

State of Qatar



Research
Profile



7.06

Qatar

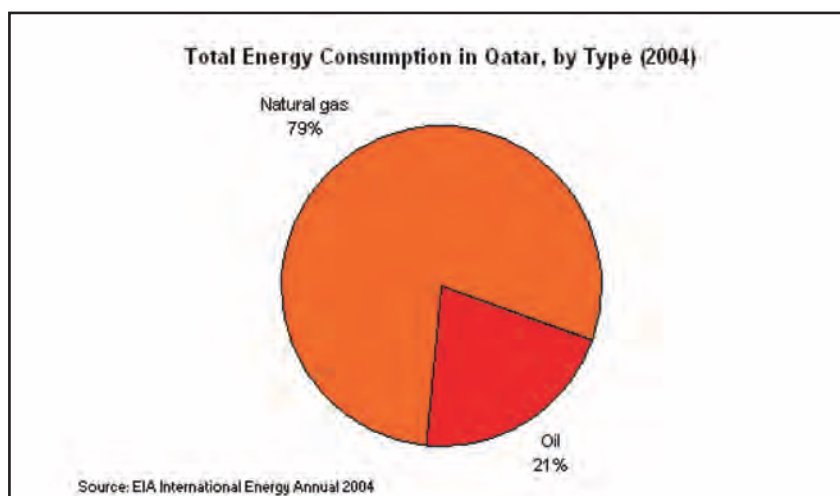
The State of Qatar is a member of the Organization of the Oil Exporting Countries (OPEC) and is a significant oil producer, also exports considerable amount of Oil. the government has devoted more resources to the development of natural gas in recent years, particularly for export as liquefied natural gas (LNG). In 2006, Qatar reportedly surpassed Indonesia to become the largest exporter of LNG in the world. Qatar exports 25-26 million tons, although it only started exporting LNG in 1997. By 2010, moreover, it will dominate other producers since it is due to be producing and exporting 77 million tons / year of LNG by them. Though many of the world's economies moved into recession in 2008, Qatar utilised its high energy income and massive fiscal reserves throughout the year to maintain growth and economic stability, while at the same time investing for future expansion. Together, revenues from the oil and natural gas sectors amount to 60 percent of the country's gross domestic product (GDP). Domestically, the vast majority of Qatar's total energy consumption comes from natural gas (79 percent), while the balance is supplied by oil. Qatar holds the world's third largest natural gas reserves and is the single largest supplier of liquefied natural gas.

Oil & Gas Industry

Organization	Qatar Petroleum - exploration, production, refining and distribution; Qatar Liquefied Gas Company (Qatargas) and Ras Laffan LNG Company (Rasgas) - production and marketing of liquefied natural gas (LNG)
Major Ports	Umm Said, Ras Laffan
Foreign Company Involvement	Anadarko Petroleum, BP, Chevron Texaco, ExxonMobil, Maersk, Marubeni, Mitsui, MOL, Occidental, OMV, Phillips Petroleum, Shell, TotalFinaElf
Major Oil Fields	Dukhan, Id al-Shargi North Dome, Bul Hanine, Maydan Mahzam, al-Shaheen, al-Rayyan, and al-Khalij
Major Natural Gas Fields	North Field
Major Refineries	Umm Said 200,000 bbl/d Capacity
Major Trade Partners for Exports	Japan, South Korea, Singapore, United States, and France
Major Trade Partners for Imports	France, United States, Italy, Japan, and Germany

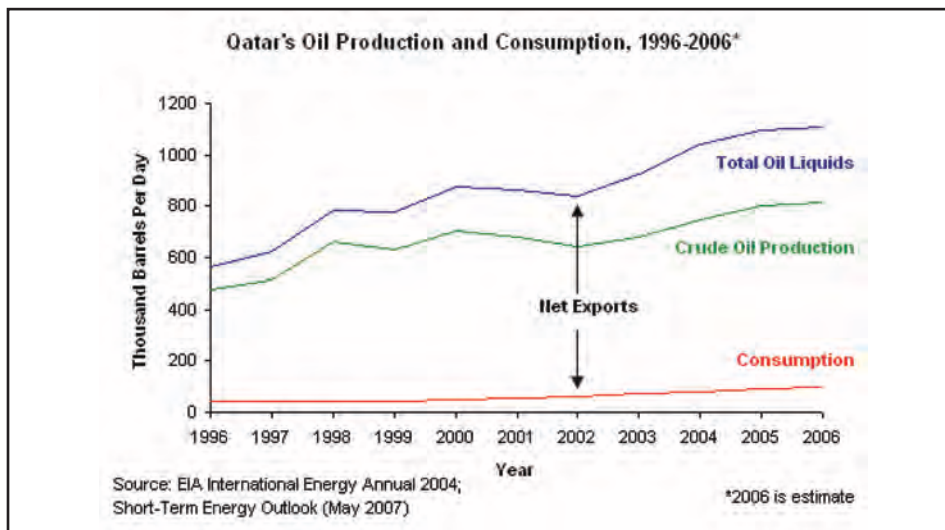
Energy Overview

Minister of Energy and Industry	Sheikh Abdullah bin Hamad al-Attiyeh
Proven Oil Reserves (January 1, 2007E)	15.2 billion barrels
Oil Production (2006E)	1.1 million barrels per day, of which 74% was crude oil.
Oil Consumption (2006E)	99,000 barrels per day
Crude Oil Distillation Capacity (January 1, 2007E)	200,000 barrels per day
Proven Natural Gas Reserves (January 1, 2007E)	910.5 trillion cubic feet
Natural Gas Production (2004E)	1,383 billion cubic feet
Natural Gas Consumption (2004E)	477 billion cubic feet



Oil & Gas

In 2006, EIA estimates that Qatar produced 1.1 million barrels per day (bbl/d) of total oil liquids, of which 815,000 bbl/d was crude oil. In 2006, Qatar's crude production and oil reserves were the lowest among OPEC member countries. In 2006, Qatar also produced an estimated 250,000 bbl/d of natural gas liquids (NGLs) and 35,000 bbl/d of condensate, each of which are exempt from the country's OPEC crude oil production quota. During 2006, Qatar consumed an estimated 99,000 bbl/d of oil, with most of the country's oil production going to exports.



According to Oil & Gas Journal (OGJ), Qatar's proven oil reserves stood at 15.2 billion barrels as of January 2007. The onshore Dukhan field, located along the west coast of the peninsula, is the country's largest producing oil field. Qatar also has six offshore fields: Bul Hanine, Maydan Mahzam, Id al-Shargi North Dome, al-Shaheen, al-Rayyan, and al-Khalij. Despite the country's significant oil production and reserves, oil accounts for less than 15 percent of domestic energy consumption.

The latest Qatar Oil & Gas Report from BMI forecasts that the country will account for just 1.02% of Middle Eastern (ME) regional oil demand by 2012, while providing 5.75% of supply. Regional oil use of 8.24mn b/d in 2001 rose to 10.61mn b/d in 2007. It should average 10.86mn b/d in 2008 and then rise to around 11.81mn b/d by 2012. Regional oil production was 22.87mn b/d in 2001, and in 2007 averaged 25.24mn b/d. It is set to rise to 28.94mn b/d by 2012. In terms of natural gas, the region in 2007 consumed 370bcm, with demand of 541bcm targeted for 2012, representing 46% growth. Production of 363bcm in 2007 should reach 575bcm in 2012 (+58%), which implies net exports rising to 34bcm by the end of the period. Qatar in 2007 consumed 5.54% of the region's gas, with its market share forecast at 4.66% by 2012. It contributed an estimated 16.47% to 2007 regional gas production and, by 2012, will account for 16.01% of supply.

Qatar Petroleum (QP)

State-owned Qatar Petroleum (QP) controls all aspects of Qatar's oil sector, including exploration, production, refining, transport, and storage. QP accounts for about half of the country's total crude oil output, and holds the rights to all petroleum resources in Qatari territories. However, QP often enlists foreign company involvement through production sharing contracts (PSCs), in which QP typically takes a majority equity share. The company has occasionally relaxed this requirement to attract greater foreign investment. QP also controls Qatar's downstream oil sector, operating the country's entire oil pipeline network and sole refinery through its wholly-owned subsidiary, National Oil Distribution Company (NODCO).

The Principal activities of Qatar Petroleum, its subsidiaries and joint ventures cover exploration, production and sale of crude oil, natural gases and gas liquids, refined products, petrochemicals, fertilizers and LNG.

Exploration and Production

QP has focused on enhanced oil recovery (EOR) projects to extend the life of its oil fields, particularly at the onshore Dukhan field, Qatar's largest oil field. QP expects to modestly boost production capacity at Dukhan from 335,000 bbl/d in 2006 to 350,000 bbl/d in 2008. QP is carrying out similar work at several of its smaller fields, including the offshore Bul Hanine and Maydan Mahzam.

Most new exploration and production (E&P) work is being carried out by international oil companies in offshore areas through Production Sharing Contracts (PSC), including ExxonMobil, Chevron, and Total. While there is substantial E&P work underway, there have not been any major oil discoveries in Qatar during the last decade. Almost all of anticipated new oil production

capacity will come from Maersk Oil & Gas of Denmark, which operates the offshore Al Shaheen field. Maersk reached a field development plan agreement with QP in 2005, under which the company intends to more than double the production capacity at Al Shaheen from 240,000 bbl/d in 2006 to 525,000 bbl/d by late 2009. When completed, Qatar would have more than 1.1 million bbl/d in crude oil production capacity compared to an estimated 850,000 bbl/d in EIA's May 2007.

Condensate and Natural Gas Liquids

As Qatar further develops the country's large natural gas reserves, production of condensate and natural gas liquids (NGLs) will also increase. As these liquids do not fall under Qatar's OPEC quota obligations, this may be an important source of future oil production increases. EIA estimates that condensate and NGL production in 2006 together averaged 285,000 bbl/d. Some industry sources expect that this figure could rise to 800,000 bbl/d by 2012.

Pipelines

QP operates Qatar's oil pipeline network, which is primarily focused on delivering supplies from oil fields to the country's lone refinery and export terminals. QP operates an expansive offshore pipeline network that brings crude oil from offshore oil fields to Halul Island, where oil can be processed for export. Onshore, most oil is sent to Umm Said for refining or export.

Exports

Qatar has three primary export terminals: Umm Said, Halul Island, and Ras Laffan. Ras Laffan is the newest of the three ports and is mainly used to export liquefied natural gas (see the Natural Gas Section for more information). Industry sources report that Qatar typically exports around 600,000 bbl/d of crude oil and about 20,000 bbl/d of refined petroleum products. Most of Qatar's oil exports are sent to Asian economies, with Japan as the single largest receiver (about 380,000 bbl/d of crude in 2006, according to IEA statistics).

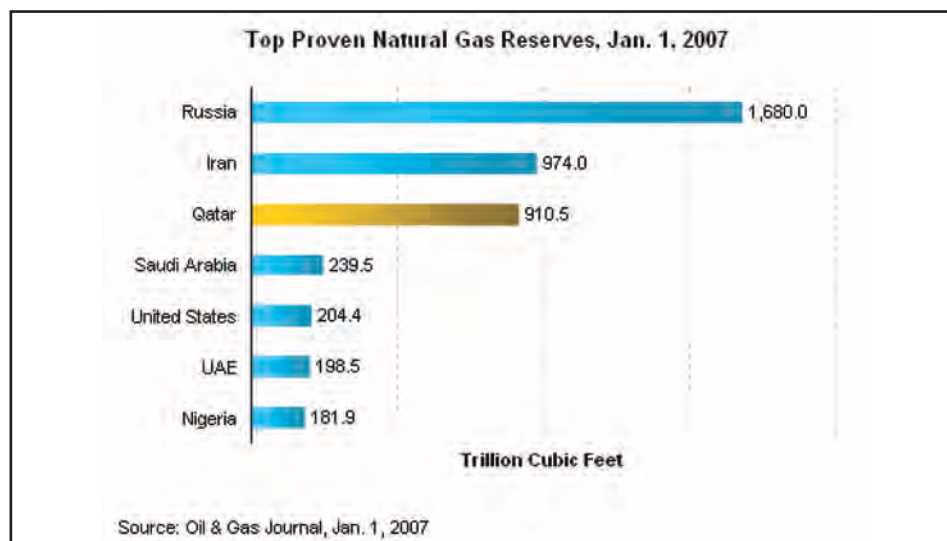
Refining

Qatar produced nearly 120,000 bbl/d of refined products. According to OGJ, Qatar has 200,000 bbl/d of refining capacity at QP's Umm Said plant. QP is also building another refinery, which will have the capacity to run 146,000 bbl/d of condensate. This facility is expected to begin commercial operations in mid-2008. QP is considering a possible third refinery with a capacity of 200,000 bbl/d, although no final decisions have been made on such a project.

Natural Gas

Natural gas meets more than 90% of the Qatar's domestic primary energy requirements releasing a maximum of crude oil and refined products for export. According to OGJ, Qatar's proven natural gas reserves stood at 910.5 trillion cubic feet (Tcf) as of January 2007, about 15 percent of total world reserves and the third-largest in the world behind Russia and Iran. Most of Qatar's natural gas is located in the massive offshore North Field, which holds more than 900 Tcf of proven natural gas reserves and is the world's largest non-associated natural gas field. The North Field is a geological extension of Iran's South Pars field, which holds an additional 280 Tcf of recoverable natural gas reserves.

Qatar's North Field holds more than 900 trillion cubic feet of natural gas reserves, the largest nonassociated natural gas field in the world.



Qatar's LNG Infrastructure, May 2007			
Unit	Liquefaction Capacity	Start-up	Primary Market(s)
RasGas Facilities			
Trains 1 & 2	2 x 3.2 MMt (320 Bcf)	Aug. 1999	South Korea
Train 3	4.7 MMt (230 Bcf)	Feb. 2004	India
Train 4	4.7 MMt (230 Bcf)	Aug. 2005	Europe
Train 5	4.7 MMt (230 Bcf)	Mar. 2007	Europe & Asia
Train 6	7.8 MMt (380 Bcf)	2008	U.S.
Train 7	7.8 MMt (380 Bcf)	2009	U.S.
Qatargas Facilities			
Trains 1 - 3	3 x 3.2 MMt (468 Bcf)	Dec. 1996	Japan & Spain
Trains 4 & 5	2 x 7.8 MMt (760 Bcf)	2008	UK
Train 6	7.8 MMt (380 Bcf)	2009	US
Train 7	7.8 MMt (380 Bcf)	2010	US, Europe
Source: RasGas, Qatargas, media reports			

Qatar's natural gas production has grown significantly during the last decade. In 2005, preliminary data shows that Qatar produced 1,536 billion cubic feet (Bcf) of natural gas, or more than three times the 1995 output of 477 Bcf. Preliminary data puts Qatar's natural gas consumption at 579 Bcf in 2005.

Exports

During 2005, the country exported 987 Bcf of natural gas, all of which was liquefied natural gas (LNG), making Qatar a leading world LNG supplier for the year. In the future, Qatar will also export natural gas via pipeline, as part of the Dolphin Project.

Liquefied Natural Gas (LNG)

In 2006, Qatar surpassed Indonesia to become the largest natural gas exporter in the world. In 1997, Qatar began exporting LNG when it sent small amounts (5.7 Bcf, or about 120,000 metric tons) of LNG to Spain. In 2005, Qatar exported 987 Bcf (20.1 million metric tons, or MMt) of LNG, or 14.5 percent of all globally traded LNG. Of this amount, 316 Bcf (6.5 MMt) went to Japan, 293 Bcf (6.0 MMt) to South Korea, 213 Bcf (4.4 MMt) to India, 161 Bcf (3.3 MMt) to Spain, and 3 Bcf (less than 0.1 MMt) to the United States.

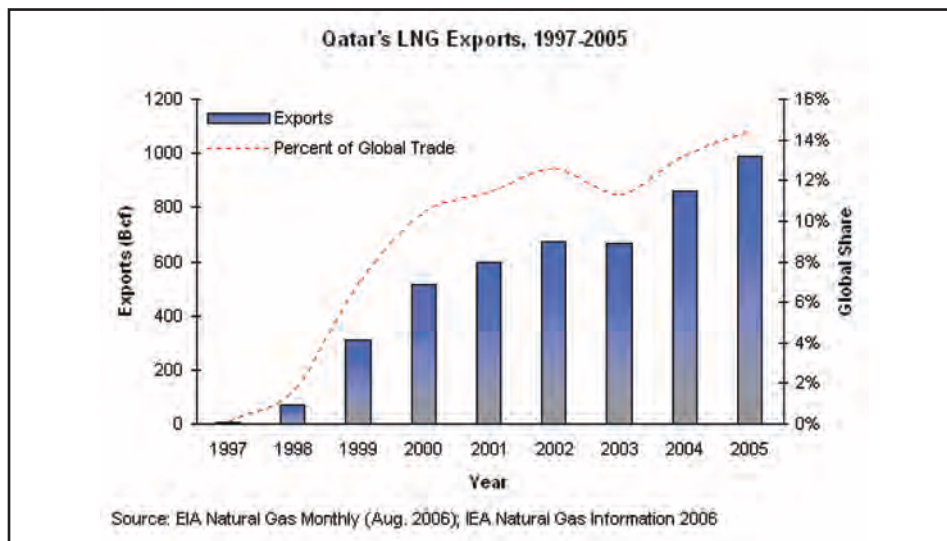
With proven reserves of at least 32 ton cubic metres and having spent heavily in processing and shipping infrastructure, Qatar is now the largest exporter of liquefied natural gas (LNG) in the world. In March 2007, Qatar solidified its leading role in world LNG markets when RasGas completed its fifth LNG production train, giving the country 30.7 MMt (1.5 Tcf) of annual liquefaction capacity, the most in the world. Based on existing plans, Qatar is expected to increase its LNG production capacity to 77 MMt/y (3.8 Tcf/y) by 2012.

Dolphin Project

Qatar is part of the Dolphin Project, which aims to connect the natural gas networks of Oman, the United Arab Emirates (UAE), and Qatar with the first cross-border natural gas pipeline in the Gulf Arab region (see the UAE and Oman Country Analysis Briefs for more information). The project is being developed by Dolphin Energy, a consortium owned by Mubadala Development Company on behalf of the Abu Dhabi government (51 percent), Total (24.5 percent), and Occidental Petroleum (24.5 percent). A company spokesperson announced in early March 2007 that it had begun testing its natural gas receiving and distribution facilities in the UAE, full commercial operations began in June 2007. The pipeline currently sends 400 MMcf/d of natural gas supplies from Qatar to the UAE and Oman, and Dolphin Energy expects this volume to reach 2 Bcf/d by the end of 2007. The company is also in discussions with the Qatari government to expand the sendout capacity of the pipeline to 3.2 Bcf/d, depending on the availability of additional natural gas supplies from the North Field.

Qatargas

Qatargas operates an offshore area of around 100 sq. kilometres and produces 1200 MMSCFD. The upstream facilities supply the downstream liquefaction plant and are run by a consortium via a Development and Production Sharing Agreement. A three-train, 6 mtpa LNG plant at the new industrial city of Ras Laffan processes the gas and condensates produced by the North Field. Additionally, Qatargas operates 10 LNG carriers, with a capacity of 135,000 cubic meters each, to export LNG from Ras Laffan.



Qatargas shareholders currently comprise QP (65%), Total S.A. (10%), Mobil Qatar Gas Inc. (10%), Mitsui and Company Ltd (7.5%) and Marubeni Corporation (7.5%). Qatargas export capacity is 6 million tons per annum (mtpa). In 1992, Qatargas concluded a Sales and Purchase Agreement (SPA) to supply 4 mtpa of LNG to the Chubu Electric Power Company of Japan for 25 years, beginning in 1997.

Regional Organization

As in the oil sector, QP plays a dominant role in Qatar's natural gas sector. QP is a leading upstream producer of natural gas and also plays an important role in downstream projects. Most new natural gas developments in Qatar tend to be large-scale projects linked to LNG exports or the promotion of downstream industries that utilize natural gas as feedstock. Therefore, foreign company involvement has favored IOCs with the technology and experience in integrated megaprojects, including ExxonMobil, Shell, and Total.

Qatar's LNG sector is dominated by Qatar LNG Company (Qatargas) and Ras Laffan LNG Company (RasGas). RasGas is 70 percent-owned by QP and 30 percent-owned by ExxonMobil, while the Qatargas consortium includes QP, Total, ExxonMobil, Mitsui, Marubeni, ConocoPhillips, and Shell. In each case, the exact equity structure varies from project to project. The LNG companies handle all upstream to downstream natural gas transportation themselves, while the Qatar Gas Transport Company (known as "Nakilat", which means carriers in Arabic) is responsible for shipping Qatari LNG.

North Field

The bulk of Qatar's expected future increases in natural gas production will come from projects related to the massive North Field. In 2005, Qatari government officials became worried that the North Field's natural gas reserves were being developed too quickly, which could reduce pressure in the field's reservoirs and possibly damage its long-term production potential. In early 2005, the government placed a moratorium on additional natural gas development projects at the North Field pending the results of a study of the field's reservoirs. This assessment is not expected to be completed until after 2009, which means that no new projects are likely to be signed before 2010. However, this freeze did not affect projects that were approved or underway before the moratorium, which are expected to add significantly to Qatar's natural gas supply in the next five years.