:			
Tuff	CITIC Construction Co. Ltd.	Mines at Annaba, Boumerdes, Sidi Bel Abbes, Mascara, Mostaganem, Oran, Relizane Provinces	1,000,000
Do.	Six public sector units and 59 private units	Mines at Ain Temouchent, Tipaza, Tiaret	2,500,000
Unspecified	Société Algérienne des Granulats S.p.A. (ALGRAN) [Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles S.p.A. (ENOF)]	Aggregate quarries at Adrad, Oufarnou, Arzew, Ghedir, Gustar, Keddara, Oued Fodda, Teioueit, and Timezrit	3,000,000
Do.	Société des Diatomites d'Algérie S.p.A. (DIATAL) [Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles S.p.A. (ENOF)]	Oggaz limestone quarry, near Sig	12,500
Do.	Société des Bentonites d'Algérie S.p.A. (BENTAL) [Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles S.p.A. (ENOF)]	Limestone quarries near Beni Saf and M'Said	12,000
Sulfuric acid	Société Algérienne du Zinc (Entreprise Nationale de Métallurgie et de Transformation des Métaux Non Ferreux, 100%)	Plant at Ghazaouet	70,000
Do.	Fertial S.p.A. (Grupo Villar Mir, 49%; Asmidal Group, 34%; Etrhb Haddad Group, 17%)	Plants in Annaba and Oran Provinces	50,000
Zinc	Societe Algerienne du Zinc	Mine at Ghazaouet, Tlemcen Province	1,000

Do., do. Ditto. NA Not available.

¹Under construction.