

# THE MINERAL INDUSTRY OF

# QATAR

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Qatar's principle mineral commodity, crude oil, is about to be overshadowed by natural gas production from the North Field which should underwrite the Nation's economic prosperity far into the next century. According to the Arab Oil and Gas Directory of 1995, the huge nonassociated gas reserves of Qatar's North Field may be the largest in the world at about 6.8 trillion cubic meters (m<sup>3</sup>).

For the present, Qatar's economy remains largely dependent on the oil industry, which accounted for more than 28% of the gross domestic product of about \$9 billion<sup>1</sup> in 1995. Hydrocarbon exports dominated the external trade sector and generated about 90% of Government revenues and 95% of total exports.

The Government accelerated measures to attract foreign and local investors to participate in the economy, particularly in the natural gas industry.

The Government, through Qatar General Petroleum Corp. (QGPC), was involved in two major ventures; both were at Ras Laffan, the nearest landfall to the North Field. The liquefied natural gas (LNG) export terminal and liquefaction plant were currently under construction. Mobil Corp. of the United States and QGPC also signed an agreement to establish a second LNG venture in Ras Laffan, in which QGPC held a 70% share and Mobil, 30%. Mobil would be the operator of the facility, scheduled to start production in 1998 at 10 million metric tons per year (Mt/yr).

The Government encouraged foreign investments. Foreign investors entering into joint ventures with Qatari partners could hold a maximum 49% share of the business. Importers were required by law to have an import license for almost all products, but import licenses were issued only to Qatari citizens. Even in the case of joint ventures, the import license was issued to the Qatari partner. Although wholly foreign-owned firms were allowed to operate in Qatar, they had to have a local sponsor. Investment in major chemical, oil and gas, and steel industries were restricted to the Government through QGPC and specialized international firms.

Production of nonfuel minerals such as cement, fertilizer, and steel increased. Cement was produced from domestic and imported clinker. Production in excess of plant design capacity at the steel and fertilizer facilities continued and stemmed from technological improvements made at the plants. Also, the frequency and length of shutdown and maintenance time was reduced significantly to meet demand.

(See table 1.)

The country's major trading partners are the Gulf Cooperation Council (GCC) nations and Japan, the Republic of Korea, Brazil, Western Europe, and the United States. Qatar imported pelletized iron ore from Bahrain and raw materials for the steel and construction industries from Japan, Western Europe, and the United States. Other imports from the United States included power-generating machinery and equipment, nonferrous metals, such as copper and copper alloys, aluminum semimanufactures, zinc and zinc alloys, vehicles, and heavy machinery.

Qatar Steel Co. Ltd. (QASCO) has produced about 80% above design capacity of 330,000 metric tons (t) since 1989 and continued with production above capacity in 1995. Almost all of its output (90%) was exported, mostly to GCC countries. QASCO remained 70% owned by the Government, with 30% held by two Japanese companies, Kobe Steel (20%) and Tokyo Boeki (10%). QASCO has embarked on a \$275 million two-stage expansion program that would increase its capacity to 1.2 Mt/yr.

Qatar Fertilizer Co. (QAFCO), the sole producer of fertilizer, was a 75-25 joint venture of Qatar General Petroleum Corp. and Norsk Hydro of Norway, respectively. Completion of QAFCO III, a 1,500-metric tons per day (t/d) ammonia and 2,000-t/d urea plant, was planned for 1997. Total annual capacity at the plant for ammonia would be raised from 750,000 t to 1.3 Mt, and for urea from 820,000 t to 1.55 Mt. Other components of the project included an ammonia tank farm with a capacity of 20,000 t, a 100,000-t urea storage facility, a desalination plant, and a 42-megawatt powerplant.

Qatar Liquefied Gas Co. was established in 1984 to develop the North Field for the production of natural gas and condensate and to build and operate a gas liquefaction plant to produce LNG for export. Sale of gas by pipeline also was being studied. Supply of 4 Mt/yr of LNG to Chubu of Japan was scheduled to start in January 1997.

Mobil Oil Corp. of the United States replaced British Petroleum Co. in development of phase 2 of the North Field LNG project. Mobil's share held at 10%, but Mobil took a 30% share in a new venture with QGPC at Ras Laffan (RASGAS) for the production of 10 Mt/yr of LNG after 1998. RASGAS had signed sales agreements with the Korean Gas Corp., the Chinese Petroleum Corp. of Taiwan,

and Enron Corp. of the United States for a total of about 7 Mt/yr of LNG. The Korean Gas Co. signed an agreement in October 1995 to purchase an additional 3 Mt/yr of LNG from Ras Laffan LNG Co. lending support to the decision to construct a second train on the RASGAS project. Other prospective customers include Turkey, Italy, and possibly Israel. However, proposed deliveries to Israel of about 2 Mt/yr of LNG for use in power stations was dependent upon a Middle East peace settlement, including a complete Israeli withdrawal from the Golan Heights, West Bank, and Gaza.

Qatar continued to develop its infrastructure. There were 235 kilometers (km) of petroleum and 400 km of natural gas pipelines, running east to west from Doha to Dukhan, and from Umm Said through Umm Bab to Dukhan. Other pipelines also linked offshore fields in the Arabian Gulf to Umm Said. Crude oil and gas exports were from four terminals: Halul Island, which served the offshore fields; Umm Said, which served the onshore fields; and Ras Abu Abbud and Abu Hamur, which were terminals for refined products.

The North Field gas projects were to be given top priority because of an abundance of natural gas and the expected

growth in demand worldwide. Development of the gasfields to full capacity by 2010 remained a top priority program that should guarantee Qatar's economic well-being through the next century.

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<sup>1</sup>Where necessary, values have been converted from Qatari riyals (QRs) to U.S. dollars at the rate of QRs3.64=US\$1.00 in 1995.

### **Other Sources of Information**

Qatar General Petroleum Corp.

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National Oil Distribution Co.

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TABLE 1  
QATAR: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/	1991	1992	1993	1994	1995 e/
Cement, hydraulic	526,527	544,348	544,000	550,000	580,000
Gas, natural:					
Gross million cubic meters	10,130 r/	17,050 r/	18,400	18,000	18,000
Dry do.	7,630 r/	12,620 r/	13,500	16,000	16,000
Iron and steel, metal:					
Direct-reduced iron thousand tons	530	567	601	610	622
Steel, crude do.	561	588	620	572	614
Semimanufactures do.	540	588	609	610	625
Natural gas liquids thousand 42-gallon barrels	18,300	20,000	18,200	18,200	18,500
Nitrogen N content of ammonia	569,000	622,000	627,200 r/	645,900 r/	653,900 3/
Petroleum:					
Crude thousand 42-gallon barrels	143,000	155,000	152,900	162,000	176,600
Refinery products:					
Gasoline do.	3,400 r/	3,285 r/	3,350 r/	3,500 r/	3,500
Kerosene do.	2,883 r/	3,175 r/	2,845 r/	3,000 r/	3,200
Distillate fuel oil do.	5,075 r/	6,100 r/	4,890 r/	5,500 r/	6,000
Residual fuel oil do.	6,240 r/	5,840 r/	5,730 r/	6,000 r/	6,200
Other do.	1,820 r/	2,190 r/	1,240 r/	1,500 r/	2,000
Total do.	19,418 r/	20,590 r/	18,055 r/	19,500 r/	20,900
Stone, limestone e/ thousand tons	850	900	900	900	900
Sulfur	40,000	60,000	60,000	61,000	61,000
Urea	798,700 r/	825,900 r/	825,000 r/	858,000 r/	886,000

e/ Estimated. r/ Revised.

1/ Table includes data available through May 15, 1996.

2/ In addition to the listed commodities, Qatar also produced clays, gypsum, and sand and gravel for construction purposes.

3/Reported figure.