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The Mineral Industry of Egypt

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Note: In this chapter, information for 2020 is followed by information for 2021.

In 2020, Egypt exported such mineral commodities as primary and secondary aluminum, cement, secondary copper, feldspar, ferroalloys, gold, granite, iron and steel, marble, nitrogen and phosphate fertilizers, crude petroleum, refined petroleum products, phosphate rock, salt, and quartz. Egypt was the world's 7th-ranked producer of ammonia [nitrogen (N) content] and direct-reduced iron (DRI), accounting for 2.9% and 4.6% of world output, respectively; the 8th-ranked producer of phosphate rock, accounting for 2.2% of world output; and the 14th-ranked producer of cement and natural gas, accounting for 1.0% and 1.5% of world output; respectively. The country imported such mineral commodities as alumina, coal, copper, iron ore, iron and steel, natural gas, crude petroleum, and refined petroleum products (BP p.l.c., 2021, p. 30, 32, 39, 45; United Nations Statistics Division, 2021, p. 130–31; World Steel Association, 2021a, p. 19; Apodaca, 2022; Export Council for Building Materials, Refractory & Metallurgy Industries, 2022; Hatfield, 2022; Jasinski, 2022).

Minerals in the National Economy

In 2020, the real gross domestic product (GDP) of Egypt increased by 3.6% compared with an increase of 5.6% in 2019. The county's nominal GDP amounted to $382.52 billion[1] in 2020. In fiscal year 2020 (July 1, 2019, through June 30, 2020), the mining sector's contribution to the GDP, which included hydrocarbon and nonfuel mineral activities, decreased to 9.9% from 10.2% in fiscal year 2019 (July 1, 2018, through June 30, 2019). The value of natural gas activity accounted for 5.0% of the GDP; crude petroleum, 3.6%; and nonfuel minerals, 1.3%. In fiscal year 2020, the manufacturing sector, which included aluminum, cement, fertilizers, iron and steel, and refined petroleum production, and the construction sector accounted for 16.4% and 6.4% of the GDP, respectively. The value of activities by private and public mining companies decreased by 3.0%; that of the construction and building materials sector increased by 4.4%; and that of the manufacturing sector increased by 1.4% in fiscal year 2020 (Central Bank of Egypt, 2021, p. A, 132; Central Agency for Public Mobilization and Statistics, 2022, p. 13; International Monetary Fund, 2022).

The net inflows of foreign direct investment (FDI) to Egypt decreased by 9.5% to $7.5 billion in 2020 from $8.2 billion in 2020, accounting for 2.1% of the GDP in 2020 compared with 2.7% in 2019. The FDI inflows to Egypt went mainly to the petroleum sector, which received 45.9% of the total; the services sector, 29.7%; the manufacturing sector, 12.0%; the construction sector, 5.6%; and the agriculture sector, 0.1%. The remaining 6.7% of the FDI inflows were marked as undistributed (Central Bank of Egypt, 2021, p. 81, 89, 90).

Government Policies and Programs

In 2020, the Ministry of Petroleum and Mineral Resources (MOPMR), which managed the country's mining and hydrocarbon sectors, outlined its strategic objectives for the sustainable development of the country's mineral resources as follows: (1) meet the domestic demand for petroleum products and mineral commodities, (2) optimize the value-added of natural resources, and (3) transform Egypt into a regional hub for natural gas and petroleum trade. In 2020, the MOPMR started two international auctions for mineral exploration in the country. One bid was for gold and associated minerals exploration in the "golden triangle" area, which is located along the Red Sea coast in eastern Egypt. The other bid was for exploration for metals, such as iron ore, lead, and zinc, and industrial minerals, such as feldspar, kaolin, phosphate rock, potash, and white sand (Ministry of Petroleum and Mineral Resources, 2020a, c–f).

In 2019, the Egyptian House of Representatives approved law No. 145 of 2019, which amended some of the provisions of the Mineral Resources Law No. 198 of 2014. Law No. 145 applies to all active explorations and mining agreements, regardless of their dates of issuance. The new law gives the Egyptian Mineral Resources Authority (EMRA) the power to negotiate and approve mining permits and to determine royalty rates and other exploration and land renting fees. The new law does not require the establishment of production-sharing agreements with the Government because it abolished the 50–50 ownership of joint venture projects with the Government required by the Mineral Resources Law No. 198 of 2014 and its Executive Regulations. Law No. 145 sets new royalty payments to the Government of between 5% and 20% on mineral production (Daily News Egypt, 2019; Attallah and Mourad, 2020; Ministry of Petroleum and Mineral Resources, 2020e,f).

Four main crude petroleum and natural gas laws govern the exploration, development, and distribution of hydrocarbons in Egypt. These are as follows: (1) the Law for Gas Market Activities Regulations No. 196 of August 2017; (2) Law No. 236 of 2001 concerning the Egyptian National Gas Holding Co.; (3) Law No. 217 of 1980 concerning natural gas; and (4) Law No. 20 of 1976 concerning the Egyptian General Petroleum Corp. The Gas Regulatory Authority was established by Law No.196 of 2017 as an independent agency to regulate the natural gas market in Egypt and was responsible for granting licenses and assessing tariffs on downstream natural gas activities, including supply and transportation to end users (Gas Regulatory Authority, 2017, p. 7, 11; 2018; Abdel Hakim, 2019).

[1]Where necessary values have been converted from Egyptian pounds (LE) to U.S. dollars (US$) at the annual average exchange rates of LE16.14=US$1.00 for 2020 and LE16.71=US$1.00 for 2019.

Law No. 72 of 2017 repealed the Investment Guarantees and Incentives Law No. 8 of 1997 (Investment Law) but kept benefits and guarantees to foreign investors established by the old law. Investment Guarantees and Incentives Law No. 8 of 1997 provided the legal framework for several mining companies that were established in the country in the early 2000s. Law No. 198 of 2015 protects investments in the country of both foreign and domestic companies against nationalization and provides incentives for investing in mining and in the manufacturing of fertilizers and petrochemicals in the country's free trade zones (Ministry of Petroleum and Mineral Resources, 2020b, f).

Production

Notable increases in mineral commodity production in Egypt in 2020 compared with that in 2019 included phosphoric acid, which increased by an estimated 316%; other refined petroleum products, by 21%; and raw steel, by 13%. The increase in phosphoric acid output was attributed to a full year of production at the Ain Al Sokhna Phosphatic Fertilizer Complex, which was owned by El-Nasr Company for Intermediate Chemicals (NCIC). Notable decreases in mineral production in 2020 compared with that in 2019 included caustic soda, which decreased by 76%; ferromanganese and manganese ore (manganese content), by 58% each; manganese ore (gross weight), by 56%; pig iron, by 29%; natural gas liquids, by 21%; feldspar, phosphate rock (phosphorus pentoxide content), and primary aluminum, by an estimated 13% each; kerosene and liquefied petroleum gas, by 12% each; and natural gas and secondary aluminum, by 10% each. Data on mineral production are provided in table 1.

Structure of the Mineral Industry

The mineral industry of Egypt included private, public, and state-owned companies. Some international companies formed joint ventures with local public and state-owned companies to explore for and develop mineral resources. Most of these companies were exploring for crude petroleum, natural gas, and gold. The MOPMR managed the country's mining and hydrocarbon sectors; it had five independently managed entities—Egyptian General Petroleum Corp. (EGPC), Egyptian Natural Gas Holding Co. (EGAS), Egyptian Petrochemical Holding Co., EMRA, and Ganoub El Wadi Petroleum Holding Co. (Ganope) (Ministry of Petroleum and Mineral Resources, 2020a; U.S. Energy Information Administration, 2022, p. 2–3).

Mineral Trade

Merchandise exports from Egypt decreased by 6% to $26.8 billion in 2020 from $30.6 billion in 2019. The value of petroleum product exports decreased to $2.9 billion in 2020 from $4.6 billion in 2019; crude petroleum exports decreased to $1.2 billion from $1.9 billion; petroleum gas and other hydrocarbon gas exports decreased to $498 million from $1.4 billion; nitrogen fertilizer exports decreased to $939 million from $1.15 billion; and gold exports increased to $2.9 billion from $2.0 billion. In 2020, liquefied natural gas exports from Egypt went mostly to Asia and Oceania (71%), Europe (24%), and Kuwait (5%) (United Nations Statistics Division, 2021, p. 130; U.S. Energy Information Administration, 2022, p. 9).

In 2020, the member companies of Export Council for Building Materials, Refractory & Metallurgy Industries (ECBM) in Egypt exported, in a descending order of the value of exports, iron and steel products ($726 million), aluminum products ($575 million), glass products ($351 million), other mining products ($318 million), granite and marble ($213 million), cement ($175 million), and copper products ($173 million). The top recipients of the ECBM exports were Austria, Canada, India, Italy, Libya, Saudi Arabia, Sudan, Turkey, the United Arab Emirates, and the United States (Export Council for Building Materials, Refractory & Metallurgy Industries, 2021).

Exports to the United States from Egypt decreased to $2.2 billion in 2020 from $3.2 billion in 2019. The sharp decrease in exports was attributed to the negative effects of the coronavirus disease 2019 (COVID-19) pandemic on the demand for petroleum products in the United States. Fuel oil exports decreased to $415 million in 2020 from $837 million in 2019, crude petroleum exports decreased to $65 million from $304 million, and other petroleum product exports decreased to $12 million from $44 million. Other mineral-related exports included fertilizers ($64 million); stone, sand, and cement ($25 million); wallboard ($18 million); iron and steel mill products ($12 million); other precious metals ($10 million); and advanced iron and steel products and bauxite and aluminum ($4 million each) (U.S. Census Bureau, 2022a, c).

The value of imports to Egypt from the United States decreased to about $4.7 billion in 2020 from $5.5 billion in 2019. The major mineral and mineral-related commodity imports were natural gas liquids ($86 million); steel-making materials ($84 million); other coal and fuels ($69 million); other petroleum products ($63 million); chemical fertilizers and metallurgical coal ($8 million each); other iron and steel products ($7 million); and aluminum and alumina, copper, and other nonferrous metals ($1 million each) (U.S. Census Bureau, 2022b, c).

Commodity Review

Metals

Aluminum.—Primary aluminum production was estimated to have decreased by 13% to 260,000 metric tons (t) in 2020 from 300,000 t in 2019, and secondary production was estimated to have decreased by 10%. The decreases were attributed to the negative effects of the COVID-19 pandemic on consumption and production of aluminum worldwide. Egypt Aluminium Co. S.A.E. (Egyptalum), which was a subsidiary of the Holding Company for Metallurgical Industries (HCMI), was the country's sole producer of primary aluminum. The company had the capacity to produce 320,000 metric tons per year (t/yr) of aluminum products from six plotlines, including billets (95,000 t/yr); rolled products (85,000 t/yr); ingots, slabs, and tee bars (35,000 t/yr); hot- and cold-rolling mills (75,000 t/yr); and foundry alloys and extrusion profiles (15,000 t/yr each). Egyptalum also had the capacity to produce 140,000 t/yr of calcined coke and 172,000 t/yr of prebaked anode blocks. In 2020, Egyptalum was implementing its capacity expansion plan, which included building seventh and eighth potlines that would add 500,000 t/yr of capacity after the completion of the second phase of the expansion project. Bechtel Corp. of the United States was conducting a feasibility study for Egyptalum's expansion project in 2020. The project was expected to be completed 2 years after the start of construction (tables 1, 2; Stohy, 2020; Aluminium Insider, 2021; Egyptian Aluminium Co., 2021a, b; Holding Company for Metallurgical Industries, 2021).

Arab Aluminium Co. S.A.E. produced a wide range of secondary aluminum products, including angles, bars, and tubes; it had the capacity to produce 15,000 t/yr of aluminum products. The company claimed a 40% share of the local market and exported 15% of its output. Other secondary aluminum producers in Egypt included Canex Aluminum, which was a Canadian-Saudi Arabian joint venture; Egyptian Aluminium Products Co. (Alumisr), which had two plants at El-Obour city and Helwan; Egyptian Copper Works Co., which produced aluminum sheets and wire; Egyptian International Co. for Aluminum Profiles S.A.E.; and Helwan Company for Nonferrous Industries (table 2; Arab Aluminum Co. S.A.E., 2021).

Gold.—Gold production in Egypt decreased to 14,069 kilograms (kg) in 2020 from 14,944 kg in 2019. The country's entire gold production in 2020 came from the Sukari gold mine, which was the country's largest and first modern gold mine. The mine was owned by Sukari Gold Mine Co. and operated by Centamin plc of the United Kingdom, which was listed on the London Stock Exchange and the Toronto Stock Exchange. The Sukari gold mine had both open pit and underground operations. Centamin mined 14.4 Mt of ore at the open pit and 1.1 Mt at the underground section of the mine in 2020; about 11.9 Mt of ore grading 1.35 grams per metric ton (g/t) gold was processed with a gold recovery rate of 87.8%. As of 2020, the Sukari gold mine held 180 t of gold reserves (reported as 5.8 million troy ounces) with an average ore grade of 1.2 g/t gold, and more than 12 years of mine life left. The company planned to mine mainly sulfide ore from the open pit operation during the next 2 years and expected to produce between 15,860 and 16,800 kilograms per year for the remaining life of the mine (table 1; Centamin plc, 2021a; 2021b, p. 2).

Iron and Steel.—Output of DRI, which was mostly made from imported iron ore (mainly from Brazil), increased to 4.8 million metric tons (Mt) in 2020 from 4.4 Mt in 2019. The increase in DRI production was attributed to higher demand for raw steel and steel products in 2020. Production of DRI was carried out by Al Ezz El-Dekheila Steel Co., which had the capacity to produce 3 million metric tons per year (Mt/yr) at its three plants at El-Dekheila in Alexandria; Ezz Rolling Mills S.A., which had the capacity to produce 500,000 t/yr of rebar at its plant at 10th of Ramadan City; Egyptian Sponge Iron and Steel Co. (ESISCO), which had a 2.0-Mt/yr-capacity plant at Sadat City; and Suez Steel Co. (Solb Misr), which had a 2.1-Mt/yr-capacity plant at Adabia in Suez (tables 1, 2; Egyptian Iron and Steel Co., 2020; Midrex Technologies Inc., 2021, p. 11–13; World Steel Association, 2021b, p. 106).

In 2020, raw steel production in Egypt increased to 8.2 Mt from 7.3 Mt in 2019, and hot-rolled products output, which included flat and long steel products, decreased slightly to 8.3 Mt from about 8.4 Mt. The output of concrete-reinforcing bars (rebar) decreased to 6.0 Mt in 2020 from 6.4 Mt in 2019, and that of wire rod decreased to 821,000 t from 867,000 t. Exports of semifinished and finished steel products increased to 4.4 Mt in 2020 from 1.2 Mt in 2019. Egypt's imports of semifinished and finished steel products decreased to 177,000 t in 2020 from 592,000 t in 2019 (table 1; World Steel Association, 2021b, p. 6, 8, 34, 41, 43, 57, 104).

Ezz Steel Group, which included Al Ezz El-Dekheila Steel Co., Ezz Rolling Mills S.A., and Ezz Steel Co. S.A.E., was the leading producer of steel in Egypt and the Middle East; it had the capacity to produce 7.0 Mt/yr of steel products [long (4.7 Mt/yr) and flat (2.3 Mt/yr)] at its four plants, which were located in Alexandria, Sadat City, Suez, and 10th of Ramadan City. Ezz Steel employed more than 8,000 people in 2020. Beshay Steel Group had the capacity to produce 4.9 Mt/yr of steel at its three plants in Sadat City. The group produced billets, rebar, wire rods, and light steel section for domestic and international markets and employed 3,500 people in 2020. Solb Misr operated three steel-rolling mills that had a combined capacity of 2.2 Mt/yr and two steel melting shops that had a capacity of 2.1 Mt/yr of steel products (table 2; Beshay Steel Group, 2021; Ezz Steel Group, 2021; Suez Steel Co., 2021).

The Egyptian Steel Group comprised two steel companies, IIC for Steel Plants Management Co. (IIC) and National Port Said Steel Co. (NPSS). At Beni Suef (about 145 kilometers south of Cairo), IIC operated a plant that had the capacity to produce 530,000 t/yr of rebar and 300,000 t/yr of raw steel. The company also operated a steel plant at the Amreya Industrial Zone in Alexandria Governorate that had the capacity to produce 280,000 t/yr of rebar and wire rods. Two plants were operated by the NPSS: a 340,000-t/yr-capacity rebar plant at the Raswa Industrial Zone in Port Said Governorate and a plant with 830,000 t/yr of raw steel production capacity and 530,000 t/yr of rebar production capacity at the Industrial Zone of the Suez Industrial Development Co. in Suez Governorate. Egyptian Iron and Steel Co. (Hadisolb) which was one of the companies affiliated with the HCMI, mainly produced finished steel products, iron ore, and raw steel at its plant in Helwan, south of Cairo. The company had been producing at about 30% of its capacity during the past decade owing to old machinery and a lack of investment to update its facilities (table 2; Egyptian Iron and Steel Co., 2020; Egyptian Steel Group, 2021a, b).

Iron Ore.—Iron ore production in Egypt decreased to 560,000 t in 2020 from 600,000 t in 2019. The decrease was attributed to continued financial difficulties at Hadisolb and the exhaustion of iron ore reserves at the El-Gedida Mine in El Bahariya Oasis. The country's imports of iron ore increased to 15.3 Mt in 2020 from 3.7 Mt in 2019, and scrap exports decreased to 39,000 t from 302,000 t (tables 1, 2; Egyptian Iron and Steel Co., 2020; World Steel Association, 2021b, p. 29).

Industrial Minerals

Cement.—Cement output in Egypt decreased to 44.9 Mt in 2020 from 48.7 Mt in 2019. The decrease was attributed to the negative effect that the COVID-19 pandemic had on cement consumption and production and the weak domestic demand for cement in the past 5 years. Cement consumption in Egypt had been decreasing since it peaked at 56.5 Mt in 2016. According to Cement Industry Division, which was an association for cement producers, the cement production capacity of Egypt in 2020 was 82.5 Mt/yr, of which 64 Mt/yr wase owned by private companies and 18.5 Mt/yr was held by Government-owned companies. International cement companies held 57% of the country's total capacity. The cement industry, which contributed about 1% of the country's GDP and 10% of the value of industrial sector activity, employed 50,000 people directly and about 200,000 people indirectly in 2020. Cement exports increased to 1.4 Mt in 2020 from 1.1 Mt in 2019 and 848,000 t in 2018 (table 1; Hafez, 2019; Perilli, 2019; Cement Industry Division, 2021).

In 2020, Egyptian Cement Co. S.A.E. was building a new cement plant in Suhag Governorate. The first phase of the plant was being constructed by SAIC Industrial Construction & Engineering Co.; it would have the capacity to produce 2 Mt/yr of clinker. The $285 million plant was expected to be commissioned in 2020, but the construction was delayed to 2021 because of the COVID-19 lockdown (Global Cement News, 2020; Perilli, 2020; SAIC Industrial Construction & Engineering Co., 2021).

Nitrogen.—Production of ammonia in Egypt was estimated to about be 5.1 Mt (4.2 Mt of N content) in 2020, which was unchanged from that in 2019. Similarly, production of urea was estimated to be 6.7 Mt (3.1 Mt of N content) in 2020, which was unchanged from that in 2019. The country's domestic consumption of urea was estimated to be 2.9 Mt; the remaining 3.6 Mt was exported. Egypt was the world's fifth-ranked exporter of urea in 2020. Several private and public companies produced nitrogen fertilizers, such as ammonium nitrate, nitric acid, and urea from ammonia. These companies included Abu Qir Fertilizer & Chemical Industries Co., Alexandria Fertilizer Co. (Alexfert), Delta Fertilizers and Chemicals Industries (ASMEDA), Egypt Basic Industries Corp. (EBIC), Egyptian Chemical Industries (KIMA), Egyptian Fertilizers Co. (EFC), El Nasr Fertilizers and Chemicals Co. (SEMADCO), Evergrow for Specialty Fertilizers Co., Helwan Fertilizers Co., and Misr Fertilizer Production Co. S.A.E. (MOPCO) (tables 1, 2; State Information Service, 2021).

In 2019, NCIC (a subsidiary of the National Services Products Organization of the Ministry of Defense) commissioned the Ain Al Sokhna Phosphatic Fertilizer Complex in Ain Al Sokhna, which is located at the southern end of the Suez Canal. The complex had the capacity to produce 440,000 t/yr of ammonia, 380,000 t/yr of urea, and 300,000 t/yr of calcium ammonium nitrate (Hassan Allam Holding Co., 2018; ThyssenKrupp AG, 2019).

In 2020, Stamicarbon of Italy handed over the greenfield ammonia-urea complex in Aswan Governorate in upper Egypt to KIMA following the completion of construction. KIMA was an affiliate of the Holding Company for Chemical Industries (HCCI). The construction of the complex was carried out by a joint venture of Stamicarbon and Tecnimont S.p.A., which were subsidiaries of Maire Tecnimont S.p.A. of Italy. The plant had the capacity to produce 438,000 t/yr of ammonia, 575,000 t/yr of urea melt, and 575,000 t/yr of granular urea (table 2; Egypt Today, 2018, 2019; World Fertilizer Magazine, 2020; Holding Company for Chemical Industries, 2021).

Phosphate Rock.—Production of phosphate rock in Egypt was estimated to have decreased to 4.8 Mt in 2020 from 5.0 Mt in 2019 and 2018. El Nasr Mining was the leading producer of phosphate rock in Egypt; it produced 3.5 Mt of phosphate rock from the East El Sebaáya Mine, the West El Sebaáya Mine, and the Red Sea Mine at El Quseir. The company had the capacity to produce 5 Mt/yr of phosphate rock. Phosphate Misr Co. S.A.E. (PMC) was the second-ranked producer of phosphate rock in the country; it produced about 2.5 Mt of phosphate rock. The company operated the Abu Tartur Mines, the New Valley Mines, and the Red Sea Mines (tables 1, 2; El Nasr Mining Co., 2020; Phosphate Misr Co. S.A.E., 2020).

Several private companies produced phosphate fertilizers from phosphate rock in Egypt. These companies included Abu Zaabal Fertilizers and Chemicals Co., Egyptian Financial and Industrial Co., Evergrow for Specialty Fertilizers Co., NCIC, Polyserve for Fertilizers and Chemicals, and Suez Company for Fertilizers Production. In 2020, the joint stock company El Wady for Phosphate Industries & Fertilizers Co. (WAPHCO) was developing a phosphate fertilizer manufacturing complex at the Abu Tartur phosphate rock mine in New Valley Governorate. In the first phase, the project was expected to include a phosphate ore treatment unit with the capacity to handle 2.4 Mt/yr of phosphate rock and a 600,000-t/yr-capacity phosphoric acid plant, and a sulfuric acid plant. The second phase of the project, which was expected to be completed at the end of 2023, would include an 800,000-t/yr-capacity diammonium phosphate plant and a 600,000-t/yr-capacity triple superphosphate plant. The $1.2 billion project was funded by PMC (25%); Ahli Holding Co. (20%); Abu Qir Fertilizer & Chemical Industries Co., National Investment Bank, Orient Gas Co., Petrojet, Inpi Co. (10% each); and EMRA (5%). The MOPMR was finalizing awarding a front-end engineering design for the Abu Tartur phosphate project to Flour Corp. of the United States (table 2; Petroleum Future, 2017; Flour Corp., 2018; Daily News Egypt, 2020; El Wady for Phosphate Industries & Fertilizers Co., 2020).

In 2020, NCIC, which had been producing compound fertilizers, phosphate fertilizer, phosphoric acid, and other chemicals at the Giza Industrial Zone, completed the first full year of production at the phosphatic fertilizer complex in Ain Al Sokhna at the southern end of the Suez Canal. The Ain Al Sokhna complex included two 1.2-Mt/yr-capacity sulfuric acid plants and two purified phosphoric acid plants, which had the capacity to produce 500,000 t/yr of ammonium phosphate and 500,000 t/yr of triple superphosphate (El-Nasr Company for Intermediate Chemicals, 2020).

Mineral Fuels

Natural Gas.—Dry natural gas production in Egypt decreased by 10% to 58.5 billion cubic meters in 2020 from 64.9 billion cubic meters in 2019. The decrease was attributed mainly to the negative effect that the COVID-19 pandemic had on world natural gas demand. The country's natural gas consumption decreased to 58.3 billion cubic meters in 2020 from 59.0 billion cubic meters in 2019. About 58% of the natural gas produced in Egypt came from offshore fields in the Mediterranean Sea, 20% from the Western Desert, 20% from the Nile Delta region, and 2% from the Gulf of Suez and Sinai Peninsula. About 20 international and domestic companies produced natural gas in Egypt in 2020. EGAS and EGPC were Government-owned companies; the foreign companies included Apache Oil Co. of the United States, BP p.l.c. of the United Kingdom, Dana Gas PJSC of the United Arab Emirates, DEA Deutsche Erdoel AG of Germany, Eni Group of Italy, and Royal Dutch Shell plc of the Netherlands and the United Kingdom. Offshore natural gas and petroleum discoveries made in the Mediterranean Sea, the Gulf of Suez, the Nile Delta, the Western Desert, and the Sinai Peninsula were reported in 2020. There were 14 natural gas discoveries in Egypt in 2020 compared with 16 in 2019 (table 2; BP p.l.c., 2021, p. 32, 34; Organization of Arab Petroleum Exporting Countries, 2021; Organization of the Petroleum Exporting Countries, 2021, p. 23).

Petroleum.—Crude petroleum (and condensate) production in Egypt decreased to 214.3 million barrels (Mbbl) in 2020 from 217.9 Mbbl in 2019. The country accounted for 0.7% of the world's total output of crude petroleum and held 3.1 billion barrels of proved crude petroleum reserves. Consumption of crude petroleum decreased to 261 Mbbl in 2020 from 276 Mbbl in 2019 and accounted for 0.8% of the world's consumption. Of the crude petroleum produced in Egypt, 56% percent came from the Western Desert, 23% from the Gulf of Suez, 12% from the Eastern Desert, and 9% from the Sinai Peninsula. Petroleum production in Egypt was carried out by 43 domestic and international companies, chief among which were Apache, Belayim Petroleum Co. SAE (Petrobel), Dragon Oil Co. of the United Arab Emirates, EGPC, Eni, Gulf of Suez Petroleum Co. S.A.E. (Gupco), Khalda Petroleum Co. SAE, and Shell. The number of crude petroleum discoveries in Egypt increased to 44 in 2020 from 41 in 2019, and the number of active rigs decreased to 17 in 2020 from 31 in 2019 (table 2; Eni Group, 2020; BP p.l.c., 2021, p. 14, 16, 21; Organization of the Petroleum Exporting Countries, 2021, p. 23, 41).

Egypt's combined petroleum refinery throughput at its eight refineries increased by 7.3% to 600,000 barrels per day (bbl/d) in 2020 from 559,000 bbl/d in 2019. Despite the increase, production was still notably less than the country's installed refining capacity of 833,000 bbl/d (Organization of the Petroleum Exporting Countries, 2021, p. 14).

As part of the MOPMR's plan to increase the petroleum refining capacity of Egypt by 3 Mt/yr, the Ministry invested in the building of new refineries and expanded the capacities of existing refineries. The plan was implemented in 2016 and was expected to continue through 2023 as part of Egypt's Vision 2030; the aim of the plan was to help meet the increased demand for refined petroleum products in the local market and to make the country a regional hub for natural gas and petroleum. In 2019, Egyptian Refinery Co., which was a joint venture of Arab Refinery Co. (66.6%) and EGPC (34.4%), commissioned a new refinery at Mostorod near Cairo after substantial delay. The new refinery had the capacity to produce 174,400 bbl/d of refined petroleum products. The refinery, which cost $4.1 billion to build, was expected to cut imports of distilled gas fuel by 50%, and gasoline, by 40%. In 2020, Assiut Oil Refining Co. continued its $450 million expansion project to increase high-octane gasoline production by 800,000 t/yr at the Assiut refinery. The project was expected to be completed in 2022 and would add 23,000 t/yr of LPG and 34,000 t/yr of hydrogen-rich gases to the domestic supply (Farouk and Gaballa, 2018; Brelsford, 2021; U.S. Energy Information Administration, 2022, p. 5; NS Energy, undated).

In 2019, the Government established a new company under the name Red Sea National Co. for Refining and Petrochemicals, which would have the capacity to refine 4.0 Mt/yr of crude petroleum after construction of a new refinery and a petrochemical complex in the Suez Canal Economic Zone was completed. In 2020, the Government was negotiating with Worley Ltd. of Australia to build this greenfield integrated petrochemical complex. The construction of the $7.5 billion complex was expected to be completed by the end of 2024 (Brelsford, 2021; Luck, 2021).

MINERAL INDUSTRY HIGHLIGHTS IN 2021

In 2021, Egypt was the world's 6th-ranked producer of DRI, accounting for 4.4% of world output; the 8th-ranked (tied with Trinidad and Tobago) producer of ammonia (N content), accounting for 2.7% of world output; the 8th-ranked producer of phosphate rock, accounting for 2.2% of world output; and the 12th-ranked (tied) producer of cement, accounting for 1.1% of world output (BP p.l.c., 2022, p. 29; Midrex Technologies Inc., 2022, p. 8; Apodaca, 2023; Hatfield, 2023; Jasinski, 2023).

Minerals in the National Economy

In 2021, the real GDP of Egypt increased by 3.3%. The county's nominal GDP was $423.15 billion. In fiscal year 2021 (July 1, 2020, through June 30, 2021), the mining sector contributed 9.5% of the nominal GDP. The value of natural gas sector activities accounted for 5.0% of the GDP; that of crude petroleum, 3.3%; and that of nonfuel minerals, 1.3%. The manufacturing sector in Egypt contributed 14.8% of the GDP and the construction sector, 6.6%. In fiscal year 2021, the value of private and public mining companies' activities increased by 3.6%; the value of the construction and building materials sector increased by 6.8%; and that of the manufacturing sector decreased by 5.8% (Central Bank of Egypt, 2022, p. 5, 11, 97; International Monetary Fund, 2022).

Production

Notable increases in mineral commodity production in Egypt in 2021 compared with production in 2020 included that of caustic soda, which increased by an estimated 200%; phosphoric acid, by an estimated 180%; ferromanganese and mined manganese (manganese content), by 80% each; manganese ore (gross weight), by 63%; hot-rolled steel products, by an estimated 27%; raw steel, by 25%; wire rod, by 22%; natural gas, by 16%; feldspar and phosphate rock (phosphorus pentoxide content), by an estimated 15% each; and cement, DRI, and secondary aluminum, by 11% each. Notable decreases in mineral production in 2021 compared with production in

2020 included that of mica, which decreased by an estimated 30%; bentonite, by an estimated 13%; and gold, by 8% (table 1).

Mineral Trade

The value of merchandise exports from Egypt increased by about 9% to $28.7 billion in fiscal year 2021 from $26.4 billion in fiscal year 2020. Of this amount, petroleum products exports increased to $4.6 billion from $4.5 billion; crude petroleum exports decreased to $2.7 billion from $3.2 billion; natural gas exports increased to $1.3 billion from $718 million; and coal exports decreased to $22 million from $35 million. Gold exports decreased to $2.0 billion from $2.8 billion; fertilizers and phosphate rock exports increased to $1.2 billion from $967 million; aluminum exports increased to $445 million from $295 million; and cast-iron exports increased to $381 million from $203 million. Egypt crude petroleum and condensate exports went to India (54%), Greece (22%), Italy (11%), Spain (9%), the Netherlands (3%), and China (1%) (Central Bank of Egypt 2022, p. 145–147; U.S. Energy Information Administration, 2022, p. 6).

In 2021, the member companies of ECBM exported, in a descending order of the value of exports, iron and steel products (valued at $1.48 billion), aluminum products ($635 million), cement ($397 million), glass products ($384 million), other mining products ($318 million), copper products ($296 million), and granite and marble ($273million). The top recipients of the ECBM exports were, in a descending order of the value of exports, Italy, Canada, Spain, the United Arab Emirates, Saudi Arabia, the United States, Libya, Turkey, Sudan, and Australia (Export Council for Building Materials, Refractory & Metallurgy Industries, 2022).

The value of total merchandise imports to Egypt in fiscal year 2021 increased to $70.7 billion from $62.8 billion in fiscal year 2020. Of these, the value of petroleum product imports increased to $5.2 billion in fiscal year 2021 from $4.6 billion in fiscal year 2020; that of crude petroleum imports decreased to $3.4 billion from $4.3 billion; and that of coal imports decreased to $131 million from $175 million. Cast iron imports increased in value to $766 million from $640 million; iron ore imports, to $420 million from $362 million; and semiraw copper imports, to $378 million from $222 million; and imports of iron and steel products decreased to $292 from $412 million (Central Bank of Egypt, 2022, p. 148–150; United Nations Statistics Division, 2022, p. 133).

Commodity Review

Mineral Fuels

Crude Petroleum and Natural Gas.—In 2021, dry natural gas production in Egypt increased by 16% to 67.8 billion cubic meters from 58.5 billion cubic meters in 2020; crude petroleum output decreased by 4% to 204.8 Mbbl from 214.3 Mbbl; natural gas liquids increased by 7% to 17.2 Mbbl from 16.1 Mbbl; and production of refined petroleum products decreased to 218 Mbbl in 2021 from 219 Mbbl in 2020. The combined petroleum refinery throughput of Egypt at its eight refineries decreased to 589,000 barrels per day (bbl/d) in 2021 from 600,000 bbl/d in 2020. The country's installed refining capacity was 762,000 bbl/d in 2021. In 2021, the 52 hydrocarbon discoveries (39 for crude petroleum and 13 for natural gas) were made in in the Eastern and Western Deserts, the Gulf of Suez, and the Sinai Peninsula (table 1; Ministry of Petroleum and Mineral Resources, 2022; U.S. Energy Information Administration, 2022, p. 5).

In 2021, EGPC and EGAS, on behalf of the MOPMR, invited domestic and international natural gas and petroleum companies to participate in the country's first digital international auction for exploration and production of natural gas and petroleum in 24 blocks in the Gulf of Suez, the Western Desert, and the Mediterranean Sea according to the production-sharing agreements model applicable in Egypt. EGAS also planned to invite international companies for another round of petroleum exploration and production bidding in 2022 (Ministry of Petroleum and Mineral Resources, 2021, 2022).

Outlook

According to the International Monetary Fund, Egypt's economic growth is expected to be greater than 5% for the next 3 years. The implementation of the new mining code (Law No. 145 of 2019), which does not limit mining companies' ownership to 50% in new mining projects, has encouraged domestic and foreign mining companies to take a bigger role in exploring and developing the country's mineral resources of gold and associated minerals, industrial minerals, lead, and zinc. Production of mineral commodities, such as aluminum, dimension stone (granite and marble), gold, gypsum, iron and steel, natural gas, nitrogen and phosphate fertilizers, phosphate rock, and refined petroleum products is likely to increase in the next 5 years with the completion of expansion projects in existing plants, including the Assiut oil refinery and Egyptalum, and the commissioning of new greenfield projects, such as the Abu Tartur fertilizer complex. Exports of cement, iron and steel, and other building materials are expected to increase in the short term owing to the country's high production capacity and weak domestic demand (International Monetary Fund, 2022).

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TABLE 1

EGYPT: PRODUCTION OF MINERAL COMMODITIES[1]

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

Commodity[2]		2017	2018	2019	2020	2021
METALS						
Aluminum, metal:						
Primary		314	300 e	300 e	260 e	260 e
Secondary[e]		100	100	100	90	100
Copper, refinery, secondary[e]		100	100	100	100	100
Ferroalloys:						
Ferromanganese[3]		12	13	12	5	9
Ferrosilicon[e, 4]		61	61	61	60	60
Gold, mine, Au content	kilograms	16,951	14,680	14,944	14,069	12,919
Iron ore, mine:						
Gross weight		565	500	600 r	560	560
Fe content[e]		353	312	372 r	347	347
Iron and steel:						
Direct-reduced iron		4,667	5,753	4,426	4,828	5,355
Pig iron[e]		150 r	150 r	170 r	120	120
Steel:						
Raw steel		6,870	7,807	7,257	8,229	10,294
Products:						
Hot-rolled		8,059	9,598	8,422	8,253	10,500 e
Wire rod		920	1,139 r	867 r	821	1,000 e
Manganese, mine:[3]						
Gross weight		36	40	36	16	26
Mn content		12	13	12	5	9
INDUSTRIAL MINERALS						
Barite[e]	metric tons	7,500	7,500	7,500	7,500	7,500
Cement, hydraulic, all types		53,900	52,000	48,700	44,900	50,000
Clay:[e]						
Bentonite	metric tons	40,000	40,000	40,000	40,000	35,000
Kaolin		232	230	230	230	230
Feldspar		230 r	230 r	230 r	200	230
Gypsum, mine[e, 5]		1,000	1,000	1,000	1,000	1,000
Lime[e]		770	800	780	810	870
Mica[e]		10	10	10	10	7
Nitrogen, N content:[e]						
Ammonia		3,700	4,100	4,200	4,200	4,000
Urea		3,000	3,000	3,100 r	3,100	3,000
Phosphate:						
Phosphate rock:						
Gross weight		4,800	5,000 e	5,000 e	4,800 e	5,000 e
P_2O_5 content		1,344	1,500 e	1,500 e	1,300 e	1,500 e
Compounds, phosphoric acid, P_2O_5 content[e]		60	90	60 r	250	700
Quartz[e]		100	100	100	100	100
Salt[e]		1,750	1,700	1,700	1,700	1,700
Sand and gravel, industrial sand[e]		600	600	600	600	600
Sodium, compounds, caustic soda		270	300	330	80	240 e
Sulfur, byproduct, petroleum, elemental		86	86 e	86 e	86 e	86 e
Talc and related materials, pyrophyllite, soapstone, talc[e]	metric tons	15,000	25,000 r	22,000 r	20,000	20,000
MINERAL FUELS AND RELATED MATERIALS						
Natural gas:						
Gross	million cubic meters	53,200 r	61,000 r	67,400 r	61,000	71,000
Dry basis	do.	50,671	58,600	64,900	58,500	67,800
Petroleum:						
Crude, including condensate	thousand 42-gallon barrels	220,095	225,205 r	217,905 r	214,255	204,765
Natural gas liquids	do.	20,805	21,170 r	20,440 r	16,060	17,155

See footnotes at end of table.

TABLE 1—Continued

EGYPT: PRODUCTION OF MINERAL COMMODITIES[1]

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

Commodity[2]		2017	2018	2019	2020	2021
MINERAL FUELS AND RELATED MATERIALS—Continued						
Petroleum:—Continued						
Refinery:						
Distillate fuel oil	thousand 42-gallon barrels	51,900	50,400	51,800 r	55,200	55,100 e
Gasoline, including naphtha	do.	31,100	31,100	29,300 r	30,500	30,000 e
Kerosene, including jet fuel	do.	16,500	20,300	20,500 r	18,000	18,000 e
Liquefied petroleum gas	do.	5,800	6,000	5,900 r	5,200	5,200 e
Residual fuel oil	do.	52,600	56,600	64,100 r	70,000	70,000 e
Other	do.	32,500 r	33,000 r	33,000 r	39,800	40,000 e
Total	do.	190,000 r	197,000 r	205,000 r	219,000	218,000 e

[e]Estimated. [r]Revised. do. Ditto.

[1]Table includes data available through December 29, 2022. 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.

[2]In addition to the commodities listed, calcium carbonate, carbon black, coking coal, dimention stone, dolomite, gemstones, granite, iron oxide pigments, lead and zinc (which was produced from recycled material), marble, methanol, perlite, sand and gravel, and sulfuric acid may have been produced, but available information was inadequate to make reliable estimates of output.

[3]Reported by the International Manganese Institute.

[4]Production is for the fiscal year that began on July 1 of the year shown.

[5]Includes anhydrite.

TABLE 2
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2021

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum, primary and secondary	Aluminium Co. of Egypt (Egyptalum) [Holding Company for Metallurgical Industries (HCMI), 90%, and private interests, 10%]	Smelter at Nag Hammadi, Qena Governorate	320
Aluminum, secondary	Al Qantara for Ferrous Metals Co.	Plant at Al Qantara, Suez Governorate	25
Do.	Arab Aluminium Co. S.A.E.	Plant at Ismaelia	15
Do.	Al Saad Aluminium Co.	Plant at Mostorod, Cairo	10
Do.	Canex Aluminum	Plant at CPC Industrial Zone, 6th of October City	NA
Do.	Egyptian Copper Works Co. [Holding Company for Metallurgical Industries (HCMI)]	Plant at Alexandria	50
Do.	Egyptian Aluminium Products Co. (Alumisr)	2 plants at El-Obour City, Qalyubia Governorate and Helwan, Cairo Governorate	12
Do.	Egyptian International Co. for Aluminum Profiles S.A.E.	Plant at 3rd Industrial Zone, Giza Governorate	14
Do.	General Metals Co.	Plant at Helwan, Cairo Governorate	6
Do.	Helwan Company for NonFerrous Industries (Government, 100%)	do.	45
Do.	Rasheed Performance Minerals Group (RPM)	Plant at Borg El Arab Industrial Development Zone	100
Calcium carbonate	ASCOM Carbonate and Chemical Manufacturing (Qalaa Holding, 100%)	Mine at El Minya, Upper Egypt	500
Do.	Misr Quarries Development Co. S.A.E	Mine at Attaka Mounitain, Suez Governorate	NA
Carbon, black	Alexandria Carbon Black Co. S.A.E. (Egyptian Holding Co. for the Chemical Industry, 49%; Inco-Bharat, 36%; Grasim Industries, 15%)	Plant at Amerya, Alexandria Governorate	20
Cement	Al Nahda Cement Co. [Holding Company for Chemical Industries (HCCI), 50%; Insurance Fund for the Arab Contractors Co., 20%; Misr Insurance Holding Co., 20%; Misr International for Contracting and Invistment MIC, 6%; The Arab Contractors for Investment ACI, 4%]	Plant in Qena Gvernorate	1,500
Do.	Ameryah Cement Co. [Cimentos de Portugal SGPS S.A. (Cimpor)]	Plant at Burg Al Arab, Alexandria Governorate	5,500
Do.	Arab Swiss Engineering Co. (ASEC) (Suez Cement Co., 68.7%)	Plant at Helwan, Cairo Governorate	3,615
Do.	Arabian Cement Co. (Cementos La Union S.A.)	Plant at Ain Al-Sokhna, Suez Governorate	5,000
Do.	Assuit Cement Co. (Cemex Egypt)	Plant in Assiut Governorate	5,700
Do.	Egyptian Cement Co. S.A.E. (Holcim Ltd., 74%, and other interests, 26%)	Plant at Ain Al-Sokhna, Suez Governorate	9,500
Do.	El-Arish Cement Co. (Ministry of Defense, 100%)	Plant at El Arish, North Sinai Governorate	6,500
Do.	El Sewedy Cement Co.	Plant at Attaka, Suez Governorate	2,400
Do.	Medcom Cement Co.	Plant in Asawn Governorate	800
Do.	Misr Beni Suef Cement Co.	Plant in Beni Suef Governorate	3,100
Do.	Misr Qena Cement Co. (ASEC Cement Co.)	Plant at Nasr City, Cairo Governorate	2,000
Do.	National Cement Co. (Government, 77%, and private interests, 23%)	Plant at El Tabbin, Cairo Governorate	3,100
Do.	National Cement Co. Beni Suef (Ministry of Defense, 100%)	Plant in Beni Suef Governorate	12,000
Do.	Royal El Minya Cement	Plant at Samallot, El Minya Governorate	2,690

See footnotes at end of table.

TABLE 2—Continued
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2021

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement—Continued		Sinai Cement Co. (Vicat Group)	Plant at El Arish, North Sinai Governorate	3,800
Do.		Sinai White Portland Cement Co. (Aalborg Portland A/S)	Plant in North Sinai Governorate	900
Do.		South Valley Cement Co.	Plant at Beni Suef Industrial Zone, Beni Suef Governorate	1,500
Do.		Suez Cement Co. (HeidelbergCement Group)	Plant at Helwan, Cairo Governorate	2,000
Do.		do.	Plant at Kattameya, Cairo Governorate	1,800
Do.		do.	Plant in Suez Governorate	3,800
Do.		do.	Plant at Torah, Cairo Governorate	4,900
Do.		Titan Cement Egypt (Titan Cement Co., 100%)	2 plants at Alexandria and Beni Suef	5,300
Clay:				
Bentonite		Rasheed Performance Minerals Group (RPM)	Plant at Borg El Arab Industrial Development Zone, Alexandria Governorate	225
Kaolin		El Nasr Mining Co. [Holding Company for Metallurgical Industries (HCMI), 100%]	Mine in Aswan Governorate	NA
Do.		Sinai Manganese Co. [Holding Company for Chemical Industries (HCCI)]	Mine in South Sinai Governorate	100
Coking coal		El Nasr Coke and Chemicals Co. (Government, 100%)	Plant at Helwan, Cairo Governorate	1,400
Copper:				
Refinery		Egyptian Copper Works Co. [Holding Company for Metallurgical Industries (HCMI), 100%]	Plant at Hagar El Nouatia, Alexandria Governorate	130
Do.		Egyptian Metal Works	Plant in Cairo Governorate	NA
Do.		El Sewedy Electric Co.	Refinery at Ain Al-Sokhna, Suez Province	130
Smelter		do.	Smelter at Ain Al-Sokhna, Suez Province	300
Dolomite		Misr Quarries Development Co. S.A.E	Plant at Attaka Mountain, Suez Governorate	NA
Feldspar		Mining Engineering Company (Knouz)	Mine in Aswan Governorate	NA
Do.		Misr Quarries Development Co. S.A.E	Plant at Attaka Mountain, Suez Governorate	NA
Ferromanganese		Egyptian Ferroalloys Co.	Plant at Idfo, Aswan Governorate	36
Ferrosilicon		do.	do.	65
Fluorspar	metric tons	Egyptian Company for Mineral Resources (ECMR)	Mine at Mueilha, Eastern Desert, Red Sea Governorate	4,500
Do.	do.	El Nasr Mining Co. [Holding Company for Metallurgical Industries (HCMI), 100%]	do.	5,000
Glass sand		ASCOM Geology and Mining (Qalaa Holding, 100%)	Plant at Minya Industrial zone, El Minya Governorate	180
Glasswool		ASCOM Carbonate and Chemical Manufacturing	Plant at Ain Al-Sokhna, Suez Governorate	200
Gold	kilograms	Sukari Gold Mine Co. [Centamin plc, 50%, and Egyptian Company for Mineral Resources (ECMR), 50%]	Sukari Gold Mine, Eastern Desert, Red Sea Governorate	18,000
Do.	do.	Hamash Misr for Gold Mines (Cypriot Matz Holdings, 50%, and Egyptian Company for Mineral Resources (ECMR), 50%]	Hamash Gold Mine,[1] Eastern Desert Red Sea Governorate	500
Gypsum		Al-Fayrouz Co.	AL Fayrouz quarry, Ras Sadir, South Sinai Province	350

See footnotes at end of table.

TABLE 2—Continued

EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2021

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Gypsum—Continued	ASCOM Geology and Mining (Qalaa Holding, 100%)	Mine at Ras Sedr, South Sinai Governorate	216
Do.	El Nasr Mining Co. (Holding Company for Metallurgical Industries (HCMI), 100%]	Quarries at Edfo, Aswan Governorate	NA
Do.	Modern Suez Gypsum Co. SAE	Mine at Wadi Gharandel, South Sinai Governorate	2,400
Do.	Sinai Manganese Co. [Holding Company for Chemical Industries (HCCI)]	Mine at Ras Mala'ab, South Sinai Governorate	400
Iron ore:			
Ore	Egyptian Iron and Steel Co. (Hadisolb) (Government, 100%)	Mine at El-Gedida, El Bahariya Oasis, Giza Governorate	1,200
Oxides	El Nasr Mining Co. [Holding Company for Metallurgical Industries (HCMI), 100%]	Mines in Aswan and Sinai Governorates	150
Do.	TAS Flowrance Group	Mines at Asawn, Sinai, Western Desert	120
Iron and steel:			
Direct-reduced	Al Ezz El-Dekheila Steel Co. (EZDK) (Al Ezz Steel Rebars S.A., 55%)	El-Dekheila I, II, III plants, El-Dekheila, Alexandria	5,000
Do.	Ezz Rolling Mills Co. SAE	Plant in Sadat City, Monufia Governorate	1,900
Do.	Egyptian Sponge Iron and Steel Co. (ESISCO) (Beshay Steel Group)	do.	2,000
Do.	Suez Steel Co. (Solb Misr)	Plant in Suez Governorate	2,000
Steel:			
Raw	Al Ezz El-Dekheila Steel Co. (EZDK) [Al Ezz Steel Rebars S.A. (Ezz Steel), 55%]	Plant in Alexandria Governorate	7,000
Do.	Egyptian Iron and Steel Co. (Hadisolb) [Holding Company for Metallurgical Industries (HCMI), 100%]	Plant in Helwan, Cairo Governorate	600
Do.	Egyptian American Steel Rolling Co. S.A.E (Beshay Steel Group)	Plant in Sadat City, Monufia Governorate	3,000
Do.	IIC For Steel Plants Management Co. (Egyptian Steel Group)	Plant at Abu Saleh Center Industrial Area, Beni Suef Governorate	300
Do.	National Port Said Steel Co. (NPSS) (Egyptian Steel Group, 100%)	Plant at Ain Al-Sokhna, Suez	830
Do.	Suez Steel Co. (Solb Misr)	Plant at Suez Industrial Area, Suez Governorate	2,100
Flat	Al Ezz El-Dekheila Steel Co. (EZDK) [Al Ezz Steel Rebars S.A. (Ezz Steel), 55%]	Plant in Alexandria Governorate	2,300
Do.	Ezz Flat Steel Co. [Al Ezz Steel Rebar S.A. (Ezz Steel), 55%]	Plant in Suez Governorate	1,200
Do.	Egyptian Iron and Steel Co. (Hadisolb) [Holding Company for Metallurgical Industries (HCMI), 100%]	Plant at Helwan, Cairo Governorate	1,000
Rebar	Al Ezz Steel Rebars S.A. (Ezz Steel)	Plant at Sadat City, Monufia Governorate	4,700
Do.	AlGioshy Steel S.A.E	Plant at 6th of October City	1,000
Do.	Delta Steel Mill Co.	Plant in Qalyubiyah Governorate	200
Do.	Egyptian American Steel Rolling Co. S.A.E (Beshay Steel Group, 100%)	Plant at Sadat City, Monufia Governorate	1,200
Do.	do.	Plant at Raswa Industrial Zone, Port Said Governorate	340
Do.	Ezz Rolling Mills S.A.	Plant at 10th of Ramadan City, Sharqia Governorate	500
Do.	IIC For Steel Plants Management Co. (Egyptian Steel Group)	Plant at Amreya Industial Zone, Alexandria Governorate	280

See footnotes at end of table.

TABLE 2—Continued
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2021

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Iron and steel:—Continued				
Steel:—Continued				
Rebar—Continued		IIC For Steel Plants Management Co. (Egyptian Steel Group)	Plant at Abu Saleh Center Industrial Area, Beni Suef Governorate	530
Do.		International Steel Rolling Mills Co. SAE (Beshay Steel Group, 100%)	Plant at Sadat City, Monufia Governorate	700
Do.		Kandil Steel	do.	1,000
Do.		Kouta Steel Group	Plant at Port Said	360
Do.		do.	Plant at Alexandria	300
Do.		Misr National Steel Co.	Plant at Heliopolis, Cairo Governorate	360
Do.		National Port Said Steel Co. (NPSS) (Egyptian Steel Group, 100%)	Plant at Port Said	350
Do.		do.	Plant at Industrial Zone of Suez Industrial Development Co., Ain Al-Sokhna, Suez Governorate	530
Do.		Suez Steel Co. (Solb Misr)	Plant at Ain Al-Sokhna, Suez Governorate	2,500
Lime		do.	Plant in Suez Governorate	183
Do.		Egyptian Sponge Iron and Steel Co. (ESISCO) (Beshay Steel Group)	Plant at Sadat City, Gharbia Governorate	200
Do.		Solvay Alexandria Sodium Carbonate S.A.E. (Salvoy S.A.)	Plant at Alexandria	200
Manganese		Sinai Manganese Co. [Holding Company for Chemical Industries (HCCI), 100%]	Abu Zenima Mine, South Sinai Governorate	110
Methanol		Delta Fertilizers & Chemical Industries Co. [Holding Company for Chemical Industries (HCCI), 100%]	Plant at Talkha, Dakhlia Governorate	36
Do.		Egyptian Methanex Methanol Co. S.A.E [Methanex Corp., 50%; Arab Petroleum Investments Corp., 17%; Egyptian Natural Gas Holding Co. (EGAS), 12%; Egyptian Petrochemical Holding Co., 12%; Egyptian National Gas Co. (GASCO), 9%)]	Plant in Damietta Governorate	1,300
Natural gas	million cubic meters	Badr Petroleum Co. (Bapectco) (Government, 100%)	Allam El-Shawish, Amreya, Assil and Karam, Badr 3, Neag 1, and Obaiyed Fields	4,000
Do.	do.	Burullus Gas Co. (Egyptian General Petroleum Corp. (EGPC) 50%; Edisson International, 25%; Royal Dutch Shell plc, 25%)	Burullus and Rosetta Fields	3,000
Do.	do.	El Wastani Petroleum Co. (WASCO) (Dana Gas PJSC, 50%, and Egyptian Natural Gas Holding Co. (EGAS), 50%)	El Wastani Gas Plant, Nile Delta, Damietta	2,500
Do.	do.	Gulf of Suez Petroleum Co. S.A.E. (Gupco) [BP p.l.c., 50%, and Egyptian General Petroleum Corp. (EGPC), 50%]	Akhen and Hapi Fields, 50 kilometers from Mediterranean shore	54
Do.	do.	Joint venture (BP p.l.c., 82.75%, and DEA Deutsche Erdoel AG, 17.25%)	West Nile Delta offshore fields, North of Alexandria	15,500
Do.	do.	Khalda Petroluem Co. SAE [Apache Oil Co., 50%, and Egyptian General Petroleum Corp. (EGPC), 50%]	Kahraman B-22 and Qasr Fields, Western Desert	5,274
Do.	do.	Petrobel Co. (Egyptian General Petroleum Corp. (EGPC) 50%, and Eni Group, 50%)	Abu Madi, Baltim, Nidoco, and Qar'a Fields	12,000
Do.	do.	Pharaonic Petroleum Co. SAE (BP p.l.c., 50%, and Eni Group, 50%)	Baltim, El Temsah, Ras el Barr, and North Port Said Fields	10,000
Do.	do.	Rashid Petroleum Co. S.A.E [Egyptian General Petroleum Corp. (EGPC), 50%; Royal Dutch Shell plc, 40%; Edison Gas Holding, 10%]	Rashid Field, West Deep Marine Concession	3,300

See footnotes at end of table.

TABLE 2—Continued
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2021

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Natural gas—Continued	million cubic meters	Shorouk Petroleum Co. SAE (Eni Group, 40%; NK Rosneft' PAO, 30%; Belayim Petroleum Co. SAE, 10%; BP p.l.c., 10%; Mubadala Petroleum, 10%)	Zohr Field, Shorouk Block, offshore	20,680
Nitrogen:				
Ammonia		Abu Qir Fertilizer & Chemical Industries Co. [Private and public interests, 80.9%, and Egyptian General Petroleum Corp. (EGPC), 19.1%]	Abu Qir I plant at Al Tabia, Alexandria Governorate	420
Do.		do.	Abu Qir II plant at Al Tabia, Alexandria Governorate	365
Do.		Alexandria Fertilizer Co. (Alexfert) (Private, 80%, and Abu Qir Fertilizer & Chemical Industries Co., 20%)	Plant at Alexandria	730
Do.		Delta Fertilizers and Chemicals Industries (ASMEDA) [Holding Company for Chemical Industries (HCCI)]	Plants at Talkha, Mansoura	725
Do.		Egypt Basic Industries Corp. (EBIC) [OCI N.V., 60%, and Egyptian General Petroleum Corp. (EGPC), 40%]	Plant at Ain Al-Sokhna, Suez Governorate	730
Do.		Egyptian Chemical Industries (KIMA) (Chemical Industries Holding Co., 55.7%; public organizations, 39.2%; private investors, 5.5%)	Plant at Aswan Governorate	438
Do.		El Nasr Company for Intermediate Chemicals (NCIC) (Government, 100%)	Plant at Ain AL Sokhna, Suez Governorate	440
Do.		El Nasr Fertilizers and Chemicals Co. (SEMADCO) [Holding Company for Chemical Industries (HCCI)]	Plant at Attaka Mountain, Suez Governorate	132
Do.		Helwan Fertilizers Co. (private)	Plant at Helwan Freezone, Cairo Governorate	400
Do.		Misr Fertilizer Production Co. S.A.E. (MOPCO) [Egyptian Petrochemical Holdings Co. (ECHEM), 30.75%; Ministry of Finance, 26%; National Investment Bank, 12.82%; Egyptian Natural Gas Holding Co. (EGAS), 7.62%; Egyptian Company for Natural Gas, 5.72%; others, 17.10%]	Plant at Damietta Freezone	876
Ammonium nitrate		Abu Qir Fertilizer & Chemical Industries Co. [Private and public interests, 80.9%, and Egyptian General Petroleum Corp. (EGPC), 19.1%]	Abu Qir II plant at Al Tabia, Alexandria	876
Do.		Delta Fertilizers and Chemicals Industries (ASMEDA) [Holding Company for Chemical Industries (HCCI)]	Plants at Talkha, Mansoura, Dakahlia Governorate	328
Do.		Egyptian Chemical Industries (KIMA) (Chemical Industries Holding Co., 56%; public organizations, 39%; private investors, 5%)	Plant at Aswan	800
Do.		Egyptian Fertilizers Co. (EFC) (OCI N.V., 100%)	Plant at Ain Al-Sokhna, Suez Governorate	325
Do.		El Nasr Fertilizers and Chemicals Co. (SEMADCO) [Holding Company for Chemical Industries (HCCI)]	Plant at Attaka Mountain, Suez Governorate	200
Nitric acid		Abu Qir Fertilizer & Chemical Industries Co. [Private and public interests, 80.9%, and Egyptian General Petroleum Corp. (EGPC), 19.1%]	Abu Qir II plant at Al Tabia, Alexandria Governorate	657
Do.		Delta Fertilizers and Chemicals Industries (ASMEDA) [Holding Company for Chemical Industries (HCCI)]	Plants at Talkha, Mansoura, Dakahlia Governorate	328
Do.		Egyptian Chemical Industries (KIMA) (Chemical Industries Holding Co., 56%; public organizations, 39%; private investors, 5%)	Plant at Aswan	600
Do.		El Nasr Fertilizers and Chemicals Co. (SEMADCO) [Holding Company for Chemical Industries (HCCI)]	Plant at Attaka Mountain, Suez Governorate	193
Urea		do.	Abu Qir I plant at Al Tabia, Alexandria Governorate	566
Do.		do.	Abu Qir III plant at Al Tabia Alexandria Governorate	438

See footnotes at end of table.

TABLE 2—Continued
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2021

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Nitrogen:—Continued				
Urea—Continued		Alexandria Fertilizer Co. (Alexfert) (Private, 80%, and Abu Qir Fertilizer & Chemical Industries Co., 20%)	Plant at Alexandria	720
Do.		Egyptian Chemical Industries (KIMA) (Chemical Industries Holding Co., 55.7%; public organizations, 39.2%; private investors, 5.5%)	Plant at Aswan Governorate	1,150
Do.		Egptian Fertilizers Co. (EFC) (OCI N.V., 100%)	Plant at Ain Al-Sokhna Suez Governorate	1,550
Do.		El Nasr Company for Intermediate Chemicals (NCIC) (Government, 100%)	do.	1,150
Do.		Helwan Fertilizers Co.	Plant at Helwan Freezone, Cairo Governorate	700
Do.		Misr Fertilizer Production Co. S.A.E. (MOPCO) [Egyptian Petrochemical Holdings Co. (ECHEM), 30.75%; Ministry of Finance, 26%; National Investment Bank, 12.82%; Egyptian Natural Gas Holding Co. (EGAS), 7.62%; Egyptian Company for Natural Gas, 5.72%; others, 17.10%]	Plant at Damietta Freezone, Damietta Governorate	680
Perlite		The Egyptian Company for the Manufacturing of Perlite (Abu Khalil Group)	Plant at Alexandria	10
Petroleum:				
Crude	thousand 42-gallon barrels	Belayim Petroleum Co. S.A.E. (Perobel) [Egyptian General Petroleum Corp. (EGPC), 50%, and Eni Group, 50%)	Belayim Field, Suez Gulf	65,000
Do.	do.	Gulf of Suez Petroleum Co. S.A.E. (Gupco) [BP p.l.c., 50%, and Egyptian General Petroleum Corp. (EGPC), 50%]	October Field, Suez Gulf	45,000
Do.	do.	do.	Idfu field, Gulf of Suez	9,000
Do.	do.	do.	El Morgan Field, Suez Gulf	27,000
Do.	do.	Khalda Petroluem Co. (Apache Oil Co., 40%)	Kahraman B–22 and Qasr Fields, Western Desert	51,500
Do.	do.	Suez Oil Co. [Egyptian General Petroleum Corp. (EGPC), 50%; Deminex SA, 25%; Repsol S.A., 25%]	Ras Budran Field, Suez Gulf	15,000
Refined	do.	Alexandria Petroleum Co. (Government, 100%)	Refinery at El-Mex, Alexandria Governorate	36,500
Do.	do.	Ameriya Petroleum Refining Co. (Government, 100%)	Refinery at Amreya Freezone, Alexandria Governorate	27,375
Do.	do.	Assiut Petroleum Refining Co. [Ganoub El Wadi Petroleum Holding Co. (Ganope), 100%]	Refinery in Assiut Governorate	18,250
Do.	do.	Cairo Oil Refining Co. (CORC) (Government, 100%)	Refinery at Mostorod, Cairo Governorate	51,830
Do.	do.	do.	Refinery in Tanta, Gharbia Governorate	12,775
Do.	do.	Egyptian Refinery Co. (Arab Refinery Co., 66.6%, and Egyption General Petroleum Co. (EGPC), 34.4%)	Refinery at Mostorod, Cairo Governorate	63,656
Do.	do.	El Nasr Petroleum Co. [Egyption General Petroleum Corp. (EGPC), 100%]	Refinery at Wadi Ferain, South Sinai Governorate	3,103
Do.	do.	do.	Refinery in Suez Governorate	52,195
Do.	do.	Middle East Oil Refinery [Egyptian General Petroleum Corp. (EGPC), 78%; Engineering for Petroleum and Processing Industry (ENPPI), 10%; Petroleum Projects and Technical Consultations Co. (Petrojet), 10%; Suez Canal Bank, 2%]	Refinery at Alexandria Amreya Freezone, Alexandria Governorate	36,500
Do.	do.	Suez Petroleum Processing Co. (Government, 100%)	Refinery in Suez Governorate	24,820

See footnotes at end of table.

TABLE 2—Continued
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2021

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Phosphates:			
Phosphate fertilizer	El-Nasr Company for Intermediate Chemicals (NICC) (Ministry of Defense, 100%)	Plant at Ain Al Sokhna, Suez	500
Do.	Abu Zaabal Fertilizers and Chemicals (Government, 100%)	Plant in Qalyubiyah Governorate	1,530
Do.	Egyptian Financial and Industrial Co. (private, 100%)	Plant at Kafr El Zayat	900
Do.	do.	Plant at Assuit	750
Do.	Evergrow for Specialty Fertilizers Co.	Plants at Abou Rwash, Giza, Governorate and Sadat City, Gharbia Governorate	105
Do.	Polyserve for Fertilizers and Chemicals (private, 100%)	Plant in Cairo Governorate	320
Do.	Suez Company for Fertilizers Production (Egyptian Financial and Industrial Co., 99.8%)	Plant at Ain Al-Sokhna, Suez Governorate	600
Phosphate rock	Al Wadi Al Gadid Company for Mineral Resources and Oil Shale (Wadico) [Ganoub El Wadi Petroleum Holding Co. (Ganope), 65%; Petrojet Co., 25%; Egyptian Mineral Resources Authority (EMRA), 5%; Nile Petroleum Co., 5%]	Mine in New Valley Governorate	1,000
Do.	Egyptian Company for Mineral Resources (ECMR)	Mine at Aswan	500
Do.	El Nasr Mining Co. [Holding Company for Metallurgical Industries (HCMI), 100%]	Mines at the East and West El Sebaaya, and the Red Sea at El Quseir	5,000
Do.	Phosphate Misr Co. S.A.E. (PMC) [National Investment Bank, 50%; Egyptian Mineral Resources Co. (EMCR), 20%; Ganoub El Wadi Holding Co., 15%; Egyptian General Petroleum Corp., 15%]	Abu Tartur Mine, New Valley Mine, Red Sea Mine	5,000
Phosphoric acid	Abu Zaabal Fertilizer and Chemicals Co. (Government, 100%)	Plant at Qalyubiyah	95
Do.	El-Nasr Company for Intermediate Chemicals (NICC) (Ministry of Defense, 100%)	Plant in the Giza Industrial Zone, Giza Governorate	NA
Do.	do.	Plant at Ain Al Sokhna, Suez	1,800
Perlite	The Egyptian Co. for Perlite (Abu Kahalil Group)	Plant at Alexandria	10
Rockwool	ASCOM Carbonate and Chemical Manufacturing (Qulaa Holding, 100%)	Plant at Ain Al-Sokhna, Suez Governorate	30
Salt	El Mex Salines Co. [Holding Company for Chemical Industries (HCCI), 100%]	Brine at El Mex, Alexandria Governorate	1,400
Do.	do.	Brine in Port Said Governorate	350
Do.	El Nasr Salines Co. [Holding Company for Chemical Industries (HCCI), 100%]	Brine at Borg El Arab, Alexandria Governorate	300
Do.	do.	Mine at Sebika, North Sinai Governorate	2,000
Sand and gravel, industrial:			
Quartz	El Nasr Mining Co. [Holding Company for Metallurgical Industries (HCMI), 100%]	Mine at Aswan	15
Do.	Egyptian Company for Mineral Resources (ECMR)	Mine at Branice near Marsa Alam	NA
Do.	International Group for Industrial & Agricultural Investment	Mine in Marsa Alam and South Aswan	NA
Do.	Mining Engineering Co. (Knouz)	Mine at Aswan	NA
Do.	Misr Quarried Development Co.	Mine at Attaka Mountain, Suez Governorate	NA
Unspecified	Egypt for Mining S.A.E (Multi Min)	Quarries in Abu Heesh Valley, South Sinai Governorate	365
Do.	do.	Quarried in Homayer Valley, South Sinai Governorate	366
Do.	Misr Quarries Development Co. S.A.E	Mine at Attaka Mounitain, Suez Governorate	NA
Do.	Sinai Manganese Co. [Holding Company for Chemical Industries (HCCI), 100%]	Mine in South Sinai Governorate	500

See footnotes at end of table.

TABLE 2—Continued
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2021

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Sand and gravel, industrial:—Continued			
Unspecified—Continued	Sinai Manganese Co. [Holding Company for Chemical Industries (HCCI), 100%]	Mine at Zaafarnah, Red Sea Governorate	120
Do.	TAS Flowrance Group	Mines at Zaafrana, Red Sea Governorate, North Sinai and South Sinai Governorates	300
Soda ash, synthetic	Salvoy Alexandria Sodium Carbonate S.A.E.	Plant at Alexandria[2]	130
Sodium, compounds, caustic soda	Egyptian Petrochemical Holding Co. [Egyptian General Petroleum Corp. (EGPC), 100%]	do.	120
Sulfuric acid	Abu Zaabal Fertilizers and Chemicals (Government, 100%)	Plant in Qalyubiyah Governorate	350
Do.	Egyptian Financial and Industrial Co. (Government, 100%)	Plant at Kafr El Zayat, Gharbia Governorate	175
Do.	do.	Plant at Assuit, Assuit Governorate	205
Do.	El Nasr Company for Intermediate Chemicals (NCIC) (Government, 100%)	Plant in Alexandria Governorate	165
Do.	do.	Plant at Ain Al-Sokhna, Suez Governorate	2,400
Do.	El-Nasr Co. for Fertilizer & Chemical Industries (SEMADCO)	Plant at Attaka, Suez Governorate	300
Do.	Evergrow for Specialty Fertilizers Co.	Plants at Abou Rwash, Giza, Governorate and Sadat City, Gharbia Governorate	80
Do.	Middle East Oil Refinery [Egyptian General Petroleum Corp. (EGPC), 78%; Engineering for Petroleum and Processing Industry (ENPPI), 10%; Petroleum Projects and Technical Consultations Co. (Petrojet), 10%; Suez Canal Bank, 2%]	Plant at Alexandria Amreya Freezone	20
Do.	Suez Company for Fertilizers Production (Egyptian Financial and Industrial Co., 99.8%, and private investors, 0.2%)	Plant at Ain Al-Sokhna	425
Talc	El Nasr Mining Co. [Holding Company for Metallurgical Industries (HCMI), 100%]	Plant at Aswan	50
Do.	Misr Quarries Development Co. S.A.E	Mine at Attaka Mounitain, Suez Governorate	5
Do.	TAS Flowrance Group	Mines at Asawn, Sinai, Western Desert	10
Titanium, ilmenite	El Nasr Mining Co. (Holding Company for Metallurgical Industries, 100%)	Mine at Abu Ghosoun, Mersa Alam	120

Do., do. Ditto. NA Not available.
[1]On care-and-maintenance status.
[2]Production stopped in 2016.