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The Mineral Industry of Qatar

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

Qatar was a major producer of ammonia, crude petroleum, direct-reduced iron (DRI), helium, natural gas, primary aluminum, sulfur, and urea in 2017 and 2018. As the world's fourth-ranked producer of natural gas, Qatar accounted for about 4.3% of global output. In addition, the country was the leading exporter of liquefied natural gas (LNG), accounting for 26% of the world's LNG exports. According to the BP Statistical Review of World Energy (BP p.l.c., 2018), the country's proven natural gas reserves were estimated to be 24.9 trillion cubic meters, which was the third-ranked proven natural gas reserves in the world, or 12.9% of the world's total. The country held the second largest natural gas reserves in the Middle East and North Africa region, behind Iran. Qatar was also the world's second-ranked producer of helium, accounting for an estimated 28% 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, the Organization of the Cooperation Council for the Arab States of the Gulf (GCC), and the Organization of the Petroleum Exporting Countries (OPEC) (table 1; BP p.l.c., 2018, p. 26, 34–35; Organization of the Petroleum Exporting Countries, 2018, p. 115–116; Peterson, 2019).

In 2017, Qatar's real gross domestic product (GDP) increased by 1.6% compared with an increase of 2.2% in 2016. The Government planned to transform the economy by implementing the Qatar National Vision (QNV 2030), which set long-term economic goals aimed at reducing reliance on the hydrocarbon sector through large investments in the industrial sector; the intent was to transform Qatar into a diversified, knowledge-based economy by 2030. The Government planned to maintain high levels of spending on the development of tourism and transportation infrastructure. Foreign investment was permitted under Investment Law No. (13) of 2000, which allowed foreign investors to own up to 100% of projects that involve the mining and development of natural resources and development of the mining sector, upon the Government's approval. The primary sectors that attracted foreign direct investment were downstream manufacturing, hydrocarbons, transportation, and marketing (Qatar Central Bank, 2018, p. 21; U.S. Department of State, 2018).

Minerals in the National Economy

The hydrocarbon sector continued to be the country's primary economic sector in 2017, accounting for 48.2% of the GDP. The value of the hydrocarbon sector decreased by 1.1% (based on constant 2013 prices) owing to lower production; however, the decrease in value was offset by an increase in prices. The average price of the country's export blend of crude petroleum increased to $52.80 per barrel in 2017 from $41.43 per barrel in 2016. Government revenues from hydrocarbon exports decreased by 5.7% in 2017; however, the share of hydrocarbon revenues in total Government revenues remained the same at about 82%. The value of the county's total exports increased by 18% to $84.9 billion from $72.2 billion (revised) in 2016, of which crude petroleum exports increased to about $35.5 billion from $23.0 billion in 2016. The nonhydrocarbon sector, which accounted for 51.8% of the GDP, grew by 4.2% (Organization of the Petroleum Exporting Countries, 2018, p. 19–20, 90; Qatar Central Bank, 2018, p. 13, 21, 48).

Production

In 2017, significant increases in mineral production included that of petroleum refinery products, which increased by 35% and methanol, by 18%. Significant decreases in production included that of sulfur (byproduct of natural gas), which decreased by 17%; natural gas (marketable), by 11%; and rolled-steel bars, by 10%. 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 gas activity in Qatar. Qatargas Co. (Qatargas), a subsidiary of Qatargas Operating Co. Ltd., operated four primary LNG enterprises at Ras Laffan. Qatargas produced helium from two plants at Ras Laffan. In 2016, QP announced plans to merge two of its subsidiaries, Qatargas and RasGas Co. Ltd., to decrease operation costs. The merger was completed in 2018 (the new company retained the name Qatargas Co.) (table 2; U.S. Energy Information Administration, 2015; S&P Global Platts, 2016; Oil and Gas Journal, 2018; U.S. Department of State, 2018).

State-owned company Industries Qatar Q.S.C. (IQ) owned 80% of Qatar Petrochemical Co. Ltd. Q.S.C. (QAPCO); the remaining shares (20%) were 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%), International Octane Ltd. (15%), and LCY Middle East Corp. (15%)], which mainly produced methanol, petrochemicals, and sulfur. IQ also held a 75% majority interest in Qatar Fertilizer Co. S.A.Q. (QAFCO) (the remaining 25% shares were owned by Yara Netherland BV of Norway), 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 of Norway and Qatar Aluminum Manufacturing Co. Q.P.S.C., produced primary and secondary aluminum at its smelter in Mesaieed (table 2; Industries Qatar Q.S.C., 2018, p. 10–13; Norsk Hydro ASA, 2018, p. 52, 127; 2019, p. 193).

Commodity Review

Metals

Aluminum.—Qatalum produced about 620,000 metric tons (t) of aluminum in 2017, which was an increase of 1.3% compared with 612,000 t in 2016. The company's complex, which consisted of an aluminum smelter, casthouse, carbon anode plant, and powerplant, had a total production capacity of 640,000 tons per year (t/yr), of which extrusion billets accounted for 340,000 t/yr and foundry alloys accounted for 300,000 t/yr. The carbon plant had the capacity to produce 320,000 t/yr of anodes. Norsk Hydro reported that their smelter, which was located in Mesaieed, employed 1,151 people and that the company considered it among the lowest cost aluminum smelters in the world (table 2; Qatar Aluminium Ltd., 2013; Norsk Hydro ASA, 2018, p. 52, 115).

Iron and Steel.— Qatar's production of raw steel increased slightly, to 2.6 million metric tons (Mt) in 2017 from 2.5 Mt in 2016. DRI production also increased slightly, to about 2.548 Mt from 2.506 Mt in 2016. Qatar Steel's operations were located in Mesaieed, employed more than 1,800 people, and had production capacities of 2.8 million metric tons per year (Mt/yr) of DRI and 3.5 Mt/yr of raw steel (table 1; Qatar Steel Q.S.C., 2017, p. 15, 28).

Industrial Minerals

Nitrogen.—QAFCO, the fertilizer subsidiary of IQ, was the sole producer of ammonia and urea in the country. IQ reported that the company's fertilizer sales increased by about 9% in 2017. The nitrogen content of ammonia was estimated to be 3.2 Mt and the nitrogen content of urea was estimated to be 2.9 Mt. IQ also noted that fertilizer prices decreased in the first half of the year owing to oversupply concerns, but then increased during the second half of the year owing to increased energy costs, reduced global supplies, and higher global demand. QAFCO's annual production capacity was 3.8 Mt/yr of ammonia from six ammonia production units and 5.6 Mt/yr of urea from six urea production units; QAFCO's operations were based in Mesaieed (tables 1, 2; Industries Qatar Q.S.C., 2018, p. 12, 29; Qatar Fertilizer Co. S.A.Q., 2018).

Mineral Fuels and Related Materials

Helium.—In 2017, Ras Laffan Liquefied Natural Gas Co. Ltd. (RasGas) continued the development of the Helium 3 plant project, which was located in Ras Laffan. The plant was expected to have a production capacity of 11.3 million cubic meters of helium and to become operational in early 2018. The Sales and Purchase Agreement and the technology license for helium produced from the plant and plant equipment was awarded to Air Products and Chemicals Inc. of the United States. Qatar was estimated to have produced about 50 million cubic meters of helium, which remained unchanged from that of 2016. The Qatar Helium 1 and 2 plants, also located in Ras Laffan, had a total capacity of about 60 million cubic meters per year of liquefied helium. The helium plants were owned by the joint venture of QP and Exxon Mobil Corp. of the United States. In 2017, the two helium plants were closed briefly following a boycott by Bahrain, Egypt, Saudi Arabia, and the UAE (tables 1, 2; Cockerill, 2017; Surran, 2017; Exxon Mobil Corp., 2018, p. 77).

Natural Gas.—Although Qatar's natural gas production decreased in 2017 by 11%, to 163.6 billion cubic meters from 182.8 billion cubic meters in 2016, the country's exports of natural gas decreased only slightly in 2017 to 128.6 billion cubic meters from 130.3 billion cubic meters in 2016. Qatar was the leading global exporter of LNG in 2017, exporting 103.4 billion cubic meters of natural gas by LNG vessels to more than 20 countries, of which 69.6 billion cubic meters was exported to Asia and 23.7 billion cubic meters was exported to Europe. The country exported 18.4 billion cubic meters of natural gas by pipeline to the United Arab Emirates (16.4 billion cubic meters) and other Middle East countries (2.0 billion cubic meters) (table 1; BP p.l.c., 2018, p. 34–35; Organization of the Petroleum Exporting Countries, 2018, p. 115, 117).

In 2017, Qatargas continued to develop the offshore Barzan gas project. Although the Barzan project was expected to begin production in 2016, the project startup was delayed owing to a leak in an upstream pipeline. A subsequent decision to construct a network of offshore pipelines was expected to delay the startup by several more years. The $10 billion to $11 billion project, which was a joint venture between Qatargas (93%) and ExxonMobil (7%), consisted of offshore wellhead platforms, an onshore gas-processing unit, a sulfur recovery unit, and a natural gas liquids (NGL) recovery unit. The Barzan project had an expected capacity of 14.3 billion cubic meters per year of natural gas and was also expected to produce 800,000 t/yr of sulfur, 12.4 million barrels per year (Mbbl/yr) of ethane, 10.2 Mbbl/yr of field and plant condensate, 3.8 Mbbl/yr of propane, and 2.7 Mbbl/yr of butane (Petroleum Economist, 2015; U.S. Energy Information Administration, 2015, p. 10; Economist, The, 2016).

The Government ended a 12-year moratorium on natural gas development in the North Field in May; the self-imposed moratorium had been set in 2005 to not only limit new capacity but also to study ways to maximize the field's production potential and reduce costs. QP officials noted that their outlook of the global natural gas market had improved owing to an expected increase in prices and increasing demand. The North field project was expected to be completed within 5 to 7 years and to increase capacity by an estimated 10%. The North field is located adjacent to the South Pars field, which was operated by Iran; the South Pars field had recently undergone significant development by Iran (Export.gov, 2017; Finn, 2017).

Petroleum.—Qatar's production of crude petroleum and condensate decreased in 2017 by 3.6% to about 684.0 million barrels (Mbbl) from a revised 709.3 Mbbl in 2016. The country exported about 170 Mbbl of crude petroleum to the Asia and the Pacific region. In 2017, three fields—Al Shaheen, the Dukhan, and the Idd Al hargi fields—accounted for more than 85% of the country's crude petroleum production. In June, QP announced the establishment of the North Oil Co., a joint venture of QP (70%) and Total S.A. (30%). The joint-venture company was to further develop and operate the Al Shaheen oilfield. The Al Shaheen oilfield

produces about 40% of the country's crude petroleum, or about 300,000 barrels per day (bbl/d) (table 1; U.S. Energy Information Administration, 2015, p. 4–5; EuroPétrole, 2017; Organization of the Petroleum Exporting Countries, 2018, p. 57).

Refined Petroleum Products.—Refinery production increased in 2017 by 35% to 138 Mbbl owing to completion of the rampup of the Laffan Refinery 2, which Qatargas had started up in 2016. The Laffan Refinery 2 project refined condensate from the North Field to produce butane, kerosene jet fuel, low sulfur diesel, naphtha, and propane. The completion of the 146,000-bbl/d-capacity Laffan Refinery 2 doubled the Qatar's condensate refining capacity to 292,000 bbl/d of refined products, and Qatar's total refining capacity increased to about 430,000 bbl/d. The country exported 233 Mbbl of refined products to the Asia and the Pacific region in 2017 (Pioneer, The, 2016, p. 3; Organization of the Petroleum Exporting Countries, 2018, p. 39, 44, 59).

MINERAL INDUSTRY HIGHLIGHTS IN 2018

In 2018, Qatar's GDP increased by 1.4% compared with an increase of 1.6% in 2017 according to the Qatar Central Bank. The bank noted that the growth was owing to strong momentum in nonhydrocarbon sectors of the economy, namely the manufacturing and construction sectors. The hydrocarbon sector continued to be the country's primary economic sector in 2018, accounting for 46.8% of the GDP. The value of the hydrocarbon sector decreased by 2.0% (based on constant 2013 prices) (Qatar Central Bank, 2019, p. 15, 26).

In 2018, significant increases in production included that of stone (size and shape unspecified, calcium carbonate), which increased by 18%; sand and gravel (construction sand), by 17%; and natural gas (marketable), by 11%. The increases in production were owing to increases in demand owing to growth in the economy, particularly from the construction and manufacturing sectors. Data on mineral production are in table 1.

Qatar's production of natural gas increased in 2018 to just below its 5-year high set in 2016. The Qatar Central Bank noted that natural gas production increased owing to strong export demand. Qatar's production of aluminum, however, decreased by 0.6% in 2018. During the year, Qatar Petroleum transferred its 50% share of Qatalum to Qatar Aluminum Manufacturing Co. Q.P.S.C. (Norsk Hydro ASA, 2019, p. 193; Qatar Central Bank, 2019, p. 15).

Qatar's Energy Ministry announced in December that Qatar would leave the Organization of the Petroleum Exporting Countries (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).

Outlook

Qatar's economic growth in the short term is expected to be positive. According to the Qatar Central Bank, the economy is projected to grow by 2.8% during 2018–2020. Hydrocarbons are likely to continue to be the dominant mineral commodities in Qatar's mineral industry; thus, the country's economic growth will be tied to global crude petroleum and natural gas prices. Natural gas production growth should resume with the expected completion of the offshore Barzan gas project during the next several years and the North Field over 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 sources of economic growth (Qatar Central Bank, 2019, p. 129).

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TABLE 1
QATAR: PRODUCTION OF MINERAL COMMODITIES[1]

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

Commodity[2]		2014	2015	2016	2017	2018
METALS						
Aluminum, primary, metal		640	610	612	620	616
Iron and steel:						
Direct-reduced iron		2,547	2,631	2,506	2,548	2,600 e
Raw steel		2,867 r	2,594 r	2,521	2,645	2,700 e
Products:						
Bars, rolled		2,123	2,162	2,272	2,044	2,100 e
Billet, cast		2,867	2,594	2,521 r	2,645	2,700 e
INDUSTRIAL MINERALS						
Cement, hydraulic		6,080 r	6,880 r	7,500 r, e	7,200 e	6,600 e
Gypsum[e]		200	210	210	210	210
Helium	million cubic meters	46	49	50 e	50 e	50 e
Lime[e]		130 r	120	130	130	130
Nitrogen, fertilizer, N content:						
Ammonia		2,972	3,050 r	2,960 r	3,100	3,300 e
Urea		2,499	2,652 r	2,638 r	2,800 e	2,900 e
Stone, sand and gravel, construction:						
Sand and gravel, construction, sand		5,900	7,800	7,800 e	7,800 e	9,100 e
Stone:						
Dimension, limestone[e]		2,200	2,300	2,300	2,300	2,400
Size and shape unspecified, calcium carbonate		28	37	37 e	40	47 e
Sulfur:						
Compounds, sulfuric acid[e]		10	10	10	10	10
Byproduct, natural gas, S content		2,136 r	2,377 r	2,419 r	2,000	2,100 e
MINERAL FUELS AND RELATED MATERIALS						
Liquefied natural gas	million metric tons	76	79	77	75	76
Methanol		869 r	1,118 r	904 r	1,067	1,100 e
Natural gas, marketable	million cubic meters	174,057	181,444	182,830	163,599	181,594
Petroleum:						
Crude, including condensate	thousand 42-gallon barrels	720,875 r	705,545 r	709,308 r	684,010	685,835
Refinery	do.	95,000 r	92,000 r	102,000 r	138,000	134,000

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

[1]Table includes data available through September 3, 2019. All data are reported unless otherwise noted. Estimated data are rounded to no more than three significant digits.

[2]In addition to the commodities listed, clay, dolomite, sand and gravel, 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 2018

(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 Aluminum Manufacturing Co. Q.P.S.C., 50%)	Smelter at Mesaieed	640
Cement:			
Portland	Qatar National Cement Co. (QNCC) (private Qatari investors, 57%, and Government, 43%)	4 kilns and 4 mills at Umm Bab	6,000
Do.	Al Khalij Cement Co. (Qatari Investors Group, 100%)	Kiln at Umm Bab	5,700
Do.	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
Calcium carbonate	Qatar National Cement Co. (QNCC) (private Qatari investors, 57%, and Government, 43%)	Umm Bab, 82 kilometers west of Doha	90
Gypsum	Qatari Saudi Co. for Gypsum [National Gypsum Co., 33.375%; Qatar Industrial Manufacturing Co., 33.375%; Qatar National Cement Co. (QNCC), 33.250%]	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. (2) (RasGas 2)	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%]	Mesaieed	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%]	Mesaieed	200
Methanol	Qatar Fuel Additives Co. Ltd. Q.S.C. (QAFAC) (Industries Qatar Q.S.C., 50%; OPIC Middle East Corp., 20%; LYC Middle East Corp., 15%; International Octane Ltd., 15%)	do.	1,200
Natural gas:			
Extracted billion cubic meters	Qatar Petroleum (QP) (Government, 100%)	Al Khaleej field	21
Do. do.	do.	North field	20
Do. do.	do.	North field Alpha	10
Do. do.	Dolphin Energy (Mubadala Investment Co., 51%; Occidental Petroleum Corp., 24.5%; Total, 24.5%)	North field	24
Liquefied	Qatargas Operating Co. Ltd. 1 (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. 2 (Qatargas 2) [Qatar Petroleum (QP), 70%, and ExxonMobil Qatar Inc., 30%]	Train 4 at Ras Laffan	7,800
Do.	Qatargas Operating Co. Ltd. 2 (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. 3 (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. 4 (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., 5%; Itochu Corp., 4%; LNG Japan Corp., 3%)	Trains 1 and 2 at Ras Laffan	6,600

See footnotes at end of table.

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

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Natural gas:—Continued				
Liquefied—Continued		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
Nitrogen:				
Ammonia		Qatar Fertilizer Co. S.A.Q. (QAFCO) [Industries Qatar Q.S.C. (IQ), 75%, and Yara Netherland BV, 25%]	QAFCO 1-6, 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 S.A., 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[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	6,200
Refined	do.	Qatar Petroleum Refinery [Qatar Petroleum (QP), 100%]	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	292,000
Sand, washed		Qatar National Cement Co. (QNCC) (private Qatari investors, 57%, and Government, 43%)	Umm Bab	12,000
Do.		Qatar Sand Treatment Plant (Qatar Industrial Manufacturing Co. (Q.S.C.)	do.	1,000
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., 5%; Itochu Corp., 4%; LNG Japan Corp., 3%)	Ras Laffan	400
Do.		Qatar Petroleum (QP) (Government, 100%)	Mesaieed	100
Do.		Qatar Petrochemical Co. Ltd. Q.S.C. (QAPCO)	Umm Said	100
Do.		Qatar Liquefied Gas Co. Ltd. Q.S.C. (Qatargas Co.)	Ras Laffan	300
Sulfuric acid		Qatar Industrial Manufacturing Co. Q.S.C.	Mesaieed	37

Do., do. Ditto.

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

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