USGS
science for a changing world

2020–2021 Minerals Yearbook

OMAN [ADVANCE RELEASE]

U.S. Department of the Interior
U.S. Geological Survey

December 2024

The Mineral Industry of Oman

By Philip A. Szczesniak

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

In 2020, the crude petroleum and natural gas sector of Oman continued to play a dominant role in the country's economy. According to the Central Bank of Oman, the energy sector accounted for 26.6% of the country's nominal gross domestic product (GDP) in 2020, although this was down from 49.1% in 2013 (Central Bank of Oman, 2021, p. 35). Oman accounted for about 1.1% of global crude petroleum production and 1.0% of natural gas production in 2020 and was the second-largest crude petroleum producer in the Middle East (behind Qatar) that was not a member of the Organization of the Petroleum Exporting Countries (OPEC). Oman was a member of the Cooperation Council for the Arab States of the Gulf, also known as the Gulf Cooperation Council (GCC). The country is located on the southeastern tip of the Arabian Peninsula, a strategic location owing to its proximity to global energy shipping pathways in the Strait of Hormuz and the Gulf of Oman (table 1; Central Bank of Oman, 2018, p. 22; 2021, p. 35; BP p.l.c., 2022, p. 15, 29; Cooperation Council for the Arab States of the Gulf, 2022).

Oman was ranked fifth among world producers of gypsum, accounting for 7.1% of the world's gypsum production in 2020. Other industrial minerals produced by Oman included ammonia, clay (kaolin and others), cement, iron oxide pigments (laterite iron oxides), limestone, marble, quartz, salt, and sand and gravel, which were mainly for domestic consumption. The country also produced metals, such as aluminum, chromium, iron and steel [direct-reduced iron (DRI) and raw steel], lead (refined, secondary), and manganese; iron ore pellets were also produced for use by DRI plants and accounted for about 1.7% of the world's DRI production. According to the Government, Oman has mineral resources in the ophiolite sequence zone (located in the northern mountainous part of the country) that include metals such as chromium, cobalt, copper, gold, lead, magnesium, manganese, nickel, silver, and zinc; industrial minerals such as clay (including kaolin), dolomite, gypsum, laterite, limestone, marble, quartzite, salt, and silica sand; and mineral fuels such as coal (table 1; Al-Mahrouqi, 2018, p. 2; Oman Mining Expo, 2021; Crangle, 2022; Midrex Technologies Inc., 2022, p. 8; National Centre for Statistics & Information, 2022, p. 164).

Minerals in the National Economy

In 2020, the GDP of Oman decreased by 17.0% to $72.1 billion.[1] The hydrocarbon sector accounted for 68.2% of Government revenues and 54.4% of total exports. The value added by Oman's hydrocarbon sector decreased by 27.3% to $19.2 billion from $26.4 billion in 2019 as Government revenue from crude petroleum production decreased by 35.4% to $10.2 billion. Oman's crude petroleum price decreased by 27.7% to an average of $46.0 per barrel in 2020 compared with $63.6 per barrel in 2019. Government revenue from natural gas production decreased by 2.1% to $4.8 billion in 2020. Industrial activity other than petroleum-related activity accounted for 20.8% of the GDP, of which the value of construction accounted for 9.2%; manufacturing, 7.7%; electricity and water supply, 3.0%; and mining and quarrying, 0.9%. The gross output of the nonpetroleum industrial sector decreased by 20.8% (Central Bank of Oman, 2021, p. 35–36, 46, 53; National Centre for Statistics & Information, 2022, p. 154, 196).

The value of the country's exports decreased by 13.6% in 2020, and the value of imports increased by 19.0%. The decrease in the value of exports was due to a 33.1% decrease in the value of crude petroleum, a 32.0% decrease in the value of refined products, and a 23.3% decrease in the value of liquefied natural gas (LNG). Total merchandise exports were valued at $33.5 billion, of which crude petroleum accounted for 39%, or $13.1 billion; liquefied natural gas, 10%, or $3.4 billion; and refined petroleum, 5%, or $1.6 billion. The value of imports was about $28.9 billion, of which base metals and articles manufactured from base metals accounted for 13%, or about $3.7 billion, and mineral products accounted for 12%, or about $3.3 billion (National Centre for Statistics & Information, 2022, p. 196, 207–208).

Exports of goods from Oman to the United States were valued at $815 million in 2020. Bauxite and aluminum exports, which were valued at $144 million, accounted for about 18% of these exports. Other notable mineral-related exports to the United States included iron and steel (advanced), $84 million; chemicals (fertilizers), $44 million; petroleum products (other), $34 million; iron and steel products (not otherwise classified), $21 million; fuel oil, $8 million; nonferrous metals (other), $2 million; and stone, sand, and cement, $1 million. Imports of goods from the United States to Oman were valued at $1.1 billion in 2020. Drilling and oilfield equipment imports, which were valued at about $32 million, accounted for about 3% of these imports. Other notable mineral-related imports from the United States included excavating machinery, $19 million; petroleum products (other), $19 million; nonmonetary gold, $8 million; iron and steel products (other), $7 million; and iron and steel mill products, $4 million (U.S. Census Bureau, 2022a, b).

Production

Notable increases in mineral production in Oman in 2020 compared with that in 2019 included that of kaolin, which increased by 71%; clay (unspecified), by 48%; quartz, by 43%; cement, by 13% (estimated); and distillate fuel oil, by 12%. Notable decreases in production included that of residual fuel oil, which decreased by 94%; ferrochromium, by 72%;

[1]Where necessary, values have been converted from Omani rials (OMR) to U.S. dollars (US$) at the annual average exchange rate of OMR 0.3845=US$1.00 for 2021, 2020, and 2019.

manganese and industrial sand and gravel (unspecified), by 71% each; sand, by 63%; jet fuel (including kerosene), by 50%; construction sand and gravel (unspecified), by 40%; chromite, by 38%; crushed limestone, by 29%; natural gas liquids, by 23%; salt, by 20%; gasoline and other refined products, by 18% each; and refined lead (secondary), by 10%. Data on mineral production are provided in table 1.

Structure of the Mineral Industry

The Ministry of Oil and Gas (MOG), which manages the country's hydrocarbon sector, was renamed the Ministry of Energy and Minerals (MEM) by Royal Decree No. 96/2020 (issued in August 2020). This Decree also abolished the Public Authority for Mining (PAM), which had been established by Royal Decree No. 49/2014. Under the new Decree, the functions of the PAM were transferred to the MEM; these functions include monitoring mineral industry activities, preparing plans and strategies relevant to the development of the mineral industry, and overseeing the country's mineral policies. The MEM is responsible for conducting geologic studies, executing economic-viability studies, issuing mining and quarrying permits, and promoting investment opportunities in the mineral sector. Royal Decree No. 106/2020, which was also issued in August 2020, established the Environment Authority. The Environment Authority replaced the Ministry of Environment and Climate Affairs (MECA), which was established in September 2007 by Royal Decree No. (90/2007) as a Government authority responsible for formulating plans and programs for protection of the environment and conservation of natural resources (Public Authority for Mining, The, 2015, p. 4–5, 26–27; Curtis, Mallet-Prevost, Colt & Mosle LLP, 2019; Al-Sarihi, 2020; Oman Environment Authority, 2020; Ministry of Justice and Legal Affairs, 2021).

The Mineral Wealth Law, issued under Royal Decree 19/2019 in February 2019 and adopted in March 2019, canceled the 2003 Mining Law, which had been issued under Royal Decree 27/2003. The Mineral Wealth Law streamlined the process for obtaining a mining license; under the changes, qualifying bids for permits and concessions require approval from a far fewer number of entities, namely those related to defense, environment, and health and urban planning. The Government expected the new streamlined process to attract mining investment (Curtis, Mallet-Prevost, Colt & Mosle LLP, 2019).

The hydrocarbon sector is subject to the Oil and Gas Law issued by Royal Decree 08/2011. The Government has ownership in the hydrocarbon sector. Petroleum Development Oman LLC (PDO), which was owned by the Government (60%), Royal Dutch Shell plc (Shell) of the Netherlands (34%), TotalEnergies SE of France (4%), and Partex (Oman) Corp. of Portugal (2%), held more than 90% of the country's crude petroleum reserves and produced more than 70% of the country's crude petroleum and almost all its natural gas. In 2019, the Government created OQ S.A.O.C., a merger of the following nine energy companies: Oman Oil Refineries and Petroleum Industries Co. (ORPIC), Oman Oil Company S.A.O.C. (OOC), Oman Oil Company Exploration and Production LLC (OOCEP), Oman Gas Co., Duqm Refinery Co., Salalah Methanol Co., Oman Trading International, OQ Chemicals of Germany (OXEA), and Salalah Liquified Petroleum Gas. The Government also owned 51% of Oman Liquefied Natural Gas LLC, and 46.84% of Qalhat Liquefied Natural Gas S.A.O.C. Table 2 is a list of major mineral industry facilities (U.S. Energy Information Administration, 2019a, p. 2–3, 5; 2019b; OQ S.A.O.C., 2020, p. 5, 13).

The primary focus of the Government's ninth 5-year development plan (2016–20) was diversification of the economy away from hydrocarbons; the five priority sectors for this diversification were agriculture and fisheries, manufacturing, mining, transport and logistics, and tourism. The Government had set up special economic zones to encourage investment and stimulate economic activity in these sectors (Central Bank of Oman, 2018, p. 29, 56; 2020, p. 19).

Commodity Review

Metals

Aluminum.—Sohar Aluminium Co. LLC achieved a record-high production of 397,000 metric tons (t) of primary aluminum in 2020, which was an increase of 1.5% compared with the 391,000 t produced in 2019. The company's smelter, located in the city of Sohar in northern Oman, had a capacity of about 395,000 metric tons per year (t/yr). Sohar Aluminium, which was owned by Abu Dhabi National Energy Co. P.J.S.C. (40%), OQ S.A.O.C. (40%), and Rio Tinto Inc. of the United Kingdom (20%), produced ingots, sows, and hot metal. In 2020, the company employed 964 people, of which 77% were Omani nationals and the remaining 23% were expatriots. Sohar Aluminium had a dedicated port facility that supported vessels with a capacity of as large as 75,000 t for receiving raw materials and for exporting primary aluminum (table 2; Rio Tinto Inc., 2021, p. 339, 366; Sohar Aluminium Co. LLC, 2022, p. 13–15, 48–49).

Antimony.—In 2020, Strategic & Precious Metal Processing Co. (SPMP) continued to develop a $112 million metal-processing facility, located in the Sohar Port and Freezone, that was expected to produce antimony metal, antimony trioxide, and gold bars. SPMP was a joint venture of DNR Industries Ltd. (33.3%), the Oman Investment Fund (33.3%), and Tristar Resources p.l.c. of the United Kingdom (33.3%). Tristar Resources reported that despite funding delays and technical problems, the plant, which had the capacity to produce 20,000 t/yr of antimony and about 1,500 kilograms per year of gold, operated for short durations at 50% capacity during 2020 to produce SPMP's first batches of antimony metal and gold ore (table 2; Prabhu, 2020).

Chromium and Ferrochromium.—In 2020, Oman produced 457,000 t of chromite compared with 733,000 t (revised) in 2019. The country also produced 23,500 t of ferrochrome metal in 2020 compared with 84,938 t (revised) in 2019. Gulf Mining Group (through its subsidiary Gulf Mining Ferro Alloy) operated a 50,000-t/yr ferrochrome smelter located in the Sohar Freezone. The company planned to invest $70 million to triple the capacity of the ferrochrome smelter to targeted amounts of 100,000 t/yr by 2021 and 150,000 t/yr by 2023 (tables 1, 2; Prabhu, 2019).

Copper.—In November 2020, Savannah Resources plc of the United Kingdom sold its subsidiary Savannah Resources B.V.

to Force Commodities Ltd. of Australia. Savannah Resources had previously controlled majority stakes in the copper deposits at Blocks 4 and 5, which covered 999 square kilometers (km^2) in the Semail ophiolite belt located in northern Oman, about 180 kilometers (km) northwest of Muscat. The Block 5 license was reported to contain resources of 28,000 t of copper, 180 kilograms (kg) of gold, and about 6,200 kg of silver (Sharma, 2020; Savannah Resources plc, 2021, p. 5, 19).

Al Hadeetha Resources LLC (AHRL), which was a joint venture among Alara Resources Ltd. of Australia (51%), and Omani conglomerates Al Hadeetha Investments LLC (AHIS) (30%) and Al Tasnim Infrastructure Services LLC (Al Tasnim) (19%), continued to develop an open pit mine and a 1-million-metric-ton-per-year (Mt/yr) copper concentration plant at the Al Hadeetha copper-gold project. The project was located about 160 km southwest of Muscat in Ash Sharqiyah North Governorate and comprised one mining license (Al Wash-hi-Majaza) and three exploration licenses (Al Wash-hi-Majaza, Mullaq, and Al Ajal). As of 2020, the company reported a maiden Joint Ore Reserves Committee (JORC)-compliant ore reserve estimate of 9.7 million metric tons (Mt) at average grades of 0.88% copper and 0.22 gram per metric ton (g/t) gold. Mining operations were expected to start in 2022 and to continue for about 10 years (Alara Resources Ltd., 2021a, p. 3, 27–28; 2021b, p. 1–4).

Daris Resources LLC (DRL), which was a joint venture between Alara Resources (50%) and Al Tamman Trading Establishment LLC (ATTE) (50%), continued development of the Daris copper-gold project, which was located about 150 km west of Muscat. The project comprised one mineral excavation license (Block 7) of about 587 km^2, and the company had submitted applications for two additional mining licenses (Daris East and Daris 3A–5) covering 4.5 km^2; these two mining license applications were still under review by the MEM at the end of 2020. A JORC-compliant measured and indicated mineral resource estimate of the Daris project included 240,000 t of sulfide ore at average grades of 2.37% copper and 0.43 g/t gold, and 180,000 t of oxide at average grades of 0.72% copper and 0.08 g/t gold (Alara Resources Ltd., 2021a, p. 12, 27–28).

Iron and Steel.—In 2020, Oman produced 1.73 Mt of DRI compared with 1.75 Mt in 2019. In August, Jindal Steel and Power Ltd. of India, which was the country's sole producer of DRI, sold its subsidiary, Jindal Shadeed Iron and Steel LLC of Oman, to Templar Investments Ltd. for more than $1 billion. Included in the sale were a 1.8-Mt/yr DRI plant, a 2.4-Mt/yr integrated steel melt plant, and a 1.4-Mt/yr rebar mill, all of which were located in the Sohar Industrial Zone. Jindal Steel and Power reported the sale of the subsidiary was executed to reduce Jindal Steel and Power's debt and improve its balance sheet (table 2; Ignacio, 2020; Jindal Steel and Power Ltd., 2020, p. 9; 2021, p. 243).

Industrial Minerals

Cement.—Production of cement in Oman increased by 12.9% to an estimated 6.2 Mt in 2020 from an estimated 5.5 Mt (revised) in 2019; the country's cement production capacity was estimated to be about 10 Mt/yr. In May, Raysut Cement Co. SAOG (RCC) reported that development of its 1-Mt/yr grinding plant in the port town of Duqm at a cost of $30 million was on track and expected to be completed in 2021. Also in Duqm, Oman Cement Co. S.A.O.G. (OCC) continued developing a 1.8-Mt/yr integrated cement plant, which was announced in 2018. In October, Duqm Cement Projects International (DCPI) announced plans to construct a 3.5-Mt/yr integrated cement plant. DCPI noted the plant would cost about $435 million (tables 1, 2; Global Cement, 2019; 2020a, b).

Gypsum.—Production of gypsum in Oman increased by 1.3% to 11.1 Mt from 11.0 Mt (revised) produced in 2019. Most of the production capacity of gypsum was located in southern Oman in Dhofar Governorate. Oman, the leading export country of gypsum in the world in 2020, exported 8.8 Mt. The leading gypsum export destinations in terms of export quantity were Vietnam, 2.5 Mt; India, 1.5 Mt; Bangladesh, 1.4 Mt; Indonesia, 800,000 t; Japan, 800,000 t; South Africa, 500,000 t; and the Republic of Korea, 400,000 t. The Port of Salalah in southern Oman was the main port for Oman's gypsum exports (table 2; Times of Oman, 2020; Global Gypsum, 2021; National Centre for Statistics & Information, 2022, p. 164).

Nitrogen.—In 2020, production of ammonia and urea (nitrogen content) in Oman increased slightly to 1.7 Mt (estimated) and 1.6 Mt (estimated), respectively. Salalah Methanol Co. LLC (SMC), a subsidiary of OQ S.A.O.C. and Takamul Investment Co., continued to develop a $463 million ammonia plant that had a planned capacity of 365,000 t/yr. Construction of the plant, which was located adjacent to the company's Salalah methanol plant in the Salalah Freezone in southern Oman in Dhofar Governorate, was expected to be completed in 2021 (table 1; OQ S.A.O.C., 2021, p. 29, 33).

Mineral Fuels

Natural Gas.—Oman produced 46.1 billion cubic meters of natural gas in 2020, which was the same as the amount produced in 2019 (then a 5-year high and a production record). Production of LNG was 10.2 Mt, which was a decrease of 4.7% compared with the 10.7 Mt produced in 2019; LNG exports were 7.4 Mt, which was a decrease of 2.6% compared with the 7.6 Mt exported in 2020. In the 2021 edition of the BP Statistical Review of World Energy, the natural gas reserves of Oman were estimated to be about 700 billion cubic meters or about 0.4% of the global total. Oman continued to be a member of the Gas Exporting Countries Forum (GECF) and exported natural gas through its Oman LNG facilities near the port city of Sur in eastern Oman; the primary LNG export destination was the Republic of Korea (U.S. Energy Information Administration, 2019a, p. 6; BP p.l.c., 2021c, p. 34; National Centre for Statistics & Information, 2022, p. 155, 163).

BP Oman, which was jointly owned by BP p.l.c. of the United Kingdom (60%), OQ S.A.O.C. (30%), and Petronas of Malaysia (10%), announced the startup of the Ghazeer natural gas field in October. The field, which was phase 2 in the development of Block 61, was located adjacent to the Khazzan-Makarem natural gas field, which started operating in 2017 as phase 1 of Block 61. The Khazzan-Makarem field had a production capacity of 10.3 billion cubic meters per year of natural gas. The Ghazeer field was expected to have a capacity of about 5.2 billion cubic meters per year

when fully operating, bringing the total capacity of Block 61 to about 15.5 billion cubic meters per year of natural gas. BP estimated Block 61 to contain about 300 billion cubic meters of recoverable natural gas resources. The fields and processing facility were located 350 km southwest of Muscat in Az Zahirah (Al Dhahirah) Governorate (table 2; BP p.l.c. 2018, p. 3–4; 2021a; 2021b, p. 310).

In the first quarter of 2020, BP and ENI S.p.A. of Italy received approval by Royal Decree for a natural gas exploration and production-sharing agreement (EPSA) for Block 77. BP and ENI would each hold a 50% interest in the EPSA; ENI would act as operator during the exploration phase and BP would be the operator once production commenced. Block 77 covered a total area of more than 2,700 km^2 and was located 30 km east of Block 61 in central Oman. ENI also signed an EPSA for Block 47 in 2019. ENI operated in Oman through its subsidiary ENI Oman (ENI S.p.A., 2019a, b; BP p.l.c., 2021b, p. 310).

Shell and TotalEnergies continued to negotiate a production-sharing agreement with the Government in 2020 for the newly discovered Mabrouk North East natural gas field in northern Oman. An initial agreement was signed in 2018 and an interim agreement covering the funding and work program for 2019 was signed in 2019. Mabrouk North East, which the Government estimated to have potential reserves of about 127 billion cubic meters, was considered to be one of the largest hydrocarbon discoveries in the world in 2018 according to The Economist Intelligence (2019). Development of the Mabrouk North East natural gas field would be tied to the creation of two integrated downstream natural gas projects. Shell, which would have a 75% share in the project, was expected to build a gas-to-liquids plant in Duqm with OQ S.A.O.C. (through Oman Oil Co.), and TotalEnergies, which held the remaining 25% share, was expected to develop an LNG bunkering service at Sohar (Economist Intelligence, The, 2019; McQue, 2020).

Petroleum.—In 2020, Oman produced 347.9 million barrels (Mbbl) of crude petroleum and condensate, which represented a 1.8% decrease compared with the 354.4 Mbbl produced in 2019. Exports of crude petroleum decreased by 7.5% to 287.0 Mbbl in 2020 compared with the 310.3 Mbbl exported in 2019. China and India were the top two destinations for the country's crude petroleum exports, accounting for 86.4% and 6.2%, respectively, of the total. At yearend 2020, the total proved reserves of crude petroleum and condensate were estimated to be 5.4 billion barrels or about 0.3% of the global total as reported in the BP Statistical Review of World Energy (2021 edition) (BP p.l.c., 2021c, p. 16; National Centre for Statistics & Information, 2022, p. 154–155).

During 2020, the MEM signed multiple EPSAs with energy companies to develop crude petroleum blocks in various parts of the country. One agreement was with EOG Resources Inc. of the United States. EOG planned to drill at least two exploratory wells by 2022 in Block 36, which covered an onshore area of 18,556 km^2 in southwestern Oman. The MEM also signed an EPSA with Maha Energy (Oman) Ltd., a wholly owned subsidiary of Maha Energy AB of Sweden. Maha Energy planned to develop onshore Block 70 in central Oman. The Mafraq oilfield in Block 70 was estimated to contain resources of as much as 280 Mbbl of crude petroleum. In July, the MEM signed an EPSA with Tethys Oil Qatbeet Ltd., a wholly owned subsidiary of Tethys Oil AB of Sweden, for the onshore Block 58 in southern Oman in Dhofar Governorate. The EPSA for Block 58 covered an initial exploration period of 3 years and included an optional extension period of 3 additional years (Oman News Agency, 2020; Oman Daily Observer, 2020b, c).

In July, the MEM approved Masirah Oil's development plan for the offshore Yumna oilfield in Block 50. Masirah Oil, a subsidiary of Rex International Holding of Singapore (86%), originally acquired the concession in 2011. The company noted that the Yumna oilfield contained proven reserves of 9.6 Mbbl of crude petroleum. A mobile offshore production unit and an Aframax storage tanker would make up the permanent offshore production facilities, which would be located about 30 km east of Duqm (Offshore Magazine, 2020; Offshore Technology, 2021).

Duqm Refinery and Petrochemical Industries Co. LLC, which was a joint venture between OOC (50%) and Kuwait Petroleum International (50%), continued the development of a 230,000-barrel-per-day refinery in the Duqm Economic Freezone in Duqm; the refinery's primary products were to include diesel, jet fuel, naphtha, pet coke, and sulfur. By November, the refinery, which was being constructed at a cost of $6 billion and financed by 29 financial institutions from 31 countries, was more than 70% complete. The refinery was expected to be completed by the end of 2021 or in early 2022 (Nehme, 2019; Oman Daily Observer, 2020a).

MINERAL INDUSTRY HIGHLIGHTS IN 2021

In 2021, the crude petroleum and natural gas sector of Oman continued to play a dominant role in the country's economy. Oman accounted for about 1.1% of global crude petroleum production and 1.0% of natural gas production in 2021. Oman was the fourth-ranked producer of gypsum in the world, accounting for about 8% of the world's gypsum production in 2021. The country also accounted for about 1.4% of the world's DRI production (table 1; BP p.l.c., 2022, p. 15, 29; Central Bank of Oman, 2022c, p. 1; Midrex Technologies Inc., 2022, p. 8; Crangle, 2023).

The nominal GDP of Oman increased by 16.1% to $85.9 billion in 2021. The hydrocarbon sector accounted for 74.8% of Government revenues, 58.5% of its total exports, and 31.9% of the GDP, according to the Central Bank of Oman (2022c, p. 1). The value added by the hydrocarbon sector increased by 38.5% to $27.4 billion as Government revenue from crude petroleum production increased by 52.0% to $14.4 billion. Oman's crude petroleum price increased by 39.8% to an average of about $64.30 per barrel in 2021. Government revenue from natural gas production increased by 42.4% to $6.8 billion in 2021. Industrial activity other than petroleum-related activity accounted for 20.3% of the GDP, of which the value of manufacturing accounted for 9.7%; construction, 7.4%; electricity and water supply, 2.5%; and mining and quarrying, 0.7%. The gross output of the nonpetroleum industrial sector increased by 27.6% (Central Bank of Oman, 2022a, p. 36; 2022b, p. 36; 2022c, p. 1, 57; National Centre for Statistics & Information, 2022, p. 154, 196).

In 2021, the value of exports and imports increased by 33.2% and 8.5%, respectively. The increase in exports was due to a 42.2% increase in the value of crude petroleum; an 87.0%

increase in the value of refined products, a 26.9% increase in the value of LNG, and a 41.4% increase in the value of nonpetroleum products. Total merchandise exports were valued at $44.6 billion, of which crude petroleum accounted for 41.9%, or $18.7 billion; LNG, 9.7%, or $4.3 billion; and refined petroleum, 6.9%, or $3.1 billion. The value of imports increased to about $31.1 billion, of which mineral products accounted for 18.3%, or about $5.7 billion, and base metals and articles manufactured from base metals accounted for 12.7%, or about $3.9 billion (National Centre for Statistics & Information, 2022, p. 196, 207–208).

Exports of goods from Oman to the United States were valued at about $1.9 billion in 2021. Bauxite and aluminum exports, which were valued at $276 million, accounted for about 15% of these exports. Other mineral-related exports to the United States included chemicals (fertilizers), $268 million; fuel oil, $175 million; iron and steel (advanced), $121 million; iron and steel products (not otherwise classified), $53 million; petroleum products (other), $34 million; nonferrous metals (other), $4 million; stone, sand, and cement, $1.8 million; and excavating machinery, $1.2 million. Imports of goods from the United States to Oman were valued at $1.4 billion in 2021. Petroleum products (other) imports, which were valued at about $34 million, accounted for about 2% of these imports. Other mineral-related imports from the United States included drilling and oilfield equipment valued at $28 million; excavating machinery, $21 million; nonmonetary gold, $13 million; nonmetallic minerals, $9 million; iron and steel products (other), $7 million; and iron and steel mill products, $6 million (U.S. Census Bureau, 2022a, b).

Notable increases in mineral production in Oman in 2021 compared with that in 2020 included production of unspecified industrial sand and gravel, which increased by 325%; ferrochromium, by 250%; other refined products, by 21%; distillate fuel oil, by 19%; crushed limestone, by 16%; liquefied petroleum gas, by 15%; gasoline, by 14%; and gypsum and refined lead (secondary), by 11% each. Notable decreases in production included that of residual fuel oil, which decreased by 80%; quartz, by 44%; chromite and unspecified clay, by 41% each; kaolin, by 40%; unspecified construction sand and gravel, by 33%; jet fuel (including kerosene), by 15%; salt, by 17%; natural gas liquids, by 12%; and marble, by 11% (table 1).

In September, Raysut Cement reiterated its plans to complete construction of a new 1-Mt/yr cement grinding plant in Duqm in late 2021; however, there were no reports that the cement plant was completed and operating by the end of the year. Upon completion of the plant, Raysut Cement would have a total cement production capacity in Oman of nearly 6 Mt/yr. New capacity was also under development at the OCC's cement operations in Rusayl. By adding a new production line and increasing the capacity of an existing line while decommissioning two other lines, OCC planned to increase the production capacity at the Rusayl cement plant to nearly 5.5 Mt/yr of cement from 3.7 Mt/yr of cement. OCC also reported that it was considering constructing a new integrated cement plant at Duqm, but the decision would depend on fuel availability (table 2; Perilli, 2021; Prabhu, 2022a).

Production of gypsum in Oman increased by 1.2 Mt to a record high of 12.3 Mt in 2021. Oman exported 8.7 Mt of gypsum in 2021 and remained the leading export country of gypsum in the world. The leading export destinations were India, 3.1 Mt; Bangladesh, 1.4 Mt; Vietnam, 1.3 Mt; Japan, 700,000 t; and Indonesia and South Africa, 600,000 t each. Zawawi Gypsum LLC, a leading gypsum producer with production capacity of 3 Mt/yr located in Thumrait (Dhofar Governorate) in southern Oman, forecasted that gypsum exports from Oman would remain high through 2031 owing to increasing demand in Asia, GCC countries, and south and east Africa. The estimated total production capacity of Oman was about 18 Mt/yr of gypsum (table 2; National Centre for Statistics & Information, 2022, p. 164; Prabhu, 2022b).

In October, OQ S.A.O.C. signed a joint development agreement with Dubai Transport Co. of the United Arab Emirates, Linde plc of the United Kingdom, and Marubeni Corp. of Japan to help it develop the planned 365,000-t/yr ammonia plant in Salalah Freezone. The ammonia project, named the SalalaH2 project, was originally planned to cost $463 million but was expanded to $1 billion to include construction of a 400-megawatter-capacity electrolysis facility to produce hydrogen. The electrolysis facility was expected to be powered by 1 gigawatt of solar and wind energy. The ammonia production was expected to be exported to meet the increasing international demand for green energy products (Muscat Daily, 2021; Prabhu, 2021).

Duqm Refinery and Petrochemical Industries Co. LLC continued the development of its refinery in Duqm. By November, the refinery, which was being constructed at a cost of $8 billion (revised), was reported as being more than 87% complete. The refinery was originally expected to be completed by 2022, but the completion date was delayed owing to impacts of the coronavirus disease 2019 (COVID-19) pandemic; the new target date for the completion of the project was the first quarter of 2023. Feedstock for the Duqm refinery was expected to come mostly from Kuwait (65%), and the remainder from Oman (35%) (Marketscreener.com, 2021).

Outlook

The International Monetary Fund forecasted that the GDP of Oman would increase by 5.6% in 2022 and by 2.7% in 2023; the economy was expected to remain closely tied to the performance of the hydrocarbon sector. Natural gas exports will likely continue to benefit from the demand generated by economic growth in Asian countries. The development of multiple gasfields, such as the Khazzan-Makarem and Mabrouk North East natural gas fields, is expected to increase natural gas production and provide financial support for continued subsidized industrial development. Gypsum exports will also likely benefit from increasing global demand. The Government of Oman indicated that it would continue its efforts to diversify the country's economy by providing incentives for industrial growth in value-added projects through expanding free economic and trade zones and developing energy, logistical, and transportation infrastructure. The Government's ability to implement the modernized mining law is expected to be an important factor in attracting investment into the mining sector (International Monetary Fund, 2022, p. 40).

References Cited

Alara Resources Ltd., 2021a, Half-year financial report—December 31, 2020: Perth, Western Australia, Australia, Alara Resources Ltd., March 16, 30 p. (Accessed December 27, 2022, at https://www.alararesources.com/irm/PDF/0f53117e-5f84-42d0-8191-b8d9b7983f2c/December312020HalfYearFinancialReport.)

Alara Resources Ltd., 2021b, Oman copper project update: Perth, Western Australia, Australia, Alara Resources Ltd., April 7, 16 p. (Accessed October 25, 2021, at https://www.alararesources.com/irm/PDF/25cdd1d2-30bd-4cd1-a05a-dd85b6ef3300/ProjectUpdate.)

Al-Mahrouqi, Salim, 2018, Mining opportunities in Oman: Muscat, Oman, The Public Authority for Mining, [unpaginated]. (Accessed December 27, 2022, at https://om.usembassy.gov/wp-content/uploads/sites/155/PAM-Presentation.pdf.)

Al-Sarihi, Aisha, 2020, Oman's tradition of environmental protection runs into economic headwinds: Washington, DC, The Arab Gulf States Institute in Washington, October 27. (Accessed December 23, 2022, at https://agsiw.org/omans-tradition-of-environmental-protection-runs-into-economic-headwinds/.)

BP p.l.c., 2018, Upstream investor day & fieldtrip—Oman 2018: London, United Kingdom, BP p.l.c. 6 p. (Accessed December 27, 2022, at https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/oman-2018-investor-day-breakout5.pdf.)

BP p.l.c., 2021a, Performing while transforming from IOC to IEC—2020 annual report and form 20-F: London, United Kingdom, BP p.l.c., March 22, 352 p. (Accessed December 22, 2022, at https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/bp-annual-report-and-form-20f-2020.pdf.)

BP p.l.c., 2021b, Oman: London, United Kingdom, BP p.l.c. (Accessed October 27, 2021, at https://www.bp.com/en/global/corporate/what-we-do/bp-worldwide/bp-in-oman.html.)

BP p.l.c., 2021c, Statistical review of world energy—2021 (70th ed.): London, United Kingdom, BP p.l.c., 69 p. (Accessed December 22, 2022, at https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-full-report.pdf.)

BP p.l.c., 2022, Statistical review of world energy—2022 (71st ed.): London, United Kingdom, BP p.l.c., June, 57 p. (Accessed August 22, 2022, at https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2022-full-report.pdf.)

Central Bank of Oman, 2018, Annual report 2017: Muscat, Oman, Central Bank of Oman, June, 160 p. (Accessed October 20, 2022, at https://cbo.gov.om/sites/assets/Documents/English/Publications/AnnualReports/AnnualReport2017eng.pdf.)

Central Bank of Oman, 2020, Annual report 2019: Muscat, Oman, Central Bank of Oman, July, 131 p. (Accessed December 21, 2022, at https://cbo.gov.om/sites/assets/Documents/English/Publications/AnnualReports/AnnualReport2019Eng.pdf.)

Central Bank of Oman, 2021, Annual report 2020: Muscat, Oman, Central Bank of Oman, April, 131 p. (Accessed October 20, 2022, at https://cbo.gov.om/sites/assets/Documents/English/Publications/AnnualReports/AnnualReport2020.pdf.)

Central Bank of Oman, 2022a, Monthly statistical bulletin—February 2022: Muscat, Oman, Central Bank of Oman, February, 39 p. (Accessed October 25, 2022, at https://cbo.gov.om/sites/assets/Documents/English/Publications/MonthlyBulletins/MonthlyStatisticalBulletinFeb2022En.pdf.)

Central Bank of Oman, 2022b, Monthly statistical bulletin—January 2022: Muscat, Oman, Central Bank of Oman, January, 39 p. (Accessed October 25, 2022, at https://cbo.gov.om/sites/assets/Documents/English/Publications/MonthlyBulletins/MonthlyStatisticalBulletinJan2022En.pdf.)

Central Bank of Oman, 2022c, Quarterly statistical bulletin—March 2022: Muscat, Oman, Central Bank of Oman, March, 60 p. (Accessed October 20, 2022, at https://cbo.gov.om/sites/assets/Documents/English/Publications/QuarterlyBulletins/2022/QBMarch2022EN.pdf.)

Cooperation Council for the Arab States of the Gulf, 2022, Member states: Riyadh, Saudi Arabia, Cooperation Council for the Arab States of the Gulf. (Accessed October 20, 2022, at https://www.gcc-sg.org/en-us/AboutGCC/MemberStates/Pages/Home.aspx.)

Crangle, R.D., Jr., 2022, Gypsum: U.S. Geological Survey Mineral Commodity Summaries 2022, p. 76–77.

Crangle, R.D., Jr., 2023, Gypsum: U.S. Geological Survey Mineral Commodity Summaries 2023, p. 84–85.

Curtis, Mallet-Prevost, Colt & Mosle LLP, 2019, New mining law issued—Achievement of major milestone in strategic sector: New York, New York, Curtis, Mallet-Prevost, Colt & Mosle LLP, May 6. (Accessed October 29, 2021, at https://omanlawblog.curtis.com/2019/05/new-mining-law-issued-achievement-of.html.)

Economist Intelligence, The, 2019, Oman energy—Oman increases oil and gas capacity to boost the economy: The Economist Intelligence, May 14. (Accessed December 27, 2022, at https://www.eiu.com/industry/article/1158006699/oman-increases-oil-and-gas-capacity-to-boost-the-economy/2019-05-14.)

ENI S.p.A., 2019a, Eni signs exploration and production sharing agreement for Block 47, onshore Oman: Rome, Italy, ENI S.p.A., January 14. (Accessed December 27, 2022, at https://www.eni.com/en-IT/media/press-release/2019/01/eni-signs-exploration-and-production-sharing-agreement-for-block-47-onshore-oman.html.)

ENI S.p.A., 2019b, Eni signs exploration and production sharing agreement for Block 77, onshore Oman: Rome, Italy, ENI S.p.A., July 31. (Accessed December 27, 2022, at https://www.eni.com/en-IT/media/press-release/2019/07/eni-signs-exploration-and-production-sharing-agreement-for-block-77-onshore-oman.html.)

Global Cement, 2019, Raysut Cement announces US$30m grinding plant plans: Surrey, United Kingdom, Global Cement, September 4. (Accessed December 21, 2022, at https://www.globalcement.com/news/item/9802-raysut-cement-announces-us-30m-grinding-plant-plans.)

Global Cement, 2020a, Cement sector welcomes anti-dumping measures: Surrey, United Kingdom, Global Cement, May 6. (Accessed December 27, 2022, at https://www.globalcement.com/news/item/10801-cement-sector-welcomes-anti-dumping-measures.)

Global Cement, 2020b, Construction of 3.5 Mt/yr Duqm cement plant set to begin in Oman: Surrey, United Kingdom, Global Cement, October 27. (Accessed December 27, 2022, at https://www.globalcement.com/news/item/11529-construction-of-3-5mt-yr-duqm-cement-plant-set-to-begin-in-oman.)

Global Gypsum, 2021, Omani gypsum exports fall slightly in 2020: Surrey, United Kingdom, Global Gypsum, February 17. (Accessed October 26, 2022, at https://www.globalgypsum.com/news/item/1696-omani-gypsum-exports-fall-slightly-in-2020.)

Ignacio, R.J., 2020, Jindal Steel & Power to sell stake in Oman unit for over US$1B to cut debt: New York, New York, S&P Global, June 30. (Accessed December 21, 2022, at https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/jindal-steel-power-to-sell-stake-in-oman-unit-for-over-us-1b-to-cut-debt-59264134.)

International Monetary Fund, 2022, World economic outlook—War sets back the global recovery: Washington, DC, International Monetary Fund, April, 178 p. (Accessed May 18, 2022, at https://www.imf.org/-/media/Files/Publications/WEO/2022/April/English/text.ashx.)

Jindal Steel and Power Ltd., 2020, For the nation, for the people—Towards AtmaNirbhar Bharat self-reliant India—2019–20 annual report: New Delhi, India, Jindal Steel and Power Ltd., 280 p. (Accessed December 27, 2022, at https://d2lptvt2jijg6f.cloudfront.net/jindalsteelpower/custom/1606890754_AR_19_20.pdf.)

Jindal Steel and Power Ltd., 2021, Actioning India's future through self-reliance—AtmaNirbhar Bharat—2020–21 annual report: New Delhi, India, Jindal Steel and Power Ltd., 266 p. (Accessed December 27, 2022, at https://d2lptvt2jijg6f.cloudfront.net/jindalsteelpower/post/1631257790_Annual-Report-2020-21%20%281%29.pdf.)

Marketscreener.com, 2021, DMEA: Zarqa expansion and Duqm update: Annecy, France, Marketscreener.com, November 2. (Accessed October 26, 2022, at https://www.marketscreener.com/quote/stock/JORDAN-PETROLEUM-REFINERY-15867048/news/DMEA-Zarqa-expansion-and-Duqm-update-36871457/.)

McQue, Katie, 2020, Pandemic prompts review of Shell's Oman GTL project: oil minister: New York, New York, S&P Global, June 15. (Accessed December 27, 2022, at https://www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/061520-future-of-shells-oman-gtl-project-in-question-oil-minister.)

Midrex Technologies Inc., 2022, World direct reduction statistics 2021: Charlotte, North Carolina, Midrex Technologies Inc., September, 16 p. (Accessed October 20, 2022, at https://www.midrex.com/wp-content/uploads/MidrexSTATSBook2021.pdf.)

Ministry of Justice and Legal Affairs, 2021, Royal decree 96/2020 amending the name of the Ministry of Oil and Gas to the Ministry of Energy and Minerals, determining its competences, and adopting its organizational structure: Muscat, Oman, Ministry of Justice and Legal Affairs. (Accessed October 21, 2021, at https://mjla.gov.om/eng/legislation/decrees/details.aspx?Id=1246&type=L.)

Muscat Daily, 2021, OQ, Marubeni plan green hydrogen and ammonia project in Salalah: Muscat [Oman] Daily, October 13. (Accessed October 26, 2022, at https://www.muscatdaily.com/2021/10/13/oq-marubeni-plan-green-hydrogen-and-ammonia-project-in-salalah/)

National Centre for Statistics & Information, 2022, 2022 statistical yearbook, issue 50: Muscat, Oman, National Centre for Statistics & Information, August, 444 p. (Accessed March 31, 2023, at https://www.ncsi.gov.om/Elibrary/LibraryContentDoc/bar_bar_Statistical%20Year%20Book%202022%20Issue%2050_70ae8aed-ee7a-49ab-8a54-6479cb204c4d.pdf.)

Nehme, Dahlia, 2019, Duqm refinery completes more than 25% of multi-billion-dollar project—CEO: Thomson Reuters, July 23. (Accessed December 27, 2022, at https://www.reuters.com/article/oman-refinery-project/duqm-refinery-completes-more-than-25-of-multi-billion-dollar-project-ceo-idUSL8N24O4D0.)

Offshore Magazine, 2020, Oman approves offshore Yumna development: Houston, Texas, Offshore Magazine, July 17. (Accessed December 20, 2022, at https://www.offshore-mag.com/field-development/article/14179872/oman-approves-offshore-yumna-oil-field-development.)

Offshore Technology, 2021, Yumna oil field, Block 50: New York, New York, Offshore Technology. (Accessed October 29, 2021, at https://www.offshore-technology.com/projects/yumna-oil-field-block-50/.)

Oman Daily Observer, 2020a, Duqm Refinery project set for completion in 2022: [Muscat] Oman Daily Observer, November 4. (Accessed December 20, 2022, at https://www.omanobserver.om/article/8418/Main/duqm-refinery-project-set-for-completion-in-2022.)

Oman Daily Observer, 2020b, Oman awards Block 58 to Tethys Oil: [Muscat] Oman Daily Observer, July 5. (Accessed December 20, 2022, at https://www.omanobserver.om/article/12131/Business/oman-awards-block-58-to-tethys-oil.)

Oman Daily Observer, 2020c, Oman signs deal with Swedish firm to tap Mafraq's heavy oil potential: [Muscat] Oman Daily Observer, October 5. (Accessed December 21, 2022, at https://www.omanobserver.om/article/9420/Business/oman-signs-deal-with-swedish-firm-to-tap-mafraqs-heavy-oil-potential.)

Oman Environment Authority, 2020, Overview: Muscat, Oman, Oman Environment Authority. (Accessed October 29, 2021, at https://www.ea.gov.om/en/the-authority/about-authority/overview/?csrt=16295618160544768005.)

Oman Mining Expo, 2021, About the Oman mining industry: Muscat, Oman, Oman Mining Expo. (Accessed October 19, 2021, at https://www.omanminingexpo.com/about-the-oman-mining-industry.php.)

Oman News Agency, 2020, Oman signs EPSA pact for Block 36: [Muscat] Oman News Agency, September 16. (Accessed October 28, 2021, at https://omannews.gov.om/topics/en/79/show/3765/light.)

OQ S.A.O.C., 2020, Sustainability report 2019: Muscat, Oman, OQ S.A.O.C., October 22, 77 p. (Accessed December 27, 2022, at https://assets.oq.com/-/media/oq/files/oq-sustainability-report-2019-english-v3.pdf?rev=97a8eebe103f44d89db5f9af37a55c29.)

OQ S.A.O.C., 2021, Sustainability report 2020: Muscat, Oman, OQ S.A.O.C., 128 p. (Accessed December 27, 2022, at https://assets.oq.com/-/media/oq/files/oq-sustainability-report-2020-en.pdf?rev=023c033ce3224851ae425b26848d47ca.)

Perilli, David, 2021, Update on Oman, September 2021: Surrey, United Kingdom, Global Cement, September 29. (Accessed October 25, 2022, at https://www.globalcement.com/news/item/13067-update-on-oman-september-2021.)

Prabhu, Conrad, 2019, Gulf Mining to triple capacity of ferrochrome smelter in Freezone Sohar: [Muscat] Oman Daily Observer, April 10. (Accessed December 20, 2022, at https://www.omanobserver.om/gulf-mining-to-triple-capacity-of-ferrochrome-smelter-in-freezone-sohar/.)

Prabhu, Conrad, 2020, Shareholders pledge new funding for Oman antimony project: [Muscat] Oman Daily Observer, November 8. (Accessed December 20, 2022, at https://www.omanobserver.om/article/8228/1003/shareholders-pledge-new-funding-for-oman-antimony-project.)

Prabhu, Conrad, 2021, $1bln project to create green ammonia export hub in Oman: [Muscat] Oman Daily Observer, December 13. (Accessed October 26, 2022, at https://www.zawya.com/en/business/1bln-project-to-create-green-ammonia-export-hub-in-oman-t30igcs7.)

Prabhu, Conrad, 2022a, Oman's biggest cement firm to raise $600m via bond/sukuk: [Muscat] Oman Daily Observer, March 11. (Accessed October 25, 2022, at https://www.zawya.com/en/projects/industry/omans-biggest-cement-firm-to-raise-600m-via-bond-sukuk-pekp4uj9)

Prabhu, Conrad, 2022b, Oman retains crown as world's biggest gypsum exporter with growing global share: [Muscat] Oman Daily Observer, February 15. (Accessed October 26, 2022, at https://www.omanobserver.om/article/1114744/business/economy/oman-retains-crown-as-worlds-biggest-gypsum-exporter-with-growing-global-share)

Public Authority for Mining, The, 2015, Mining opportunities in Oman: Muscat, Oman, The Public Authority for Mining, 28 p. (Accessed December 23, 2022, at https://www.me-metals.com/Panel/Attachments/636070104401443619.pdf.)

Rio Tinto Inc., 2021, Annual report 2020: Montreal, Quebec, Canada, Rio Tinto Inc., February 26, 384 p. (Accessed March 31, 2023, at https://cdn-rio.dataweavers.io/-/media/content/documents/invest/reports/annual-reports/2020/rt-annual-report-2020.pdf?rev=962ff69a16854eda91bd357158b11e42.)

Savannah Resources plc, 2021, Annual report and financial statement for the year ended 31 December 2020: London, United Kingdom, Savannah Resources plc, June 1, 104 p. (Accessed March 31, 2023, at https://www.savannahresources.com/media/2nffylcc/annual-report-and-financial-statements-31_12_2020-1.pdf.)

Sharma, Deepak, 2020, Force Commodities higher on completing acquisitions in copper-rich belt of Oman: London, United Kingdom, Proactive Investors Ltd., November 4. (Accessed December 23, 2022, at https://www.proactiveinvestors.co.uk/companies/news/933099/force-commodities-higher-on-completing-acquisitions-in-copper-rich-belt-of-oman-933099.html.)

Sohar Aluminium Co. LLC, 2022, Sustainability report 2021: Sohar, Oman, Sohar Aluminium Co. LLC, June, 87 p. (Accessed December 21, 2022, at https://www.sohar-aluminium.com/sites/default/files/2022-06/SA%20_Sustainability%20Report%20_%202021%20_%20Eng.pdf.)

Times of Oman, 2020, Port of Salalah committed to mineral strategy of Oman: Times of [Muscat] Oman, December 20. (Accessed December 19, 2022, at https://timesofoman.com/article/96332-port-of-salalah-committed-to-mineral-strategy-of-oman.)

U.S. Census Bureau, 2022a, Foreign trade—Country and product trade data—-Product detail and partner country—End-use—Country by 5-digit end-use code, annual totals, 2012–present—Download full exports dataset: Suitland, Maryland, U.S. Census Bureau. (Accessed May 23, 2022, via https://www.census.gov/foreign-trade/statistics/country/index.html.)

U.S. Census Bureau, 2022b, Foreign trade—Country and product trade data—-Product detail and partner country—End-use—Country by 5-digit end-use code, annual totals, 2012–present—Download full imports dataset: Suitland, Maryland, U.S. Census Bureau. (Accessed May 23, 2022, via https://www.census.gov/foreign-trade/statistics/country/index.html.)

U.S. Energy Information Administration, 2019a, Oman background reference: Washington, DC, U.S. Energy Information Administration, January 7, 9 p. (Accessed December 27, 2022, at https://www.eia.gov/international/content/analysis/countries_long/Oman/oman_bkgd.pdf.)

U.S. Energy Information Administration, 2019b, Oman country analysis executive summary: Washington, DC, U.S. Energy Information Administration, January 7, 6 p. (Accessed December 27, 2022, at https://www.eia.gov/international/content/analysis/countries_long/Oman/oman_exe.pdf.)

TABLE 1

OMAN: PRODUCTION OF MINERAL COMMODITIES[1]

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

Commodity[2]		2017	2018	2019	2020	2021
METALS						
Aluminum, metal, primary		253	380	391	397	395
Chromium, mine, chromite:						
Gross weight		453	885	733 r	457	269
Cr content, 35% Cr_2O_3 e		170	332	275 r	172	101
Copper, primary:						
Smelter		5	6	--	--	--
Refinery		5	6	--	--	--
Ferroalloys, ferrochromium	metric tons	79,563	70,000	84,938 r	23,500	82,250
Gold, mine, Au content[3]	kilograms	3	--	--	--	--
Iron ore pellets, from imports e, 4		11,000	11,000	12,000 r	12,400	12,000
Iron and steel:						
Direct-reduced iron		1,526	1,500	1,750 r	1,730	1,700
Raw steel e		2,000	2,000	2,100 r	2,100	2,100
Lead, refinery, secondary e	metric tons	5,000	10,000	10,000	9,000	10,000
Manganese, mine:						
Gross weight	do.	13,600	44,692	50,000 r	14,500	15,100
Mn content, 25% Mn e	do.	3,400	11,000	12,500 r	3,620	3,780
Silver, mine, Ag content[3]	kilograms	120	--	--	--	--
INDUSTRIAL MINERALS						
Cement, hydraulic e		4,860 r	5,370 r	5,520 r	6,230	6,450
Clay:						
Kaolin		219	110	34 r	58	35
Unspecified		504	460	665	984	583
Gypsum, mine		8,438	9,667	10,983 r	11,120	12,290
Nitrogen, N content: e						
Ammonia		1,710 r	1,710 r	1,720 r	1,730	1,730
Urea		1,590 r	1,560 r	1,530 r	1,550	1,550
Salt		18	12	15	12	10
Sand and gravel, industrial:						
Silica sand		314	265	243 r	348	196
Unspecified		34	21	26 r	8	34
Stone, sand, and gravel, construction:						
Sand and gravel, unspecified		73,300	75,862	97,459 r	58,741	39,418
Stone:						
Crushed, limestone		18,062	14,020	10,001 r	7,131	8,253
Other, size and shape unspecified, marble		1,355	1,270	1,129 r	1,131	1,005
Sulfur:						
Byproduct, petroleum, S content		60	86	80	82	89
Compounds, sulfuric acid e		2,500	2,500	2,500	2,500	2,500
MINERAL FUELS AND RELATED MATERIALS						
Liquefied natural gas		8,600	10,400	10,700	10,200	10,600
Natural gas:						
Gross	million cubic meters	40,528	45,297	46,122	46,101	47,791
Dry basis	do.	33,716	37,335	37,874	38,510	38,665
Petroleum:						
Crude, including condensate	thousand 42-gallon barrels	354,258	357,100	354,400	347,900	354,500
Natural gas liquids	do.	237,761	239,367	281,379	216,000	190,000

See footnotes at end of table.

TABLE 1—Continued

OMAN: 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	24,847	27,248	25,038	27,983	33,206
Gasoline	do.	25,502	27,072	28,143	23,188	26,435
Jet fuel, including kerosene	do.	7,175	13,327	14,018	6,981	5,936
Liquefied petroleum gas	do.	4,862	6,124	5,762	5,226	6,000
Residual fuel oil	do.	2,459	1,833	1,894 r	107	21
Other	do.	26,843	37,622	36,713	30,134	36,419
Total	do.	91,700	113,000	112,000	93,600	108,000

eEstimated. rRevised. do. Ditto. -- Zero.

[1]Table includes data available through October 24, 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, antimony, calcium carbonate, iron oxide pigments (laterite), methanol, refined gold, and steel products may have been produced, but available information was inadequate to make reliable estimates of output.

[3]Reported sales.

[4]Pellets were produced from imported iron ore for use by direct-reduction plants.

TABLE 2
OMAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2021

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum:			
Primary	Sohar Aluminium Co. LLC (Abu Dhabi National Energy Co. P.J.S.C., 40%; OQ S.A.O.C., 40%; Rio Tinto Inc., 20%)	Smelter at Sohar, Al Batinah North Governorate	395,000.
Do.	Oman Aluminium Rolling Co. (OARC) (Takamul Investment Co. S.A.O.C., 100%)	Rolling mill at Sohar Industrial Estate, Al Batinah North Governorate	140,000.
Do.	Oman Aluminum Processing Industries SPC (OAPIL) (Oman Cables Industries S.A.O.C., 51%, and Takamul Investment Co. S.A.O.C., 49%)	Plant at Sohar, Al Batinah North Governorate	57,000.
Antimony	Strategic & Precious Metal Processing Co. (SPMP) (DNR Industries Ltd., 33.3%; Oman Investment Fund, 33.3%; Tristar Resources p.l.c., 33.3%)	Antimony metal and trioxide plant at Sohar Port and Freezone, Al Batinah North Governorate	20,000.
Calcium carbonate	Northern Minerals Co. LLC	Plant at Sohar Industrial Estate, Al Batinah North Governorate	120,000.
Cement	Al Madinah Cement Co. LLC	Kilns and mills at Wadi Saa, near Al Ain, Az Zahirah Governorate	1,120,000.
Do.	Oman Cement Co. S.A.O.G. (OCC) (Government, 51%; pension funds, 33.65%; individual investors, 9.85%; Public Authority of Social Insurance, 5.50%)	Kilns and mills at Rusayl, Muscat Governorate	3,700,000.
Do.	Raysut Cement Co. S.A.O.G. (RCC)	Kilns and mills at Salalah, Dhofar Governorate	3,100,000.
Do.	Sohar Cement Factory LLC [Raysut Cement Co. S.A.O.G. (RCC), 100%]	Cement plant at Sohar Industrial Estate, Al Batinah North Governorate	1,800,000.
Chromite:			
Ore	Al Tamman Trading Establishment LLC (Muscat Overseas Group)	Al Ram and Wadi Rajmi Mines near Muscat, Muscat Governorate	300,000.
Do.	Gulf Mining Materials LLC [Gulf Mining Group (GMG), 100%]	Wadi Mahram Mine at Samail, Ad Dakhiliyah Governorate	600,000.
Do.	Hatton FZE	Mines south of Muscat, Muscat Governorate	480,000.
Do.	Northern Minerals Co. LLC	Quarry at Samail, Ad Dakhiliyah Governorate	20,000.
Do.	Oman Chromite Co. S.A.O.G. (Al Qurum Establishment LLC, Government, Oman Mining Co. LLC, other private investors)	Mines near Sohar, Al Batinah North Governorate	200,000.
Concentrates	Gulf Mining Materials LLC [Gulf Mining Group (GMG), 100%]	Beneficiation plant at Samail, Ad Dakhiliyah Governorate	180,000.
Clay:			
Kaolin	NA	Mines in Al Wusta Governorate	250,000.
Unspecified	do.	do.	600,000.
Ferroalloys, ferrochromium	Al Tamman Indsil Ferrochrome LLC (Indsil Group, 50%, and Muscat Overseas Group, 50%)	Smelter at Sohar Port and Freezone, Al Batinah North Governorate	75,000.
Do.	Gulf Mining Ferro Alloys (FZC) [Gulf Mining Group (GMG), 100%]	do.	50,000.
Gold, refined kilograms	Strategic & Precious Metal Processing Co. (SPMP) (DNR Industries Ltd., 33.3%; Oman Investment Fund, 33.3%; Tristar Resources p.l.c., 33.3%)	Refinery at Sohar Port and Freezone, Al Batinah North Governorate	1,500.
Gypsum	Al Jood Natural Resources LLC	Quarries in Dhofar Governorate	NA.
Do.	Al Ruwaiya Mining LLC [Gulf Mining Group (GMG), 100%]	Quarry at Salalah, Dhofar Governorate	1,200,000.
Do.	Cement Gypsum Products Co. S.A.O.G.	Quarries at Buraimi and Thumrait, Dhofar Governorate	180,000.
Do.	Dhofar Mining Co. LLC	Quarry at Thumrait, Dhofar Governorate	1,200,000.

See footnotes at end of table.

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

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Gypsum—Continued		Global Mining Co. LLC (GMC)	Quarry at Thumrait, Dhofar Governorate	3,000,000.
Do.		Gypsum Mining Co. (Awam Minerals LLC, 100%)	do.	1,000,000.
Do.		Kunooz Gypsum Co. LLC (Al Rawas Holding LLC, 80%, and Oman Investment Fund, 20%)	Quarry at Salalah, Dhofar Governorate	2,300,000.
Do.		Muscat Global Mining Co. LLC	Quarry at Thumrait, Dhofar Governorate	3,000,000.
Do.		USG Zawawi Drywall LLC SFZ (USG Boral Building Products Pty Ltd., 50%, and Zawawi Minerals LLC, 50%)	Quarry at Salalah Freezone, Dhofar Governorate	3,000,000.
Do.		Zawawi Gypsum LLC (USG Boral Building Products Pty Ltd., 55%, and Zawawi Minerals LLC, 45%)	Quarry at Thumrait, Dhofar Governorate	3,000,000.
Iron and steel:				
Direct-reduced iron		Jindal Shadeed Iron & Steel LLC (Templar Investments Ltd.)	Plant at Sohar Industrial Zone, Al Batinah North Governorate	1,800,000.
Iron ore pellets		Vale Oman Pelletizing Co. LLC (Vale S.A., 70%, and OQ S.A.O.C., 30%)	Two pellet plants at Sohar Industrial Zone, Al Batinah North Governorate	9,000,000.
Raw steel		Jindal Shadeed Iron & Steel LLC (Templar Investments Ltd.)	Plant at Sohar Industrial Zone, Al Batinah North Governorate	2,400,000.
Do.		Modern Steel Mills LLC	Plant at Rusayl, Muscat Governorate	160,000.
Do.		Sohar Steel LLC	Plant at Sohar Industrial Zone, Al Batinah North Governorate	600,000.
Steel products:				
Rebar		Hadid Majan LLC	Plant at Bait Al Falaj, Muscat Governorate	180,000.
Do.		Jindal Shadeed Iron & Steel LLC (Templar Investments Ltd.)	Plant at Sohar Industrial Zone, Al Batinah North Governorate	1,400,000.
Do.		Sharq Sohar Steel Rolling Mill LLC (Sohar Steel LLC)	do.	300,000.
Do.		Sohar Steel LLC	do.	500,000.
Tubes		Al Jazeera Steel Tube Mills Co. S.A.O.G.	Plant at Sohar, Al Batinah North Governorate	300,000.
Iron oxide pigment (laterite)		Arabia Global Resources LLC	Quarry at Ibra, Ash Sharqiyah North Governorate	360,000.
Do.		Gulf Mining Materials LLC [Gulf Mining Group (GMG), 100%]	Quarry at Barka, Al Batinah South Governorate	300,000.
Manganese		Al Jood Natural Resources LLC	Mine near AI Qabil, Ibra, Ash Sharqiyah North Governorate	NA.
Do.		Al Tamman Trading Establishment LLC (Muscat Overseas Group)	Al Qabil Mine near Muscat, Muscat Governorate	60,000.
Do.		Mina Engineering LLC [Gulf Mining Group (GMG), 100%]	Mine at Ibra, Ash Sharqiyah North Governorate	180,000.
Methanol		Oman Methanol Co. LLC (Oman Methanol Holding Co. LLC and Methanol Holding International Ltd.)	Plant at Sohar Port, Al Batinah North Governorate	1,100,000.
Do.		Salalah Methanol Co. LLC (OQ S.A.O.C., 90%, and Takamul Investment Co. S.A.O.C., 10%)	Plant at Salalah Free Zone, Dhofar Governorate	1,100,000.
Natural gas	million cubic meters	BP Oman (BP p.l.c., 60%; OQ S.A.O.C., 30%; Petronas, 10%)	Block 61, Khazzan-Makarem and Ghazeer fields, onshore, Az Zahirah Governorate	15,500.
Do.	do.	Occidental Petroleum Corp. (100%)	Block 62, Fushaigah and Maradi Hurayma fields, onshore, Ad Dakhiliyah Governorate	1,705.
Do.	do.	OQ S.A.O.C. (100%)	Block 60, Abu Tabul field, onshore, Al Buraymi Governorate	723.

See footnotes at end of table.

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

(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	Petroleum Development Oman LLC (PDO) [Government, 60%; Royal Dutch Shell p.l.c., 34%; TotalEnergies SE, 4%; Partex (Oman) Corp., 2%]	Associated natural gas in the Kauther/Yibal, the Saih Niyahda, and the Saih Rawl clusters, onshore, Ad Dakhiliyah and Al Wusta Governorates	27,000.
Natural gas, liquefied		Oman Liquefied Natural Gas LLC [Oman Investment Authority (Government), 51%; Shell Gas B.V., 30%; TotalEnergies SE, 5.54%; Korea LNG, 5%; Mitsubishi Corp., 2.77%; Mitsui E&P Middle East B.V., 2.77%; Partex (Oman) Corp., 2%; Itochu Corp., 0.92%]	Two trains at Qalhat, Ash Sharqiyah South Governorate	6,600,000.
Do.		Qalhat Liquefied Natural Gas S.A.O.C. (Government, 46.84%; Oman Liquefied Natural Gas LLC, 36.8%; Naturgy Energy Group S.A., 7.36%; Mitsubishi Corp., 3%; Osaka Gas Co. Ltd., 3%; Itochu Corp., 3%)	One train at Qalhat, Ash Sharqiyah South Governorate	3,700,000.
Nitrogen fertilizer, N content	thousand metric tons	Oman India Fertiliser Co. S.A.O.G. (OMIFCO) (OQ S.A.O.C., 50%; Indian Farmers Fertiliser Cooperative Ltd., 25%; Krishak Bharati Cooperative Ltd., 25%)	Plant at Sur, Ash Sharqiyah South Governorate	1,150 ammonia, 1,652 urea.
Do.	do.	Sohar International Urea & Chemical Industries S.A.O.G. (SIUCI) (Suhail Bahwan Group Holding LLC, 100%)	Plant at Sohar Port and Freezone, Al Batinah North Governorate	730 ammonia, 1,300 urea.
Petroleum:				
Crude	42-gallon barrels per day	ARA Petroleum LLC (100%)	Block 44, Munhamir and Shams fields, onshore, Al Buraymi Governorate	3,400.
Do.	do.	BP Oman (BP p.l.c., 60%; OQ S.A.O.C., 30%; Petronas, 10%)	Block 61, Khazzan-Makarem field, onshore, Al Buraymi Governorate	300.
Do.	do.	CC Energy Development S.A.L., 50%; Tethys Oil, 30%; Mitsui E&P Middle East B.V., 20%	Blocks 3 and 4, Saiwan and Farha fields, onshore, Al Wusta and Ash Sharqiyah South Governorates	45,000.
Do.	do.	Daleel Petroleum Co. LLC {Mazoon Petrogas B.V.I. [China National Petroleum Corp. (CNPC), 100%], 50%, and Mazoon Petrogas S.A.O.C., 50%}	Block 5, includes the Bushra, Daleel, Mezoon and Shadi fields, onshore, Al Buraymi Governorate	56,000.
Do.	do.	Hydrocarbon Finder E&P (100%)	Block 7, Rija, Ramlat, and Sahmah fields fields, onshore, Al Wusta Governorate	2,000.
Do.	do.	Musandam Oil and Gas Co. (OQ S.A.O.C., 100%)	Block 8, Bukha field, offshore, near Musandam Governorate	12,800.
Do.	do.	Occidental Mukhaizna LLC [Occidental Petroleum Corp., 45%; OQ S.A.O.C., 20%; Shell Oman Trading Co. Ltd., 17%; Liwa Energy Ltd., 15%; Total Exploration and Production Oman, 2%; Partex (Oman) Corp., 1%]	Block 53, Mukhaizna field, onshore, Al Wusta Governorate	122,800.
Do.	do.	Occidental Oman Inc. (Occidental Petroleum Corp., 65%, and Mitsui E&P Middle East B.V., 35%)	Blocks 9, 27, and 62, includes the Safah and Al Sunienah fields, onshore, Al Buraymi and Ad Dakhiliyah Governorates	90,400.
Do.	do.	Occidental Petroleum Corp. (100%)	Block 62, Fushaigah and Maradi Hurayma fields, onshore, Ad Dakhiliyah Governorate	22,000.
Do.	do.	OQ S.A.O.C. (100%)	Block 60, Abu Tabul field, onshore, Al Buraymi Governorate	55,000.

See footnotes at end of table.

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

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Petroleum:—Continued				
Crude—Continued	42-gallon barrels per day	Petroleum Development Oman LLC (PDO) [Government, 60%; Royal Dutch Shell p.l.c., 34%; TotalEnergies SE, 4%; Partex (Oman) Corp., 2%]	Block 6, including about 100 oilfields in the Bahja, Fahud, Harweel, Lekhwair, Marmul, Nimr, Qarn Alam, and Yibal clusters, onshore, Ad Dakhiliyah and Al Wusta Governorates	655,000.
Refined	do.	Oman Oil Refineries and Petroleum Industries Co. (ORPIC) (Ministry of Finance, 75%, and OQ S.A.O.C., 25%)	Refinery at Sohar, Al Batinah North Governorate	198,000.
Do.	do.	do.	Refinery at Mina Al-Fahal, Muscat Governorate	106,000.
Salt, crude, industrial		Modern Salt Co. LLC	Plant at Ibri, Az Zahirah Governorate	12,000.
Silica sand		Gulf Stone Co. S.A.O.G.	Quarry at Sohar, Al Batinah North Governorate	45,000.
Do.		Industrial Minerals Co. LLC (Northern Minerals Co. LLC, 100%)	NA	50,000.
Stone:				
Gabbro		Al Jood Natural Resources LLC	NA	2,000,000.
Limestone		Oman Cement Co. S.A.O.C. (OCC) (Government, 51% pension funds, 33.65%; individual investors, 9.85%; Public Authority of Social Insurance, 5.50%)	Quarry at Rusayl, Muscat Governorate	2,400,000.
Do.		Northern Minerals Co. LLC	Quarries at Wadi Al Jizzi, Al Batinah Governorate	2,000,000.
Do.		Global Mining Co. LLC (GMC)	Quarry at Sohar, Al Batinah North Governorate	NA.
Do.		Oman Quarries Co. LLC (Al Hooqani International Group)	Quarry at Samail, Ad Dakhiliyah Governorate	NA.
Do.		Majan Mining Co. LLC	Quarry in Dhofar Governorate	NA.
Marble		Al Tamman Trading Establishment LLC (Muscat Overseas Group)	Quarry at Buraimi, Az Zahirah Governorate	1,700,000.
Do.		Companies that quarried marble included Al Ajmi Marble Co., Al Madinah Marble Co., Al Nasser Marble Co., Al Rushaidi Marble Co., Al Shanfari Marble Co., Al Zarabi Marble Co., Gulf Mining Materials LLC, International Marble, and Omani Marble Co.	Quarries located primarily in Ibri, Az Zahirah Governorate	450,000.
Sulfur:				
Elemental		Oman Oil Refineries and Petroleum Industries Co. (ORPIC) (Ministry of Finance, 75%, and OQ S.A.O.C., 25%)	Refinery at Sohar, Al Batinah North Governorate	50,000.
Do.		do.	Refinery at Mina Al-Fahal, Muscat Governorate	NA.
Fertilizer		Sohar Sulphur Fertilizers LLC (SSF) (Takamul Investment Co. S.A.O.C., 69%, and Aqua Ventures International, 31%)	Plant at Sohar Industrial Zone, Al Batinah North Governorate	60,000.
Sulfuric acid		Sohar Chemical Industries (SCI) (Suhail Bahwan Group)	do.	1,460,000.

Do., do. Ditto. NA Not available.