



2019 Minerals Yearbook

QATAR [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF QATAR

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Qatar was a major producer of aluminum (primary), ammonia, crude petroleum, direct-reduced iron (DRI), helium, natural gas, sulfur, and urea in 2019. As the world's fifth-ranked producer of natural gas, Qatar accounted for about 4.5% of global output. In addition, the country was the leading exporter of liquefied natural gas (LNG), accounting for 22% of the world's LNG exports. According to the BP Statistical Review of World Energy, the country's proven natural gas reserves were estimated to be 24.7 trillion cubic meters, accounting for 12.4% of the world's total and making Qatar the country with the third largest proven natural gas reserves in the world. Qatar held the second largest natural gas reserves in the Middle East and North Africa, behind Iran, and it was also the world's second-ranked producer of helium, accounting for an estimated 32% of global output. Mineral production in Qatar also included cement, gypsum, lime, methanol, sand, steel, and stone. Qatar was a member of the Gas Exporting Countries Forum, and the Cooperation Council for the Arab States of the Gulf [formerly—and still colloquially known as—the Gulf Cooperation Council (GCC)]. In early 2019, Qatar withdrew from the Organization of the Petroleum Exporting Countries (OPEC) after the Government decided to shift its focus on expanding its natural gas resources; Qatar had been a member of OPEC for nearly six decades (table 1; BP p.l.c., 2020, p. 32, 42; Cable News Network, Inc., 2020; Organization of the Petroleum Exporting Countries, 2020, p. 79; Peterson, 2020).

In 2019, Qatar's real gross domestic product (GDP) decreased by 0.2% compared with an increase of 1.5% in 2018 according to the Qatar Central Bank. The bank noted that the decline in the economy was primarily the result of a decrease in the value of Qatar's hydrocarbon exports owing to lower global energy prices as well as a slowdown in the manufacturing, trade, and construction sectors following the completion of large projects related to the FIFA 2022 soccer tournament (Fattah, 2019; Qatar Central Bank, 2020, p. 13).

The Government continued to implement a plan to transform the economy through its Qatar National Vision 2030 (QNV 2030), which outlined the goal of transforming Qatar into a diversified and knowledge-based economy by 2030. The planning document sets out long-term economic goals aimed at reducing reliance on the hydrocarbon sector through large investments in the industrial sector. The Government planned to maintain high levels of spending on the development of tourism and transportation infrastructure. Foreign investment is permitted under investment law No. (13) of 2000, which restricts ownership by foreign investors to 49% of projects. Foreign investors, however, can own up to 100% of projects that involve natural resource development, including development of the mining sector, provided they first obtain Government approval. In 2019, the Government enacted a foreign investment law, Law 1/2019, to ease restrictions on foreign investment; the law permits full foreign ownership of businesses in most sectors. The primary sectors that attracted foreign direct investment were

downstream manufacturing, hydrocarbons, transportation, and marketing (U.S. Department of State, 2020).

Minerals in the National Economy

The hydrocarbon sector continued to be the country's primary economic sector in 2019, accounting for 46.8% of the GDP. The value added of the hydrocarbon sector decreased by 1.8% (based on constant 2013 prices) owing to a decrease in prices and production. The average price of the country's export blend of crude petroleum decreased to \$63.65 per barrel in 2019 from \$71.22 per barrel in 2018. Government revenues from hydrocarbon exports decreased by 1.8% in 2019, and the share of hydrocarbon revenues in total Government revenues decreased to 79.2% from 83.3% in 2018. The value of Qatar's total exports decreased by 13% to \$72.9 billion¹ from \$84.3 billion in 2018, of which natural gas (including condensates) exports decreased to \$45.1 billion from \$51.8 billion in 2018 and crude petroleum exports decreased to \$17.5 billion from \$20.7 billion. The non-hydrocarbon sector, which accounted for 53.2% of the GDP, grew by 1.3% (BP p.l.c., 2020, p. 39; Organization of the Petroleum Exporting Countries, 2020, p. 67; Qatar Central Bank, 2020, p. 23, 48, 56).

Production

In 2019, significant decreases in production included that of construction sand, which decreased by 38%; and dimension stone (limestone), which decreased by an estimated 17%. Data on mineral production are in table 1.

Structure of the Mineral Industry

State-owned company Qatar Petroleum (QP) owned and operated all crude petroleum and natural gas activity in Qatar. Qatargas Co. (Qatargas), which was a subsidiary of Qatargas Operating Co. Ltd. (OPCO), operated four primary LNG enterprises at Ras Laffan. Qatargas also produced helium from two refining plants at Ras Laffan. In 2018, QP merged two of its subsidiaries, Qatargas and RasGas Co. Ltd., to decrease operation costs; the new company retained the name Qatargas (table 2; Oil and Gas Journal, 2018; Qatargas Operating Co. Ltd., 2020a, b; U.S. Department of State, 2020).

State-owned company Industries Qatar Q.S.C. (IQ) owned 80% of Qatar Petrochemical Co. Ltd. Q.S.C. (QAPCO); the remaining 20% was owned by Total S.A. of France. IQ also owned 50% of Qatar Fuel Additives Co. Ltd. Q.S.C. (QAFAC) [the remainder of QAFAC shares were owned by OPIC Middle East Corp. (20%), and International Octane L.L.C. and LCY Middle East Corp. (15% each)], which produced mainly

¹Where necessary, values have been converted from Qatari rials (QAR) to U.S. dollars (US\$) at an annual average exchange rate of QAR 3.64=US\$1.00 for 2018 and 2019.

methanol, petrochemicals, and sulfur. IQ also held a 75% majority interest in Qatar Fertilizer Co. Ltd. P.S.C. (QAFCO) (the remaining 25% interest was owned by Yara Netherland BV), which produced primarily ammonia and urea. Qatar Steel Co. Q.S.C. (a wholly owned subsidiary of IQ) produced hot-briquetted iron and DRI, steel-reinforcing bar (rebar), steel billets, and steel coils, in addition to lime. Qatar Steel was the sole producer of DRI and raw steel in Qatar. Qatar Aluminium Ltd. (Qatalum), which was a 50–50 joint venture between Norsk Hydro ASA (Norsk Hydro) of Norway and Qatar Aluminum Manufacturing Co. Q.P.S.C., produced primary aluminum at its smelter in Mesaieed (table 2; Qatar Steel Co. Q.S.C., 2018, p. 27; Industries Qatar Q.S.C., 2020, p. 48–59; Norsk Hydro ASA, 2020, p. 158).

Commodity Review

Metals

Aluminum.—Qatalum produced 627,000 metric tons (t) of aluminum in 2019, which was an increase of 1.8% compared with the 616,000 t produced in 2018. The company's complex, which consisted of an aluminum smelter, casthouse, carbon anode plant, and powerplant, had a total production capacity of 640,000 metric tons per year (t/yr), of which extrusion billets accounted for 340,000 t/yr, and foundry alloys, 300,000 t/yr. The carbon plant had the capacity to produce 335,000 t/yr of anodes. Norsk Hydro reported that its smelter, which was located in Mesaieed, employed 1,092 people and was considered among the lowest cost aluminum smelters in the world (tables 1, 2; Norsk Hydro ASA, 2020, p. 49, 238; Qatar Aluminium Ltd., 2020).

Iron and Steel.—Qatar's production of raw steel decreased slightly to about 2.6 million metric tons (Mt) in 2019. DRI production also decreased slightly to about 2.4 Mt in 2019. Qatar Steel's operations were located in Mesaieed and had production capacities of 2.8 million metric tons per year (Mt/yr) of DRI and 3.5 Mt/yr of raw steel. In 2019, 80% of Qatar Steel's total sales volume was sold domestically and 20% was sold to other GCC countries (table 2; Qatar Steel Q.S.C., 2020, p. 15, 41).

Industrial Minerals

Nitrogen.—QAFCO, which was the fertilizer segment of IQ, was the sole producer of ammonia and urea in the country. IQ reported that its fertilizer segment production increased by about 2% in 2019; production of ammonia reached a record high—nitrogen content of ammonia was estimated to be about 3.2 Mt, and nitrogen content of urea, about 2.7 Mt. IQ also noted that fertilizer prices decreased by 9%, which led to a 9% decrease in revenues, although plant utilizations remained high at above 97%. QAFCO's annual production capacity was 3.8 Mt/yr of ammonia (including an estimated 3.3 Mt/yr nitrogen content of ammonia) from six ammonia production units and 5.6 Mt/yr of urea (including an estimated 2.9 Mt/yr of nitrogen content of urea) from six urea production units. QAFCO's operations were based in Mesaieed (tables 1, 2; Qatar Fertilizer Co. S.A.Q., 2019; Industries Qatar Q.S.C., 2020, p. 34–35).

Mineral Fuels and Related Materials

Helium.—In 2019, Qatargas continued with development of the Helium 3 plant project, which was located in Ras Laffan. The plant was expected to have a production capacity of about 12 million cubic meters of helium and to become operational in 2020. Qatar was estimated to have produced about 50 million cubic meters of helium in 2019, which remained unchanged from that of 2018. The Qatar Helium 1 and 2 plants, also located in Ras Laffan, together had a total production capacity of 60 million cubic meters per year of liquefied helium (tables 1, 2; Reisch, 2019).

Natural Gas.—Qatar's natural gas production increased in 2019 by 1.2% to a record high level of 183.6 billion cubic meters compared with 181.3 billion cubic meters in 2018; the country's exports of natural gas decreased slightly in 2019 to 143.0 billion cubic meters from 143.4 billion cubic meters in 2018. Qatar was the leading exporter of LNG in the world in 2019; it exported 107.1 billion cubic meters of natural gas by LNG vessel to more than 18 countries. About 72.0 billion cubic meters of these exports went to Asia and 32.2 billion cubic meters went to Europe. Qatar exported 21.5 billion cubic meters of natural gas by pipeline; 19.5 billion cubic meters were exported to the United Arab Emirates and 2.0 billion cubic meters were sent to other countries in the Middle East (table 1; BP p.l.c., 2020, p. 42–43; Organization of the Petroleum Exporting Countries, 2020, p. 80).

In 2019, Qatargas continued to develop the offshore Barzan Gas project, which was a joint venture between Qatargas (93%) and Exxon Mobil Corp. of the United States (7%). Although the Barzan project was expected to begin production in 2019, no production had taken place by yearend. Since the \$10 billion project was announced in 2011, its start date had been delayed several times; the most recent delay was owing to issues related to pipelines. The project was to consist of both offshore and onshore facilities and would extract gas from Qatar's North Field, which was the world's largest nonassociated gasfield, constituting roughly 10% of the world's known gas reserves. The offshore development area is located approximately 80 kilometers (km) off the coast of Ras Laffan Industrial City in the Persian Gulf. Offshore facilities would include 100 km of subsea cables, 300 km of subsea pipelines, and three offshore wellhead platforms. Onshore facilities were to consist of a gas processing unit, a sulfur recovery unit (to remove impurities from the natural gas), and a natural gas liquids (NGL) recovery unit, which would produce butane, condensate, ethane, methane, and propane (Crisp, 2018; Shoeb, 2019; Offshore Technology, 2020).

The Government announced an end to a 12-year moratorium on natural gas development in the North Field in 2018, and development to expand the North Field began in 2019; the project was expected to be completed within 5 to 7 years and to increase natural gas production capacity by an estimated 10%. The North Field is located adjacent to the South Pars field, which was controlled by Iran; the South Pars Field had recently undergone significant development by Iran. In 2019, QP announced that it would increase its LNG production capacity to 110 Mt/yr from 77 Mt/yr by 2024. The project would include construction of four new 8.25-Mt/yr-capacity LNG trains. QP also issued an invitation for tenders for the construction of

60 LNG carriers, which could eventually increase to exceed 100 LNG carriers during the next 10 years as part of the North Field expansion (Finn, 2017; Smith, 2019).

Petroleum.—Qatar’s production of crude petroleum and condensate decreased in 2019 by 0.9% to about 687.3 million barrels (Mbbbl) from a revised 693.5 Mbbbl in 2018; however, the country increased exports of crude petroleum by 10% in 2019 to about 525 Mbbbl compared with 477 Mbbbl in 2018. Three fields—Al Shaheen, the Dukhan, and the Idd Al-Shargi Fields—accounted for more than 85% of the country’s crude petroleum production capacity. According to the BP Statistical Review of World Energy, the country’s proven crude petroleum reserves were estimated to be 25.2 billion barrels (Gbbbl), which was 1.5% of the world’s total. Among the Middle Eastern countries with the largest crude petroleum reserves, Qatar ranked sixth behind Saudi Arabia, 297.6 Gbbbl; Iran, 155.6 Gbbbl; Iraq, 145.0 Gbbbl; Kuwait, 101.5 Gbbbl; and the United Arab Emirates, 97.8 Gbbbl (tables 1, 2; BP p.l.c., 2020, p. 14; Organization of the Petroleum Exporting Countries, 2020, p. 48).

Qatar’s Energy Ministry announced in December 2018 that Qatar would leave the OPEC in January 2019. The Ministry noted that the decision to leave OPEC after nearly six decades was not related to an 18-month political and economic boycott led by Saudi Arabia, but rather to the Government’s decision to focus its efforts on expanding its natural gas industry. Qatar had been a member of OPEC since 1961 (Meredith, 2018).

Refined Petroleum Products.—Qatar’s production of refined petroleum products decreased by 0.7% in 2019 to 133 Mbbbl (estimated) owing to a slowdown in the economy and a decrease in crude petroleum production. Qatargas began commercial production in 2016 at the Ras Laffan II refinery in the North Field; the refinery had the capacity to produce 146,000 barrels per day (bbl/d) of refined condensate. The completion of the Ras Laffan II refinery, which was an expansion project of the Ras Laffan I refinery, doubled the Ras Laffan refinery complex’s capacity to 292,000 bbl/d of refined products. Qatar’s total refining capacity increased to about 430,000 bbl/d with the startup of the Ras Laffan II refinery, which produced butane, kerosene, jet fuel, low-sulfur diesel, naphtha, and propane. Qatar exported 196 Mbbbl of refinery products in 2019, which was a decrease of 2.7% from the 202 Mbbbl exported in 2018 (tables 1, 2; Pioneer, The, 2016, p. 3; Organization of Petroleum Exporting Countries, 2020, p. 49).

Outlook

Qatar’s economic growth outlook in the short term remains positive. According to the International Monetary Fund, Qatar’s economy is projected to grow by 2.8% in 2020. Hydrocarbons are likely to continue to be the dominant mineral commodities in Qatar, and so the country’s rate of economic growth will likely be tied to global crude petroleum and natural gas prices. Increased production of natural gas production is projected to continue with the expected completion of the offshore Barzan Gas project during the next several years and the North Field project during the longer term. In the nonhydrocarbon sector, construction, manufacturing, retail, and wholesale trade will continue to be developed by the Government and emerge as new drivers of economic growth (U.S. Department of State, 2020).

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TABLE 1
QATAR: PRODUCTION OF MINERAL COMMODITIES¹

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

Commodity ²	2015	2016	2017	2018	2019
METALS					
Aluminum, primary, metal	610	612	620	616	627
Iron and steel:					
Direct-reduced iron	2,631	2,506	2,548	2,525 ^r	2,423
Steel:					
Raw steel	2,594	2,521	2,645	2,575 ^r	2,558
Products:					
Bars, rolled	2,162	2,272	2,044	2,142 ^r	2,170
Billet, cast	2,594	2,521	2,645	2,575 ^r	2,558
INDUSTRIAL MINERALS					
Cement, hydraulic	6,880	6,700 ^{r, e}	6,000 ^{r, e}	4,800 ^{r, e}	4,500 ^e
Gypsum ^e	210	210	210	210	210
Helium	million cubic meters	49	50 ^e	50 ^e	50 ^e
Lime ^e	120	130	130	130	130
Nitrogen, fertilizer, N content:					
Ammonia	3,050	2,960	3,100	3,100 ^{r, e}	3,150 ^e
Urea	2,652	2,638	2,700 ^{r, e}	2,600 ^r	2,650 ^e
Stone, sand, and gravel, construction:					
Sand and gravel, sand	7,800	8,800 ^r	9,100 ^r	7,800 ^r	4,800
Stone:					
Dimension, limestone ^e	2,300	2,300	2,300	2,400	2,000
Size and shape unspecified, calcium carbonate	37	37 ^e	40	47 ^e	46
Sulfur:					
Byproduct, natural gas, S content	2,377	2,419	2,000 ^e	1,800 ^{e, r}	1,800 ^e
Compounds, sulfuric acid ^e	10	10	10	10	10
MINERAL FUELS AND RELATED MATERIALS					
Liquefied natural gas	million metric tons	77 ^r	79 ^r	75	76
Methanol	1,118	904	1,067	1,091 ^r	1,100 ^e
Natural gas, marketable	million cubic meters	181,444	182,830	182,230 ^r	181,330 ^r
Petroleum:					
Crude, including condensate	thousand 42-gallon barrels	705,545	709,308	686,930 ^r	693,500 ^r
Refinery	do.	92,000	102,000	138,000	134,000

^eEstimated. ^rRevised. do. Ditto.

¹Table includes data available through August 26, 2020. All data are reported unless otherwise noted. Estimated data are rounded to no more than three significant digits.

²In addition to the commodities listed, clay, dolomite, and shale may have been produced, but available information was inadequate to make reliable estimates of output.

TABLE 2
QATAR: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum		Qatar Aluminium Ltd. (Qatalum) [Norsk Hydro ASA, 50%, and Qatar Aluminium Manufacturing Co. Q.P.S.C., 50%]	Smelter at Mesaieed	640
Calcium carbonate		Qatar National Cement Co. (QNCC) (private Qatari investors, 57%, and Government, 43%)	Quarry at Umm Bab, 82 kilometers west of Doha	90
Cement:				
Portland		Qatar National Cement Co. (QNCC) (private Qatari investors, 57%, and Government, 43%)	5 kilns and 5 mills at Umm Bab	6,000
Do.		Al Khalij Cement Co. (Qatari Investors Group 100%)	Kiln at Umm Bab	5,700
		Al Jabor Cement Industries Co. (Al Jabor Holdings, 75%, and Holcim Ltd., 25%)	2 clinker grinding mills at Mesaieed	900
White		United Gulf Cement Co.	do.	170
Gypsum		Qatari Saudi Company for Gypsum [National Gypsum Co., 33.375%; Qatar Industrial Manufacturing Co., 33.375%; Qatar National Cement Co. (QNCC), 33.250%]	Mine at Salwa Industrial Area	135
Helium	million cubic meters	Joint venture of Qatargas Operating Co. Ltd. 1 (Qatargas 1), Ras Laffan Liquefied Natural Gas Co. Ltd. (RasGas), and Ras Laffan Liquefied Natural Gas Co. Ltd. (II) (RasGas II)	Qatar Helium plants 1 and 2, Ras Laffan	60
Iron and steel:				
Iron, direct reduced		Qatar Steel Co. Q.S.C. (QASCO) [Industries Qatar Q.S.C. (IQ), 100%]	Direct-reduction iron plant	2,800
Rebar, coating		Qatar Metals Coating Co. W.L.L. (Q-Coat) [Qatar Steel Co. Q.S.C. (QASCO) and Qatar Industrial Manufacturing Co.]	Plant at Mesaieed	100
Steel, crude		Qatar Steel Co. Q.S.C. (QASCO) [Industries Qatar Q.S.C. (IQ), 100%]	do.	3,500
Steel, rolled		do.	Rolling mill at Mesaieed	1,440
Lime		Qatar National Cement Co. (QNCC) (private Qatari investors, 57%, and Government, 43%)	Kilns at Umm Bab	15
Do.		Qatar Steel Co. Q.S.C. (QASCO) [Industries Qatar Q.S.C. (IQ), 100%]	Plant at Mesaieed	225
Methanol		Qatar Fuel Additives Co. Ltd. Q.S.C. (QAFAC) (Industries Qatar Q.S.C., 50%; OPIC Middle East Corp., 20%; International Octane L.L.C., 15%; LYC Middle East Corp., 15%)	do.	1,100
Natural gas:				
Extracted	billion cubic meters	Qatar Petroleum (QP) (Government, 100%)	Al Khaleej Field, offshore	21
Do.	do.	do.	North Field, offshore	20
Do.	do.	do.	North Field Alpha, offshore	10
Do.	do.	Dolphin Energy (Mubadala Investment Co., 51%; Occidental Petroleum Corp., 24.5%; Total S.A., 24.5%)	North Field, offshore	24
Liquefied		Qatargas Operating Co. Ltd. (Qatargas 1) [Qatar Petroleum (QP), 65%; Total S.A., 10%; ExxonMobil Qatar Inc., 10%; Marubeni Corp., 7.5%; Mitsui & Co., Ltd., 7.5%]	Three trains at Ras Laffan	10,000
Do.		Qatargas Operating Co. Ltd. (Qatargas 2) [Qatar Petroleum (QP), 70%, and ExxonMobil Qatar Inc., 30%]	Train 4 at Ras Laffan	7,800
Do.		Qatargas Operating Co. Ltd. (Qatargas 2) [Qatar Petroleum (QP), 65%; ExxonMobil Qatar Inc., 18.3%; Total S.A., 16.7%]	Train 5 at Ras Laffan	7,800
Do.		Qatargas Operating Co. Ltd. (Qatargas 3) [Qatar Petroleum (QP), 68.5%; ConocoPhillips Co., 30%; Mitsui & Co. Ltd., 1.5%]	Train 6 at Ras Laffan	7,800
Do.		Qatargas Operating Co. Ltd. (Qatargas 4) [Qatar Petroleum (QP), 70%, and Royal Dutch Shell plc, 30%]	Train 7 at Ras Laffan	7,800
Do.		Ras Laffan Liquefied Natural Gas Co. Ltd. (RasGas) [Qatar Petroleum (QP), 63%; ExxonMobil Qatar Inc., 25%; Korea Gas Corp. (Kogas), 5%; Itochu Corp., 4%; LNG Japan Corp., 3%]	Trains 1 and 2 at Ras Laffan	6,600
Do.		Ras Laffan Liquefied Natural Gas Co. Ltd. 2 (RasGas 2) [Qatar Petroleum (QP), 70%, and ExxonMobil Qatar Inc., 30%]	Trains 3, 4, and 5 at Ras Laffan	14,100
Do.		Ras Laffan Liquefied Natural Gas Co. Ltd. 3 (RasGas 3) [Qatar Petroleum (QP), 70%, and ExxonMobil Qatar Inc., 30%]	Trains 6 and 7 at Ras Laffan	15,600

See footnotes at end of table.

TABLE 2—Continued
QATAR: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Nitrogen, fertilizer, N content:				
Ammonia		Qatar Fertilizer Co. Ltd. P.S.C. (QAFCO) [Industries Qatar Q.S.C. (IQ), 75%, and Yara Netherland BV, 25%]	Plant at Mesaieed	3,300
Urea		do.	do.	2,900
Petroleum:				
Crude	42-gallon barrels per day	North Oil Co. (NOC) [Qatar Petroleum (QP), 70%, and Total, 30%]	Al Shaheen Field, offshore	300,000
Do.	do.	Qatar Petroleum (QP) (Government, 100%)	Dukhan Field, onshore	256,000
Do.	do.	do.	Bul Hanine Field, offshore	37,000
Do.	do.	Occidental Petroleum Corp., operator ¹	Idd Al Shargi, North Dome and South Dome, offshore	113,000
Do.	do.	do.	Al Rayyan, offshore	8,600
Do.	do.	United Petroleum Development Co. Ltd. (Bunduq Oil Production Co. Ltd, 97%, and BP p.l.c., 3%)	El Bunduq Field, offshore ²	7,300
Do.	do.	Total E&P Qatar Ltd., operator ¹	Al Khaleej Field, offshore	37,500
Do.	do.	do.	Maydan Mahzam Field, offshore	36,000
Do.	do.	Qatar Petroleum Development Co. operator ¹ (Cosmo Oil Co., Nissho Iwai Corp., and United Petroleum Development Co.)	Al Karkara and A Structure Fields, offshore	6,200
Refined	do.	Qatar Petroleum Refinery [Qatar Petroleum (QP), 100%]	Refinery at Mesaieed	137,000
Do.	do.	The Laffan Refinery Co. Ltd. [Qatar Petroleum (QP), 51%; Cosmo Oil Co., 10%; Exxon Mobil Corp., 10%; Idemitsu Kosan Co. Ltd., 10%; Mitsui and Co., 4.5%; Marubeni Corp. 4.5%]	Ras Laffan I & II complex, Ras Laffan	292,000
Sand, washed		Qatar National Cement Co. (QNCC) (private Qatari investors, 57%, and Government, 43%)	Quarry at Umm Bab	10,000
Do.		Qatar Sand Treatment Plant (Qatar Industrial Manufacturing Co. Q.P.S.C. (QIMC))	do.	12,000
Stone, limestone		Qatar Steel Co. Q.S.C. (QASCO) [Industries Qatar Q.S.C. (IQ), 100%]	do.	75
Sulfur:				
Elemental		Ras Laffan Liquefied Natural Gas Co. Ltd. (RasGas) [Qatar Petroleum (QP), 63%; ExxonMobil Qatar Inc., 25%; Korea Gas Corp. (Kogas), 5%; Itochu Corp., 4%; LNG Japan Corp., 3%]	Plant at Ras Laffan	400
Do.		Qatar Petroleum (QP) (Government, 100%)	Plant at Mesaieed	100
Do.		Qatar Petrochemical Co. Ltd. Q.S.C. (QAPCO) [Industries Qatar Q.S.C. (IQ), 80%, and Total S.A., 20%]	Plant at Umm Said	100
Do.		Qatar Liquefied Gas Co. Ltd. Q.S.C. (Qatargas)	Plant at Ras Laffan	300
Sulfuric acid		Qatar Industrial Manufacturing Co. Q.P.S.C. (QIMC)	Plant at Mesaieed	37

Do., do. Ditto.

¹Operated under a development and production-sharing agreement with Qatar Petroleum.

²El Bunduq field is located on the offshore border between Qatar and the United Arab Emirates. Royalties are shared by the Governments.