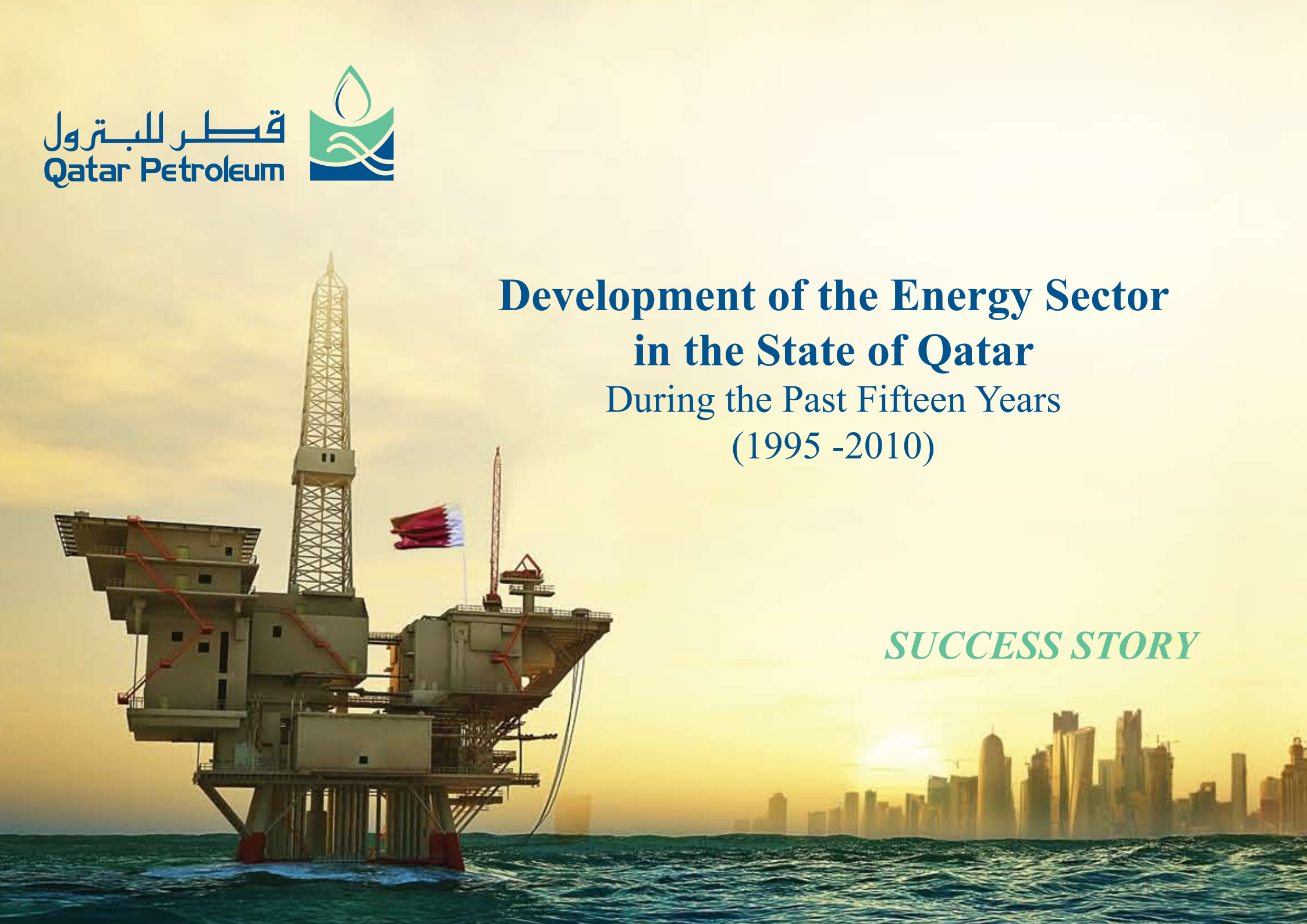
قطر للبترول
Qatar Petroleum



Development of the Energy Sector in the State of Qatar

During the Past Fifteen Years
(1995 -2010)

SUCCESS STORY

HIS HIGHNESS
SHEIKH HAMAD BIN KHALIFA AL-THANI
Emir of the State of Qatar

HIS HIGHNESS
SHEIKH TAMIM BIN HAMAD AL-THANI
The Heir Apparent

"It is significant that the stages which appear to be modest, are part of a long term comprehensive plan comprising goals less modest and more ambitious. And it's enough to compare 1995 with 2010 to know where Qatar was and where it is now. Our people will see how Qatar will be after implementing our plans for 2030".

His Highness Sheikh Hamad Bin Khalifa Al-Thani
Emir of the State of Qatar

Introduction

Since 1995, His Highness the Emir Sheikh Hamad Bin Khalifa Al-Thani took upon himself the immense responsibility to establish the modern State of Qatar. He carried out this enormous task with the help of Allah's blessing on Qatar with its natural resources, mainly in natural gas and oil, and he rallied the country's establishments and its patriotic citizens to achieve his vision. Thus, the energy and industry sector as well as its related industries became the field of challenge and ambition, and so Qatar became a pioneer among the main international leaders in this field.

This book chronicles the rapid developments and major achievements in Qatar's oil, natural gas and petrochemical industries from 1995 to 2010. This period had been marked with headlines of sustainable development and was replete with many challenges. The priorities during this period included creating the ideal mechanism in managing the available oil and gas resources, introducing appropriate strategic plans for developing the country's energy industry, and optimizing investments in manufacturing and mining. After 15 years, our efforts have resulted in major achievements that are unprecedented worldwide.

As we celebrate the great achievements made during this period, we have to acknowledge with high appreciation and utmost gratitude the contribution of His Excellency Abdulla Bin Hamad Al-Attiyah, the current Deputy Premier and Chairman of the Emiri Diwan and the former Minister of Energy and Industry. He was the man upon whom His Highness the Emir had assigned the responsibility to manage that challenge under His Highness' directives and support, so that the State of Qatar will occupy its pioneer position in the energy sector and its related industries on the regional and international levels. The efforts, dedication and faithfulness of His Excellency for Qatar have had the greatest effect in achieving the prosperity that is tangible to each one presently living in this dear country.

The achievements made so far in the country's energy sector are mainly due to our wise leadership's deep insights for the future and their enlightened thought in planning to achieve the sought targets. This has been clearly demonstrated in the successful and wise management of Qatar's energy industry during that period, which resulted in the effective management of the country's oil & gas resources, their efficient use and proper maintenance.

We now look forward with optimism for an even brighter future for our country through future projects that are presently under development or in the planning stage, many of which are mentioned in this book. The fruits and benefits that these projects will bring in the near future will certainly contribute to further enhancing the economic and social development of our country. Armed with a firm resolve and determination that is unshaken by challenges or difficulties, our wise leadership is proceeding forward to accomplish further progress and development in the energy sector, with steady and ambitious steps to enhance the sustainable development of the State of Qatar.

With the help of Allah,

Dr. Mohammed Bin Saleh Al-Sada
Minister of Energy and Industry

Biography of
H.E. MR. ABDULLA BIN HAMAD AL-ATTIYAH
Deputy Prime Minister and Chairman of the Administrative Control and Transparency Authority

- Born in the State of Qatar in 1952.
- He has more than 30 years of experience in the oil and gas industry, holding numerous senior positions in the Ministry of Finance & Petroleum and Ministry of Energy & Industry.
- In September 1992, he was appointed Minister of Energy & Industry, Chairman of the Board of Directors and Managing Director of Qatar Petroleum.
- In 1998, he was appointed Chairman of the Planning Council in the State of Qatar, while retaining his other posts.
- From January 1999 to April 2000, he was appointed Minister of Energy, Industry, Electricity & Water.
- In September 2003, he was appointed the Second Deputy Premier, while retaining his post as Minister of Energy & Industry.
- On April 3, 2007, he was appointed Deputy Premier and Minister of Energy & Industry.
- On January 18, 2011, he was appointed Chairman of the Emiri Diwan, while retaining his post as Deputy Prime Minister.
- On November 30, 2011, he was appointed Chairman of the Administrative Control and Transparency Authority retaining his post as Deputy Prime Minister.
- He also holds the following positions on the local boards:
  - Since 1975: Chairman, Gulf Helicopters Company.
  - 1986-2002: Member, Gulf Air Board of Directors.
  - Since 1992: Chairman, Qatar Amateur Radio Society.
  - Since 1999: Chairman, Qatar General Electricity & Water Corporation.
  - Since 2002: Chairman, Qatar Fuel (WOQOD)
  - Since 2011: Member, Board of Trustees of Qatar Museums Authority.
- He was elected Chairman of the United Nations Commission on Sustainable Development (CSD-15) in May 2006 for one year.
- He was awarded an Honorary Doctorate from Texas A&M University on May 5, 2011.
- He has participated in numerous OPEC and OAPEC Ministerial conferences and has been elected several times to preside over the OPEC Conferences. He has delivered various speeches/lectures in the field of energy and industry at many international and regional conferences.
- He has been awarded the following orders and medals:
  - Her Majesty Queen Beatrix of the Netherlands has awarded him the Grand Cross in the Order of the Orange Nassau (2011).
  - His Imperial Majesty the Emperor of Japan has awarded him the Grand Cordon Order of the Rising Sun in recognition of his great achievements and efforts in promoting and strengthening friendly relations and cooperation with Japan (2008).
  - The Lebanese government has awarded him the following medals in recognition of his outstanding contributions in the academic field and in the promotion of bilateral relations:
    - The National Order of the Cedar (Grand Officer) in 2000.
    - Lebanon Order of Merit (1st Grade) in 2005.
    - Teaching Staff Medal for the Alumni of the Faculty of Engineering, American University in Beirut (2006).
- Leisure interests include: football, amateur radio, fishing, traveling and reading.

I was so happy when I looked back at our past achievements. That was my feeling when I reviewed this book. The contents it presents in words and photos convey a long story of struggle and strong determination to reach what has been accomplished over the years.

These would not have happened without the great trust and endless support I had received from His Highness Sheikh Hamad bin Khalifa Al-Thani, the Emir of the State of Qatar. These achievements are just the practical translation of His Highness' vision to put Qatar in its rightly deserved position among advanced countries on all levels and fields, to become a country that employs all its natural resources through the efforts and determination of its faithful people to achieve comprehensive development both in its economic and social dimensions.

I can say that the task assigned to me by our wise leadership throughout a decade and half has not just been a ministerial duty but a great responsibility that I was entrusted with and a strategic mission that was committed to accomplishing. Achieving this task had required taking many difficult decisions and adopting daring steps to accomplish the unprecedented growth of our national economy. It is a task which has started to bear fruits for the State of Qatar during the last five years, and the future remains highly promising for us.

The development of the energy and industry sector in Qatar required determination to face challenges before being proud of our achievements. It has involved giving generously before reaping a prosperous harvest. It has necessitated showing strength in the face of adversity before celebrating successful outcomes.

By the grace of Allah and with the combination of our efforts, we can now proceed according to our clear and ambitious national vision, whose features first started to appear in the mid-1970s. We can now implement what we have planned for and work to achieve the targets set for this vital sector, which enhances the national economy and reflects its positive return on our beloved country and noble people.

Quite honestly, I can't find the right words to express my heartfelt gratitude to His Highness the Emir and His Highness the Heir Apparent for their great support in all sectors, without exception, specifically the energy and industry sector, in which I have served steadily for many years of my life.

I would also like to thank H.E. the Minister of Energy and Industry for shouldering the burden of responsibility in leading this sector with expected efficiency and for directing his efforts in achieving the aspirations of our leadership to further boosting the energy and industry sector for the better.

In addition, I would like to extend my personal appreciation to all faithful energy leaders and professionals and to all others who have worked hard to help realize the achievements made during this period. I would not forget to thank everyone else who has contributed in any way to preparing this valuable reference of Qatar's achievements during this period. Last, but not least, I look forward to witnessing further progress in this major sector to secure an even brighter future for this generous country, and I pray to Allah to assist everyone in this endeavor.

Abdullah Bin Hamad Al-Attiyah
Deputy Prime Minister and Chairman of the
Administrative Control and Transparency Authority

Contents

PART ONE

QATAR PETROLEUM

Chapter 1:
Introduction

Qatar Petroleum (formerly known as Qatar General Petroleum Corporation) was founded in 1974. It is a national establishment owned by the government and it is responsible for all phases of the oil and gas industry in the State of Qatar.

The principal activities of Qatar Petroleum and its subsidiaries and joint ventures cover exploration, drilling and production operations of oil and gas, shipment, export and sale of crude oil, liquefied natural gas, natural gas liquids, gas-to-liquids, refined oil products, petroleum additives, petrochemicals, fertilizers, steel, chartering helicopters, insurance and other services.

1.1 The Role of Energy Sector in the Economy of the State of Qatar

The energy sector is considered the main engine behind the booming economy of the country and this is reflected in the rate of growth in the economy over the past 10 years. This growth is a direct result of the expansion of energy sector projects and the continued increase in production quantities of various hydrocarbon products, especially liquefied natural gas (LNG).

This expansion, along with the rise in prices of products, has significantly contributed to a direct increase in export earnings, the State's fiscal revenue, and the high growth rate of the Gross Domestic Product of the State of Qatar as a whole. The standard of living for individuals has become one of the highest in the world.

Abundant fiscal surpluses have reflected positively on economic and social development and also on the rise in the standard of living of Qatari citizens. Oil and gas revenues have greatly contributed to the stimulation of internal investments, particularly those associated directly with the energy sector. The establishment of industrial zones serves small and medium-sized industries whilst also providing them with all services and requirements including water, electricity, roads, etc.

The growth of the energy sector has also contributed indirectly to the growth of other sectors of the economy, the development of vital infrastructure, and the provision of major services projects covering all sectors, including education, health and transport. These achievements would not have been accomplished without the wise policy of His Highness the Emir Sheikh Hamad bin Khalifa Al-Thani and his sound guidance for the optimal exploitation and use of the country's wealth and natural resources.

Furthermore, the energy sector is the single most important point of attraction for direct foreign investment in Qatar. The sector has greatly benefited from legislation, regulations, laws and measures issued by the government to protect foreign capital and facilitate their transfer. In addition, the provision of incentives and concessions to investors and the creation of a sophisticated and flexible business environment have managed to attract global energy firms to engage in joint strategic projects with high investment returns.

The State of Qatar has obtained a high sovereign credit rating, underscoring the country's economic strength. Backed by large State-owned reserves of hydrocarbon resources, the financial strength of the Government, and supported by significant revenues from the export of liquefied natural gas and oil, Qatar's credit rating is considered to be one of the best in the Middle East.

1.2 The Social Contribution

Qatar Petroleum, through a number of its service departments, implements a number of projects for various government institutions. Amongst these departments is the Technical Directorate, which implements capital projects aimed at developing infrastructure in the State of Qatar, such as Qatar Foundation for Education, Science and Community Development, the Space City project, the Qatar Museums Authority, the Supreme Education Council, and others.

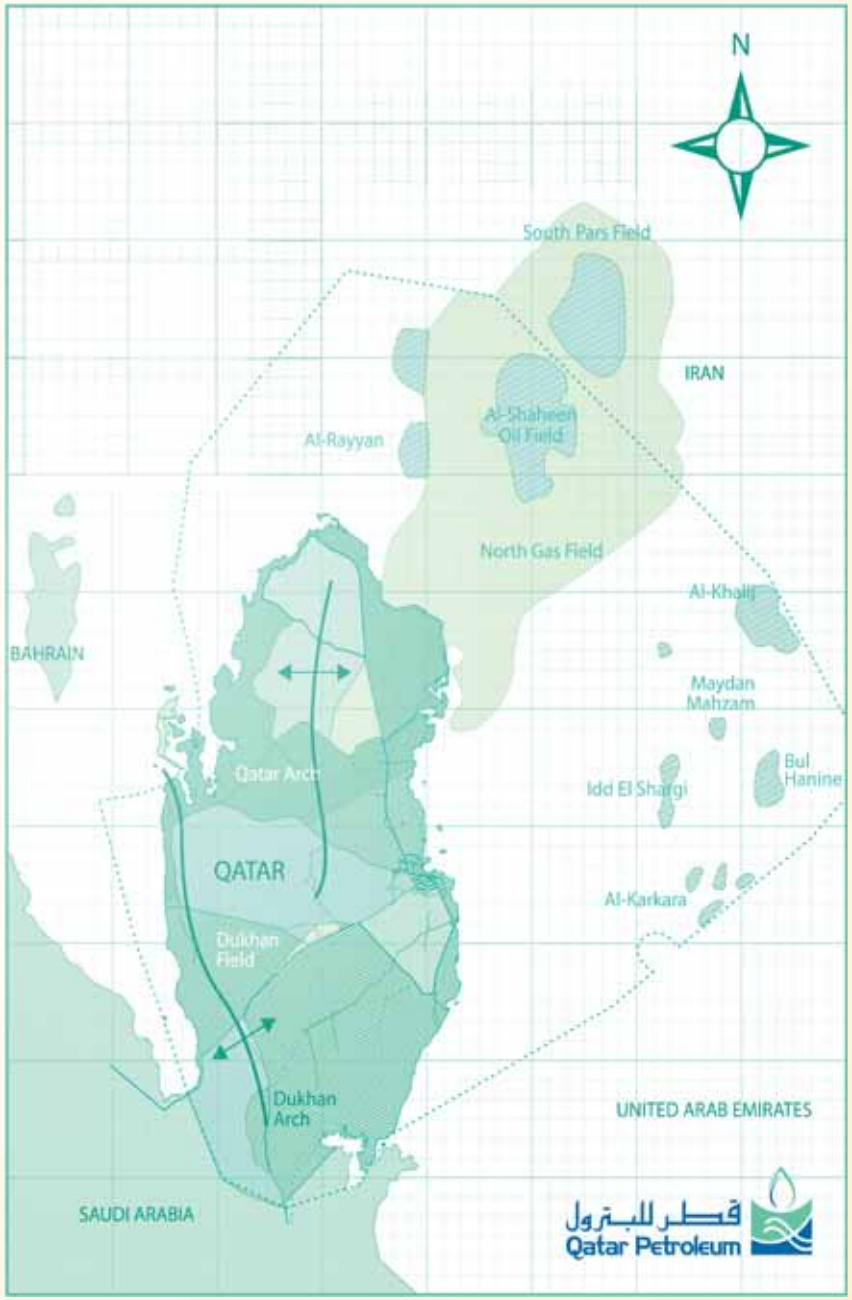
Current Strategic External Projects	
Project	Completion Date
Qatar National Convention Centre	first quarter 2011
Sidra Medical Research Hospital	first quarter 2012
Al- Shaqab Academy	first quarter 2011
Expansion of Qatar National Center for Conferences	first quarter 2011

1.3 Qatar Petroleum as the Worldwide Representative of the State of Qatar

The leading role of the State of Qatar in the world of energy has emerged with the surge of LNG export projects over the past decade. Today, the State of Qatar is considered as the most important producer and transporter of liquefied natural gas (LNG) worldwide. Natural gas is seen as one of the least environmentally damaging hydrocarbon sources. Through the implementation of ambitious plans, Qatar has been able to achieve its strategic objectives to expand and diversify its exports base to include major gas markets in the world, from Japan in the Far East via China and India to the United States and Europe in the west. It has positioned itself as a key player in the energy industry worldwide by providing a safe and reliable source of clean energy. Qatar has applied the economies of scale in the gas industry as a basis for providing a competitive source of LNG to meet the needs of consumers everywhere, through the establishment of an integrated LNG industry, starting from production, to transportation, and finally to the receiving stations, which are considered to be the largest in the world.

1.4 Forging Coalitions and Partnerships with Global Oil Companies

Qatar Petroleum has in recent years adopted the strategy of entering into production-sharing agreements with international oil companies. Agreements with companies such as Anadarko, Maersk, Occidental and Total have encouraged development and increased the level of reserves of crude oil and oil production rates.



Chapter 2:
Onshore Operations

Exploration commenced in Dukhan in 1935 and the first commercially feasible quantity of crude oil was discovered by drilling the first well during 1939/1940.

The area of the Dukhan field extends over 65 kilometers in length and 5 kilometers in width. It consists of three crude oil reservoirs and one reservoir of non-associated gas.

Oil production from this field started in 1947 and the first shipment was exported in December 1949.

2.1 Gas Recycling Plant

The Gas Recycling Plant started operations on June 23rd, 1998 with a production capacity of 40,000 barrels of condensate by recycling 800 million cubic feet of natural gas per day.

The hydrocarbon condensate and natural gas liquids (NGL) are exported to the port of Mesaieed and to the NGL plant through a 104-km pipeline.

After the extraction process, the stripped natural gas is re-injected to the reservoir.

Today, gas is collected from 24 production wells (and 14 wells for gas reinjection) in the Arab (D) cap reservoir.

Expansion to Produce Ethane (C2)

In 2003, a gas production unit was installed in the ethane gas recycling plant.

The plant extracts ethane and heavier derivatives of residual gas for transport to Mesaieed. The residual methane is injected into wells allocated for gas injection in Arab (D) cap reservoirs in Dukhan.

The plant is designed with a production capacity of 5,600 tons per day.

Major Developments in the Gas Recycling Plant after the Construction of the Ethane Unit:

The production capacity of the gas recycling plant was increased from 750 million cubic feet per day to 850 million cubic feet per day over the period 2005 to 2006 .

2.2 Mesaieed Port Operations

Mesaieed is a world-class facility, receiving and storing crude oil and naphtha in collaboration with the Department of Marketing/Qatar International Petroleum Marketing Company (Tasweeq).

- The first shipment of crude oil was exported from Mesaieed on 31st December 1949.
- The first export of condensates from the North Field was in 1995.
- The first export of condensates from Dukhan (Arab-D) field was in August 1998.
- The first shipment of naphtha was in January 2002.
- The first shipment of multiple products berth through the export harbor was in October 2006.
- Services improvement: to improve storage and export services.

2.3 Major Achievements (1995 -2010)

- Establishment of a household waste transfer station in Dukhan, which was delivered to the Ministry of Municipality of the State of Qatar.
- Completion of the first phase of evaluation and monitoring of groundwater in Dukhan. The work is ongoing in new phases of the project.
- Construction of a landfill waste disposal site. The site will be constructed under the supervision of the Ministry of Environment of the State of Qatar and will then be handed over to the Ministry of Municipality, as agreed.
- Establishment of an air quality control station within the city of Dukhan in order to continuously monitor the air quality in the area.
- Infrastructure to be developed under the Dukhan Development Plan for 2003-2022 includes offices, housing, recreational facilities and other essential complementary facilities for the Dukhan community.

Current Expansion Plans and Future Projects

- Expansion and development of the Dukhan Fire Training Center to train, improve and develop the skills of safety teams in Dukhan.

Chapter 3:
Offshore Operations

Offshore operations consist of oilfields operated under production sharing agreements (Al Shaheen, Al-Rayyan, Al-Khaleej, Idd-El-Sharqi and Karkara oilfields) with a number of large international oil companies. In addition, the Maydan Mahzam and Bul Hanine oilfields are operated by Qatar Petroleum.

3.1 Challenges

Perhaps the most important challenges facing the development of the oil and gas industry in the State of Qatar relate to accessing modern technology and securing the necessary capital to cover the large investments required for exploration, development and production projects. To overcome these challenges, Qatar Petroleum has adopted, since the early 1990s, a policy of developing oil and gas fields through production-sharing agreements with major international oil companies to increase production and develop the reserves.

Oil companies have played a vital role in the development of the energy sector in the State of Qatar, including the application of advanced technologies, such as enhanced oil recovery on mature oil fields, in order to help prolong their life span.

3.2 Strengthening of Production Capacity

In the mid-1990s, total crude oil production from the State of Qatar was approximately 400,000 barrels per day. With the launch of joint production projects between Qatar Petroleum and international oil companies, production rates increased significantly, reaching approximately 840,000 barrels per day. This was accompanied by an increase in the production of condensates, natural gas and gas liquids.

Although the onshore fields operated by Qatar Petroleum have already reached the advanced stages of their useful life, there is a great potential for large quantities still remaining to be developed. The preliminary estimates of Dukhan oilfields indicate the possibility of the existing reserves to reach more than 1 billion barrels.

There is also considerable potential to increase the reserves in Maydan Mahzam and Bul Hanine oilfields.

3.3 Maydan Mahzam, Bul Hanine and North Field Alpha

Maydan Mahzam and Bul Hanine

Qatar Petroleum manages and operates two offshore fields in the north eastern sector of the State of Qatar's regional waters, namely Maydan Mahzam and Bul Hanine.

The two oilfields produce crude oil with associated gas and condensates. The products are sent by pipeline to Halul Island for storage and then export. Gas is mainly used to assist in lifting the oil from the reservoir and part of the gas is transported to Halul Island for use as fuel. The remaining gas is pumped to NGL plants at Mesaieed.

Future Expansion Plans

- Preparations are underway for the re-development of the offshore Bul Hanine oilfield. The study on building new facilities is expected to be completed by the end of 2011.
- Increased production from Bul Hanine re-development is anticipated by the year 2018.
- A study on the reservoirs of Maydan Mahzam oilfield is now being conducted by the Field Development Department and is expected to be completed soon.

North Field Alpha

The North Field was discovered in 1971 and is located off the east coast of the Qatar peninsula. With an area of about 6,000 square kilometers, the field is about half the land area of the State of Qatar. The North Field is the largest non-associated gas field in the world, with reserves of approximately 900 trillion standard cubic feet (TSCF). The development of this main natural resource is the most important factor for the development of the country's economy. The first commercial production from the North Field started in late 1991 from the North Field Alpha platform.

The raw gas and condensates are transported from North Field Alpha to the natural gas liquids (NGL) plants in Mesaieed Industrial City through two 210-kilometer pipelines. In addition, associated gas is transferred from the Al-Shaheen offshore oilfield. Surplus raw gas from the LNG plants of Qatargas and RasGas in Ras Laffan is also transported to the NGL plants at Mesaieed. North Field Alpha also supplies other offshore oilfields with fuel for electric power generation.

3.4 Exploration and Appraisal Activities (1995-2010)

The exploration for and discovery of oil in the State of Qatar started in the mid-1930s. During the subsequent period, most of the major traditional oil and gas fields, of easier geological nature, were discovered. The oil and gas in the more non-traditional or smaller reservoirs of complex geological nature remained untapped and were more difficult to exploit. Accordingly, the State of Qatar entered into Exploration and Production Sharing Agreements (EPSA) and Appraisal, Development and Production Sharing Agreements (ADPSA) with specialized international companies, covering reservoirs whose development required advanced technological applications and significant investments.

One of the most important objectives in developing oilfields through joint production agreements was to realize the fullest possible extent of recovery by using the latest technology. Also, it is important to develop reserves at the most economical cost and to provide production management in accordance with a clear strategy.

3.5 Major Achievements (1995-2010)

Qatar Petroleum succeeded during the past 15 years in signing several agreements for exploration and development involving many areas and fields, and these have led to the following:

- Discovery, appraisal and development of the offshore Al-Khaleej oilfield in cooperation with Elf Aquitaine / TOTAL Qatar. This field was discovered in 1991.
- Appraisal and development of the offshore Al-Shaheen oilfield in cooperation with Maersk Oil Qatar.
- Appraisal and development of the offshore Al-Rayyan oilfield in cooperation with Anadarko/ Occidental Petroleum Company.
- Discovery of oil at the offshore exploratory area (Block 11), Al-Sawaly reservoirs, in 2005, in cooperation with the Wintershall Company.
- Discovery of a small offshore oil reservoir at Abruq (Block 2) in 2001, in cooperation with Chevron/Encana.

Discovery of gas layers deep under the Khuff gas layer for the first time in Qatar in 2008 at Al-Jessasya (Block 2) in collaboration with Encana/ExxonMobil.

Exploration activity in the State of Qatar continues through tenders covering the following five areas:

- **Offshore Block 4**, for which an exploration agreement was signed in 2004 and where exploratory studies are currently being implemented. One of two exploratory wells has been drilled to test the layers under the Khuff.
- **Offshore Block 3**, for which an exploration agreement was signed in 2007 and where the first exploratory phase is underway in preparation for the drilling of exploratory wells.
- **Offshore Block 4 North**, for which an exploration agreement was signed in 2008 and where two exploratory (Khuff) wells are being planned.
- **Blocks B and C**, for which an exploration agreement was signed in 2009.
- **Offshore Block D**, where an exploration tender is underway.

Idd El-Sharqi / North Dome

This field was developed by Occidental Qatar Company under an agreement signed in 1994.

Achievement	Year
- Beginning of development of Shuaiba and Al-Khuraib zones and water injection to the two reservoirs. - Construction of modern facilities for treatment of produced water. - Increase of recovery factor by 15%.	1994-2001
- Commencement of the second phase of development. - Drilling of 54 wells, construction of PS1-K platform, and development of a network of pipelines. - Improvement of recovery rates and pressure maintenance.	2002-2005
- Completion of the second phase and the start of gas exports to Mesaieed.	2006-2007
- Beginning of the third phase to produce 115,000 bpd at a cost of $880 million, including drilling 70 wells. - Current production rate of 110,000-115,000 barrels of oil per day.	2008-2009

Idd El-Sharqi / South Dome

This field is being developed by Occidental Qatar Company under an agreement signed in 1997.

Achievements	Year
- Drilling of 7 wells to confirm the field's extensions, reserves, and method of production.	1999
- Drilling and testing of a producer/injector pair, one for production and the other for injection of water in permeable areas.	2003
- Preparation of a revised development plan based on the successful experience of drilling and testing producer/ injector pairs and drilling of the first producer/injector pair for increasing production from low-permeability areas.	2004-2006
- Conducting of additional studies leading to the formulation of a new development plan. - Current production rate is 4,000 barrels of oil a day.	2009

Al-Rayyan Oilfield

Achievements	Year
- Drilling of 4 wells, three to the Arab (C) and one to the Arab (A) reservoirs.	1996
- Conducting a 3-D seismic survey and preparation of a new development plan.	2001
- Opening of Coral platform.	2003
- Completion of reservoir studies and drilling of four wells.	2003-2008
- A new development plan is now being examined and discussed. - The current production rate is 10,000 barrels per day.	2009-current

Al-Shaheen Oilfield (Maersk Oil Qatar)

The Al-Shaheen field, which is located within offshore Block 5, is about 70 km northeast of Qatar and covers approximately 2,100 square kilometers. While drilling wells in the North Field in 1970, oil was discovered in the lower Cretaceous geological area.

Events	Year
- Exploration and production sharing agreement signed with Maersk Oil Qatar.	1992
- Drilling of 8 horizontal production wells and two evaluation wells. - Start of production on October 22nd, 1994.	1993/1994
- Detailed study and preparation of field development plan phase III. - Construction of platforms (A, B and C locations) and start of water injection.	1996
- Full review of the field and preparation of a new development plan.	1999
- Update of the development plan for the year 1999 and drilling of 60 production wells and 9 evaluation wells. - Construction of (D, E and F) platforms and start of production of gas production.	2001
- Preparation of a new development plan, which included the drilling of 169 wells and construction of (G, H and I) platforms, construction of gas collection plants and new water injection plants.	2004-2005
- Implementation of the 2005 Field Development Plan. - Conduct of 3D seismic survey. - Testing the use of secondary production technology, especially gas injection into wells.	2006-2009

Review and Development of the Current Development Plan

The implementation of the 2005 development plan reached its end in 2009 with the completion of production platforms and transport pipelines. By the first quarter of 2010, 123 out of 169 wells had been drilled.

The annual production rate in 2009 was about 300,000 barrels of oil per day.

Two new records were achieved during the process of developing Al-Shaheen:

– The longest horizontal wells drilled in the world (40,320 ft).

– The industry's largest ever ultra-high resolution 3D seismic survey in the world.

Development of Halul Island

Work is continuing to develop recreational and industrial facilities on Halul Island. Halul serves as the main hub for the maritime operations of Qatar Petroleum and its partners working in marine concession areas.

– The renovation and extension of Halul port to receive greater numbers and larger supply/services vessels working for Qatar Petroleum.

– Construction of a new multi-storey building including main oil export and production/control in addition to a communications room with the latest modern specifications..

– Construction of an operations control room for the disposal of water associated with crude oil production.

During the past 15 years, more than 1,800 oil tankers were loaded for transporting Qatar Marine Crude to world markets.

3.6 Current Expansion Plans and Future Projects

1. A sophisticated Intelligent Pigging programme was installed.
2. By the year 2011, Halul Island will complete an important developmental project, where the turbine oil pumping and exporting units powered by gas will be replaced by variable speed electric pumps, thereby strengthening export capabilities.
3. By the year 2012, the work on two marine cables extending from Ras Laffan Industrial City to Halul Island will be completed in order to provide the necessary power to Halul Island and the offshore Al-Khaleej field, which is operated by TOTAL Qatar Company. After the completion of necessary studies, other offshore fields may be provided in the future with electric power from Halul Island.
4. Preparations are underway to build additional housing units and modern recreational areas on Halul Island for the staff of Qatar Petroleum, its affiliated companies, the employees of Industrial Security Operations, as well as the staff of contractors operating the offshore fields.

Chapter 4:
Natural Gas

The Gas Operations Department of Qatar Petroleum is responsible for managing all phases of production operations for associated and non-associated gas, the removal of natural gas liquids, transportation, local distribution within the State of Qatar, and the export of natural gas liquids and condensates.

Khuff Gas (KG)

KG is non-associated gas produced from Khuff reservoirs in the Dukhan area and is used as back-up during supply shortages. Prior to the production of gas from the North Field, the produced Khuff Gas was being used as the main fuel for power generation plants and as feedstock for industry.

Surplus Gas Injection Station

This station is used in the reinjection of surplus gas, after processing at NGL-3, into the Khuff and Arab "D" gas reservoirs in the Dukhan area.

Natural Gas Liquids (NGL) Plants Complex

The Natural Gas Liquids Plants Complex receives condensate and gas through pipelines from various offshore and onshore upstream facilities for processing:

- Raw gas/condensate from North Field Alpha.
- Raw associated gas from the offshore Al-Shaheen oilfield.
- Raw gas from Qatargas and RasGas plants (when available)
- Raw associated gas from Production Stations 1, 2, and 3
- Raw NGL from Fahahil Gas Stripping Plant, Dukhan and Arab-D plus condensates from Arab–D and Dukhan plants
- LPG from QP Refinery
- LPG from QAPCO's Ethane Recovery Unit
- Normal butane from Q-Chem
- Pentane from QAFAC at Mesaieed

The NGL Complex consists of the following major plants and facilities for product processing/treatment, storage and export:

- NGL-3 Gas Plant, Gas Sweetening and Sulfur Stripping Unit (AGR/SRU)
- NGL-2 Stripping Plant
- NGL-1, NGL-2, NGL-4 and Trains 1 & II Fractionation Unit and Sulfur Stripping at the NGL -1 and NGL -4 plants

Transmission & Distribution Network

The transmission and distribution network is comprised of an interconnected gas pipeline network - GDS (Gas Distribution System) with a length of over 2,200 kilometers, associated manifolds and more than 50 distribution stations located throughout the State of Qatar. This network caters to the fuel gas needs of State power plants for power generation and desalination. Additionally, fuel/feedstock gases are supplied to various industries within the State of Qatar, including Q-Chem, QAPCO, QAFCO, QVC, QAFAC, QASCO, QP Refinery and QNCC. Flexibility in operations is maintained to meet the key objective of supplying agreed gas quantities to consumers without any interruptions.

Storage Tanks

Storage tanks for propane, butane, condensate and LPG from the North Field are located at Mesaieed Industrial City.

Port of Exportation

LPG and condensates are exported through a jetty at Mesaieed Industrial City.

Gas Operations at Qatar Petroleum: Products & Distribution	
North Field Alpha (NFA) gas and condensate	Produced at NFA offshore platform and supplied to NGL-3 plant for further processing.
Khuff Gas	Produced at KG reservoirs in Dukhan and supplied as fuel gas to power plants in Qatar and to local industries.
NF Lean Gas	Produced at NGL-3 Gas Plant and supplied as fuel and feedstock to State power plants and to local industries, such as Q-Chem, QAPCO, QAFCO, QVC, QAFAC, QASCO and QP Refinery.
OFFSAG (Offshore Stripped Associated Gas)	Produced at NGL-2 Stripping Plant and supplied as feedstock to QAPCO's Ethane Recovery Unit (ERU) in Mesaieed and to QAFCO's fertilizer plants
ERG (Ethane Rich Gas)	Produced at NGL-1/2/4 plants and supplied as feedstock to the petrochemical plants of QAPCO and Q-Chem in Mesaieed.
Propane	Produced at NGL-1/2/4 plants and exported through the NGL jetty and by trucks to various local industries.
Butane	Produced at NGL-1/2/4 plants and exported through the NGL jetty and also supplied as feedstock to QAFAC's MTBE plant in Mesaieed.
NGL Condensate	Produced at NGL-1/2/4 plants and exported through the NGL jetty or multi-product berth.
NFC (NF Stabilized Condensate)	Produced at NGL-3 Liquid Plant and supplied as feedstock to QP Refinery in Mesaieed, exported through the NGL jetty or the multi-product berth.
Liquid Sulphur	Produced at SRU plant and supplied to QAPCO for export.

Chapter 5:
QP Refinery

The QP Refinery represents one of the most important strategic units of Qatar Petroleum. This stems from the importance of meeting all demands of the domestic market for petroleum products (fuel gas, gasoline, diesel, jet fuel, naphtha, and others) and of exporting the surplus with the highest possible value added through refining processes of petroleum raw materials.

5.1 Major Achievements (1995 -2010)

The history of refining in Qatar dates back to 1954 when it started a small unit to produce biodiesel with a capacity of only 680 barrels per day. But the real beginning of the QP Refinery was in 1968, when the Government founded the National Oil Distribution Company (NODCO) to be responsible for the production, storage and distribution of oil products.

Since then, QP Refinery committed itself to keeping pace with the rapid development of the State of Qatar and the consequent increase in the demand for oil products. The first real refinery was founded in 1971 with a production capacity of 6,200 barrels per day, which was increased gradually until it reached 60,000 barrels per day in 1984.

The second half of the 1990s witnessed the planning and initiation of work on the expansion of the QP Refinery. The objective was a transformation not only in productivity but also in quality, value addition and the introduction of the latest global standards in the field of refining.

The total cost of this expansion was estimated to be about USD 850 million. Engineering work on the project began in 1998. The project included the following works:

1. Increasing the production of the existing refinery by 20,000 barrels per day, thereby increasing the total production capacity to 80,000 barrels per day.
2. Construction of a condensate refining unit with a total production capacity of 57,000 barrels per day.
3. Construction of a catalyst cracking (RFCC) unit with a production capacity of 28,000 barrels per day for the conversion of fuel oil to products with higher value.
4. Construction of new storage tanks to keep pace with the expansion of the refinery.

The total oil products exported during 2010 were 1,924,448 metric tons compared with the targeted export of 1,818,270 metric tons. A total of 466,181 metric tons of light gas oil and 466,181 metric tons of jet fuel were imported to meet the growing demand in the local market.

5.2 Marketing and Customers

Qatar International Petroleum Marketing Company (Tasweeq) is mandated with the task of commercial and marketing processes for the export of products from the refinery. This is in coordination with the refinery's Planning, Scheduling and Export Section, which is responsible for setting annual, quarterly and monthly plans for exporting these products.

Products are exported at the global level. In addition, the following local companies are supplied with oil products: WOQOD, SEEF, QAFAC, QAPCO, and the Natural Gas Liquids Complex in Mesaieed.

In 2010, some of the Arabian Gulf States were the main destinations for refined products, such as gasoline and fuel oil produced by direct distillation, while naphtha was exported to petrochemical plants in Japan and Singapore.

Chapter 6:
Industrial Cities

Qatar Petroleum supervises industrial cities at different locations in Qatar. In addition to serving the oil and gas sectors, it is responsible for all municipality, health and environmental services in these areas. It provides services and facilities for existing industries and supports small and medium industrial units within these areas. The most important industrial cities are Ras Laffan Industrial City and Mesaieed Industrial City.

6.1 Ras Laffan Industrial City

Brief History

Qatar Petroleum initiated the preparation of a master plan aimed at the optimal utilization of land in Ras Laffan and the identification of suitable sites for industries that will process the gas produced from the North Field. The plans envisioned space requirements to build the industrial city to be about 106 square kilometers.

In 2004, Ras Laffan Industrial City was expanded to cover 295 square kilometers.

Major Achievements (1995-2010)

- The first tanker to ship LNG from the port docked in Ras Laffan in 1996. The port can now receive over 200 tankers per year.
- Exports from Ras Laffan Port are expected to reach 77 million tons of LNG by 2011, in addition to petrochemical products and GTL products.
- Ras Laffan Port is considered to be the largest port in the world for the export of LNG and GTL products.

The Infrastructure, Facilities and Services

Qatar Petroleum developed a plan in 1999 to meet current and future requirements of facilities in Ras Laffan for cooling water. The project was designated as the Common Cooling Water System (CCWS) and later also became known as Common Seawater Facilities (CSF). The first phase of the project came into operation in 2003, with a production capacity of 308,000 cubic meters per hour of seawater. The second and the third phases of the project have already been completed, leading to a rise in production capacity to reach 937,000 cubic meters per hour in 2010.

A specialized network of water supply and distribution for fire fighting was built. The network is considered to be an ancillary system for extinguishing fires in Ras Laffan. The system is accessible and available to all industries.

In 2005, the operating plants in Ras Laffan Industrial City distributed 6,000 cubic meters per day of potable water for domestic consumption in the area.

The first fire brigade station was opened in 1997.

Current Expansion Plans and Future Projects

- Expansion of the common seawater facilities to increase the production capacity for cooling water from 937,000 to 1.166 million cubic meters per hour.
- Expansion of the Ras Laffan Port to three times its current size and raising its export capacity to 140 million tons per year.
- Building a ship repair yard as part of the expansion of the port.
- Construction of the Ras Laffan Emergency and Safety College, which will provide training courses in the areas of fire and safety in accordance with the latest global standards.
- Development of a support services area in the western region, which has been allotted a space of 22.82 million square meters, to be the base location for supporting industries.
- City beautification projects to increase the industrial park area of Ras Laffan City.


Ras Laffan 1990


Ras Laffan 2009

6.2 Mesaieed Industrial City

Brief History

The Mesaieed Industrial City Management was founded in 1996 as a directorate of Qatar Petroleum with the responsibility to manage public infrastructure facilities and to provide all necessary services to investors, industries, businesses and residents of Mesaieed Industrial City.

The industrial activities of Mesaieed Industrial City include the export and refining of crude oil and the processing of natural gas, in addition to manufacturing many basic and derivative chemicals, petrochemicals and refined petroleum products. It also handles the importation of raw materials for building and metals industries and their subsequent processing into intermediate and final products.

The land utilization for the industrial, marine port, commercial and housing activities of Mesaieed Industrial City (MIC) has expanded significantly, thereby doubling its size since 1990 and transforming it into a multi-faceted city with various activities, while operating in a full and self-sufficient manner.

Major Achievements

Light and Support Industries

- Construction of a light and support industries zone to provide space to accommodate the manufacturing of construction materials. This will in turn help in meeting the requirements of the country's urban construction boom, as well as the needs of giant infrastructure projects in Qatar. The manufacturing and support services zone also serves the needs of industries and residents in the city of Mesaieed.
- The development of the light industry and support industries zone has continued since the beginning of the year 2000. This zone facilitates the establishment of small and medium enterprises and provides them with the necessary infrastructure and facilities. The total area of this zone is about 5 million square meters
- More than 150 kilometers of roads have already been developed.
- Expansion of the sewage treatment center
- Development of the sewage network infrastructure
- Major development works for landscaping and irrigation systems
- Infrastructure development works to serve the area's growing population, which is expected to reach 50,000 inhabitants in 2030 (exclusive of the workforce)

The Port

- The port has been under the authority of the Management of Mesaieed Industrial City since 1999.
- Addition of a second navigational channel.

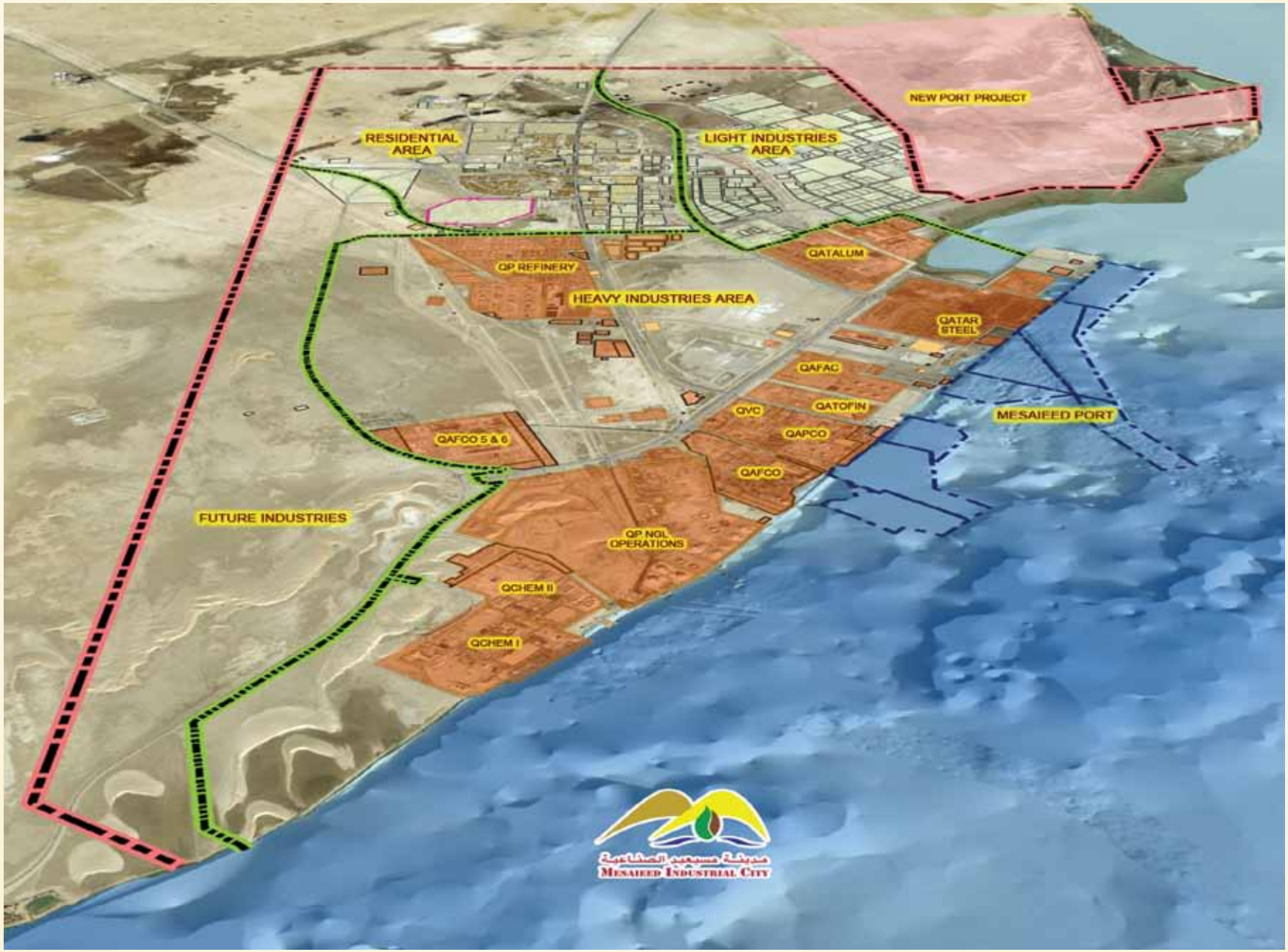
Expansion of the berths from only 5 in 1996 to 28 in 2009.

The Residential Area

- Expansion of the residential project (1,500 additional housing units were completed in mid-2009)
- Permanent housing for workers and developing it for future expansion.
- Commercial Complex (mall)
- Development of business and retail facilities
- Business complex
- Qatar Petroleum directorates building.
- Entertainment establishments (clubs)
- Healthcare facilities
- Government and private schools

Integrated Strategic Plan (2005-2030)

Preparation of an integrated strategic plan for 25 years (2005-2030) for the residential area and industrial city over 5 phases was completed.


NEW PORT PROJECT
RESIDENTIAL AREA
LIGHT INDUSTRIES AREA
QATALUM
QP REFINERY
HEAVY INDUSTRIES AREA
QATAR STEEL
QAFAC
QVC
QATOFIN
MESAIEED PORT
QAFCO 5 & 6
QAPCO
QAFCO
FUTURE INDUSTRIES
QP NGL OPERATIONS
QCHEM II
QCHEM I
مدينة مسيعيد الصناعية
MESAIEED INDUSTRIAL CITY

Chapter 7:
Support and Service Departments

Qatar Petroleum has a number of support and service departments which contribute in realizing the objectives of the corporation and provide support to its staff, such as in managing the training and development programs and the provision of health and administrative services at all operations areas and at its main headquarters in Doha.

7.1 Information Technology

Geographic Information Systems (GIS)

Qatar Petroleum, being the entity charged with the responsibility of exploiting Qatar's natural resources, requires access to many highly critical and sensitive information assets. To manage these assets, GIS (Geographic Information System) technology has been strategically used since 1997 within Qatar Petroleum's specialized business lines to support their internal business processes.

7.2 Continuous Training and Development

- Supervision of independent technical schools to ensure harmonization of the output and to cater to technical knowledge requirements. In addition to these independent technical schools in Doha, another school in Al-Khor is being established.
- Introduction of electronic learning (e-Learning) as part of approved training programs. This is as an effective means of broadening training capacity and providing continuous learning services at the workplace, thus saving costs and the time spent on training.
- Provision of information services through an advanced Central Library that provides conventional services as well as the electronic network for all employees in the sector. The total number of books and reference materials has now reached over 40,000 and the number of beneficiaries has exceeded 5,000.
- Increasing numbers of employees have attended specialized courses over the past 15 years, during which thousands of individuals have received training. For example, more than 9,000 applications for training were accepted in 2009, compared to 6,200 in 2008.
- The training and qualification of Qatar Petroleum employees are conducted through a number of programs, including the following:

  1. Technicians Preparation Program
  2. Administrators Preparation Program
  3. Special Programs: Tailor-made Programs (TMP)
  4. English Language Programs for QP Employees
  5. Overseas Study Grants Programs
  6. Undergraduates Preparation Program for Overseas Studies

7.3 Medical Services

Establishment and expansion of medical services as follows:

Doha	The main medical center is the Centre for Health and Wellness, which opened in 2010 on C Ring Road. There are also a number of frontline clinics at various worksites in Doha, such as at Al-Dana Tower, Al Saad Plaza, Qatar Navigation Building, Training Center and at the Headquarters Building.
Marine Clinics	A clinic at Halul Island and three more clinics at offshore Production Stations
Mesaieed	Main medical center at Mesaieed, a clinic at the Industrial Area and a clinic at the refinery.
Ras Laffan	A clinic for QP employees, a clinic for contractors and workers, and Ras Laffan City clinic.
Dukhan	Main medical center at Dukhan City, a clinic for contractors and workers, and an Emergency & Ambulance Center at Umm Bab

7.4 Industrial Security

1. Development of a program for a security management system.
2. Advanced systems have been applied for electronic control, supervision and inspection.
3. Joint Security Committees were formed in all industrial cities (Mesaieed and Ras Laffan) and in offshore operations.

7.5 Health, Safety and the Environment (HSE)

As mandated by Decision No. 5 of 2005, the role of the HSE Regulations and Enforcement Directorate is to undertake the tasks, functions and responsibilities assigned to QP and the Ministry of Energy & Industry as executive bodies to assure that HSE risks in the oil and gas sector are properly identified and controlled to acceptable levels. The directorate also monitors the compliance of operators with the provisions of the applicable national legislation in this regard. Systems are applied to follow up and combat pollution from oil spills and to monitor vessel traffic.

7.6 Qatarization Plan

The Qatarization process has been and still is a very important part of the strategic plan for the workforce of Qatar Petroleum. In June 1999, a Central Task Team was formed comprising Qatar Petroleum staff representing the Human Resources Department, the Central Training Department and the Organisation and Systems Department. The Team drafted the basis for the new methodology needed to achieve quality Qatarization in Qatar Petroleum and in the energy and industry sector as a whole. The efforts made by the Central Task Team have paved the way for the coordination of a new Qatarization strategic plan for the industrial sector. The Qatarization plan aims to recruit qualified and competent Qatari youth to occupy permanent senior posts.

At the end of 2010, Qataris in permanent positions accounted for 20% of QP's workforce. If Qataris on training and development were also included, the Qatarization percentage would rise to 35%. A total of 215 Qataris were confirmed into permanent positions in 2010. QP sponsors more than 1,370 Qataris in different programs, such as Staff on Academic Studies, University Program, Technician Preparation Program, Clerical Preparation Program, Tailor-made Program, Fireman Preparation Program and Security Preparation Program.

PART TWO

QP-AFFILIATED COMPANIES

Chapter 1:
Gas and Liquefied Natural Gas

With the advent of North Field development projects, including liquefied natural gas projects, gas-to-liquids projects, and the exportation of natural gas through pipelines, the industry has witnessed a significant leap forward.

With its production capacity reaching 77 million tons per annum in 2010, Qatar has become the largest LNG exporter in the world.

1.1 Qatar Liquefied Gas Company Ltd.

قطـــرللغـــاز
QATARGAS

Brief History:

Qatargas Operating Company Limitedwas founded in 1984 to develop and process natural gas from the North Field and produce liquefied natural gas (LNG) for export. The first shipment of LNG was delivered to Japan in 1997.

Qatargas involves seven production trains for liquefying natural gas with a total capacity of 42 million tons per annum of LNG, which is exported to the major markets in Asia, Europe and the USA.

Offshore Facilities

Qatargas Operating Company Limited operates its production facilities on behalf of companies contributing to the Qatargas I, Qatargas II, Qatargas III

and Qatargas IV projects. The offshore operations of Qatargas are about 80 km north-east of Qatar›s land territory.

Qatargas I involved the drilling and completion of 22 wells, which supply more than 1.6 billion standard cubic feet of gas per day from the offshore North Field, with the gas then transported to Qatargas I production trains. Qatargas II required the drilling of, a total of 30 wells , producing a record of 2.9 billion cubic feet per day of gas, which is then transferred by production lines to the onshore facilities. The offshore platforms and infrastructure of Qatargas 3 consist of three unmanned platforms, 33 wells and two subsea pipelines, all of which are shared with the Qatargas 4 project. Qatargas 3 produces 1.4 billion standard cubic feet of gas per day, delivering LNG and substantial volumes of condensate and LPG.The offshore platforms and infrastructure of Qatargas 4 consist of three unmanned platforms (each containing 11 wells) and two subsea pipelines, which are shared with Qatargas 3. Qatargas 4 will produce 1.4 billion standard cubic feet of gas per day delivering LNG and substantial volumes of condensate and LPG, as well as high purity grade sulphur.

Onshore Installations

Qatargas facilities are located in Ras Laffan Industrial City and occupy an area of 3.7 square kilometers. The production of liquefied natural gas in onshore facilities includes the separation of gas liquids and their transference to storage for export.

Qatargas I

The company was initially founded for the purpose of operating three production lines for liquefied natural gas (LNG) with a production capacity totaling 10 million tons per year. Contributors to this project (known as Qatargas 1) are Qatar Petroleum, ExxonMobil, TOTAL, Mitsui and Marubeni.

Qatargas II

Qatargas II is considered to be the world’s first integrated project for the production of liquefied natural gas. It involves the development of two LNG production trains, each with an annual production capacity of 7.8 million tons of LNG; 0,.85 million tons of liquefied petroleum gas, and 90,000 barrels of condensate per day. This project also includes the building of a fleet of 14 LNG tankers and one receiving station.

The project partners are as follows: QP and ExxonMobil in the fourth train and QP, ExxonMobil and TOTAL in the fifth train.

Qatargas III

The Qatargas III project involved the building of a new production train with a production capacity of 7.8 million tons per year. The first shipment was delivered in 2010.

The project partners are QP, ConcoPhilips and Mitsui

Qatargas IV

The Qatargas IV project involved building a new production line with a capacity of 7.8 million tons of LNG per year. The foundation stone for this project was laid in April 2006 and the first shipment was delivered in 2011.

The project partners are QP and Shell.

Markets and Customers

Qatargas produces three main products for export, namely, liquefied natural gas, condensate and sulfur, in addition to helium and LPG. Qatargas exports these products all over the world.

Qatargas I is currently supplying its customers in Japan and Spain under long-term contracts. Qatargas II supplies LNG to customers in the United Kingdom, Europe and Japan, while Qatargas III and IV export their products to markets in the United States, Europe and Asia.

Qatargas has also started exporting LNG to China under long-term sale and purchase contracts. In addition, the company recently began supplying LNG to Spain, Japan, the United States, France, Italy and Turkey on spot contracts.

1.2 RasGas Company Limited

Brief History

RasGas was founded in 1993, and since then, it has developed world-class facilities for extracting, storing, processing and exporting liquefied natural gas (LNG). It has concluded long-term agreements to export LNG to Korea, India, Italy, Spain, Belgium, Taiwan and the United States.

RasGas currently operates seven production trains. Its total production of LNG is 37 million tons per year.

Ras Laffan Liquefied Natural Gas Ltd. Company (RGI)

The company was founded in 1993 to produce liquefied natural gas and its derivatives from production trains I and II. The production capacity of the two lines altogether amounts to 6.6 million metric tons per year, in addition to about 45,000 barrels per day of associated condensate.

Partners: QP and ExxonMobil.

Ras Laffan Liquefied Natural Gas Ltd. Company, (RGII)

The company was founded in 2001 with the aim of producing liquefied natural gas and its derivatives from the third, fourth and fifth production trains. The production capacity of each of these trains is 4.7 million metric tons of LNG per year, in addition to about 28,000 barrels of associated condensate per day.

Partners: QP and ExxonMobil.

Ras Laffan Liquefied Natural Gas Ltd. Company (RGIII)

This company was founded in 2005 with the aim of producing liquefied natural gas and its derivatives from the sixth and seventh production trains. The production capacity of each of the two lines amounts to 7. 8 million tons of liquefied natural gas (LNG) per year, in addition to some 50,000 barrels of condensate per day.

Partners: QP and ExxonMobil.

Ras Laffan Helium Project

The Ras Laffan Helium Project is a joint venture company owned by Ras Laffan Company, Ras Laffan (II) and Qatargas. RasGas Company Ltd. operates the project. In 2003, contracts to extract, purify and liquefy helium from the North Field were awarded, and at the same time, agreements were signed for the sale of liquid helium with Linde (formerly known as Group BOC) and Air Liquide.

The first production of liquefied helium from the plant was in August 2005.

Joint Projects

The joint projects of RasGas represent a significant expansion of equipment, storage and loading facilities at Ras Laffan Industrial City. The common facilities and equipment include new condensate tanks, propane and butane gas, condensate pipelines, facilities for the loading of condensates through a single point system, and additional facilities for cooling and loading propane and butane.

Marketing and Clients

Korea Gas Corporation (KOGAS)

Petronet LNG Limited (Petronet)

Edison Gas Company

CBC Taiwan Corporation

Endesa Generación S.A. of Spain

ExxonMobil

EDF Trading Ltd.

Distrigas

1.3 Qatar Gas Transport Company Ltd.

Brief History

Qatar Gas Transport Company Ltd. (known as Nakilat, which means “carriers” in Arabic) is a Qatari-listed shipping company established by the State of Qatar to own, operate and manage LNG vessels and to provide shipping and marine-related services to a range of participants within the Qatari hydrocarbon sector. Nakilat is an integral component of the supply chain of some of the largest and most advanced energy projects in the world undertaken by Qatar Petroleum, Qatargas, RasGas and their joint venture partners for the State of Qatar.

Nakilat was established in 2004 and is a joint stock company owned 50% by its founding shareholders and 50% by the public.

Currently, Nakilat is engaged in the building of a huge fleet of carriers for transporting the liquefied natural gas produced from the State of Qatar to the world markets.

Nakilat owns 54 carrier vessels to transport liquefied natural gas (LNG), making it the largest owner of vessels transporting LNG worldwide. All of these vessels incorporate the latest LNG transfer techniques for the safe, secure, economical and reliable transportation of LNG. These vessels represent the fruit of many years of effort in engineering design and testing.

Major Achievements (2004 -2010)

Nakilat is involved in the development of a new dry dock for ship repair and building to the highest world standards in Ras Laffan Industrial City. Nakilat has established a global partnership to oversee the management and operation of the new yard.

Nakilat has also established a global partnership to build high-value small ships including mercantile ships (such as Qatari dhows marine supply boats and coastal carriers), vessels for the Navy and Coastal Guard (such as cruisers, naval patrol vessels and fast patrol boats) and private luxury yachts.

Nakilat strategically plans to achieve the status for the State of Qatar as an internationally known centre of excellence in building and repairing ships.

In addition to its powerful fleet of 54 LNG carrier vessels, Nakilat has also entered into a joint local partnership to establish a specialist company, called Gulf LPG Transport Company W.L.L., to engage in the ownership, operation and management of 4 giant LPG carriers.

Nakilat Agency Company Limited was founded in May 2005 and is owned 95% by Nakilat and 5% by Qatar Petroleum. It acts as the exclusive agent for all ships calling at the Port of Ras Laffan.

Nakilat Svitzerwijsmuller W.L.L. was founded in September 2006 and is owned 70% by Nakilat and 30% by Svitzer Middle East Limited. The company owns and operates tug boats, pilot boats and other harbor craft at Ras Laffan Port.

Current Expansion Plans and Future Projects

Currently, Nakilat is involved in a pilot project to develop two new LNG Carriers. A team of engineers will advance the capabilities of LNG carriers to the maximum and are charged with the task of designing these ships, known as Q-Max and Q-Flex vessels. The capacity of each will be between 210,000 and 266,000 cubic meters, outweighing by 80% the size of vessels currently used.

1.4 LNG Receiving Terminals

To ensure access to the markets for LNG, special terminals have been constructed to receive liquefied natural gas (LNG) and then return it to its gaseous state for transport into the natural gas networks in Europe and the USA:

– South Hook LNG Terminal in the United Kingdom has a capacity of 15.6 million tons of LNG per year. The first phase of the terminal was commissioned in April 2009 and the second phase started at the beginning of 2010.

– The Adriatic LNG Terminal on the Italian coast has a capacity of 6 million metric tons of liquefied natural gas. The terminal has been running since August 2009.

– The Golden Pass LNG Terminal on the Texas coast has a capacity of 15.6 million metric tons per year. The first and the second phases of the project were commissioned during the second half of 2010.

1.5 Gas Pipelines - Dolphin Energy Limited

Brief History

Dolphin Energy Limited is a unique venture to export natural gas on a regular basis from the State of Qatar to customers throughout the United Arab Emirates (UAE) and the Sultanate of Oman. This is a strategic project that brings together three member states of the Gulf Cooperation Council, namely the State of Qatar, the UAE and the Sultanate of Oman, with the only gas network in the region. This project is one of the largest projects of its kind ever undertaken in the Middle East.

Dolphin Energy Limited was founded in March 1999 as an initiative of the Government of Abu Dhabi. From the outset, the founders realized that Dolphin Energy will become a force for international cooperation in the field of energy that works to unify the vision and resources in the region by providing capital and multinational experiences.

A development and production sharing agreement was concluded, whereby the Government of Abu Dhabi and its partners invest in Dolphin Energy to undertake the evaluation processes, drilling of wells, the building of facilities, and carrying out exploration, production and processing in the area allocated by the Government of the State of Qatar in the North Field, the largest reserve of non-associated gas in the world.

In turn, the Government of Abu Dhabi and its partners in Dolphin Energy share with the State of Qatar the income from commercial products extracted at the gas processing plant in Ras Laffan, with all the natural gas to be exported to the UAE and the Sultanate of Oman.

Major Achievements (2001-2010)

From the onset of work, Dolphin Energy has achieved a number of significant accomplishments:

- December 2001: Development and production-sharing agreement was signed for 25 years and, at the same time, an agreement was concluded with Qatar Petroleum on the construction of the export pipeline.
- January 2004: Huge engineering, supply and commissioning contracts were signed for the construction of onshore and offshore facilities in the State of Qatar, and construction commenced the same year.
- January 2004: Omani gas flowed through the Al Ain-New Al Fujairah gas pipeline owned by Dolphin Energy to the power generation and water desalination station owned by Al-Etihad Water and Electricity Company in Al Fujairah.
- April 2006: The construction of two offshore production platforms for Dolphin Energy at Qatar's North Field, was completed. Similarly, the drilling of 24 wells was completed during the same year.
- August 2006: Construction and extension of a maritime export pipeline with a length of 364 km and a diameter of 48 inches was completed, linking the State of Qatar with the UAE.
- July 2007: Natural gas flowed for the first time from the State of Qatar to the UAE, when the first shipment of natural gas pumped through the pipeline reached Dolphin facilities for the receipt of gas at Al Taweelah in Abu Dhabi.
- August 2007: Dolphin Energy sold the first two shipments of condensate, with each cargo amounting to 500,000 barrels, followed by additional sales of the product at regular intervals.
- February 2008: For the first time, Dolphin Energy achieved the maximum targeted daily production rate, which stands at 2 billion SCF of gas per day.
- October 2008: The regional gas grid, supplying the Sultanate of Oman with up to 200 million standard cubic feet of gas per day, was completed.
- August 2009: The first of three phases of construction of the Al Taweela–Al Fujairah gas pipeline project was completed after extensive modifications to one of the sections of the existing AlAin–AlFujairah gas pipeline owned by Dolphin Energy.
- 2010: The Taweela–Al Fujairah gas pipeline was commissioned with a length of 240 km.

Marketing and Customers

The marketing activities of Dolphin Energy are limited to two distinct categories of Dolphin natural gas sales. The first group includes most of the sales according to long-term agreements with clients in the UAE and the Sultanate of Oman, in addition to the sale of the remaining quantities according to spot sale agreements. The second group includes sales of condensate, LPGs and sulphur.

In October 2003, Dolphin Energy signed two important long-term agreements with its first client, namely, Abu Dhabi Water and Electricity Company. In May 2005, a similar agreement was signed to sell natural gas to the Dubai Supply Authority (DUSUP).

In September 2005, Dolphin Energy signed another long-term agreement with Oman Oil Company for the sale of natural gas. According to this agreement, Dolphin Energy agrees to supply Oman Oil Company with natural gas with effect from the end of October 2008, crossing the intersection of pipelines near the city of Al-Ain. By signing this contract, the long-term agreements of Dolphin Energy for the sale of natural gas were completed.

This is in addition to short-term sales contracts on the supply of Dolphin gas for a limited period to the Federal Authority of Electricity, Water and Gas of Ras Al-Khaimah and Sharjah Electricity and Water Authority.

Current Expansion Plans and Future Projects

Dolphin Energy will continue to focus on ensuring the day-to-day needs of its customers. The project provides for a broad network of clients and the public (the end users) and a constant supply of clean natural gas needed to support industries and for use in homes and workplaces.

1.6 Al- Khaleej Gas Project (AKG)

Brief History

The Al-Khaleej Gas (AKG) project aims to develop North Field gas reserves to produce 2 billion standard cubic feet (bscf) of gas per day for use in the local market. The project also produces condensates, ethane, liquefied petroleum gas (LPG) and sulphur for export.

The development and production sharing agreement (DPSA) for this project was signed with ExxonMobil on May 2nd, 2000. It was ratified by an Emiri Decree issued on July 12th, 2000. The engineering, procurement and construction (EPC) contract for the first phase was awarded in March 2003 and the first commercial production of gas started in November 2005.

RasGas Company Ltd. operates and supervises all facilities of the Al-Khaleej Gas Project.

Major Achievements

Average production of Al-Khaleej Gas (AKG–I and AKG-II combined) is 1,787 million standard cubic feet of gas and 61,000 barrels of condensate per day.

Total production for the year 2010 was 653 billion standard cubic feet of gas and 22.2 million barrels of condensates.

Markets and Customers

At this stage, 744 million cubic feet of gas per day is supplied by the Al-Khaleej Gas Project to the Ras Laffan Power Station, Oryx GTL plant, Qatar Power Company, Laffan Refinery, Ras Laffan Olefins Company and other companies at Mesaieed Industrial City.

Qatar Petroleum has constructed a 36-inch-diameter pipeline with a capacity of 1 billion standard cubic feet per day for supplying gas to the Industrial Area at Mesaieed. Supply is 240 million standard cubic feet per day during the first phase.

The design capacity of the second phase of the Al-Khaleej Gas Project (AKG-II) is 1,250 million standard cubic feet per day, which is earmarked for local consumption and for power generation plants. The engineering studies for the onshore facilities of AKG-II were carried out by Chiyoda Corporation. The contract for engineering, procurement and construction (EPC) was awarded in June 2006, and production from the project started in the third quarter of 2009.

1.7 Barzan Gas Project

Brief History

A Heads of Agreement (HoA) was signed with ExxonMobil on February 20th, 2007 for the production of about 1.4 billion cubic feet of processed gas per day for the requirements of the local market (mainly the power stations). Condensate, ethane, liquefied petroleum gas (LPG), and sulphur will also be produced.

The Barzan Gas Project will be constructed at Ras Laffan Industrial City. It is a joint venture project between Qatar Petroleum (93%) and ExxonMobil (7%). RasGas Company Ltd. will manage the project and will be responsible for its operations after commissioning.

Phases of the Project

The drilling of wells has already started and three wellhead platforms were installed during the fourth quarter of 2009. The contract for the initial offshore engineering works was awarded to J. Ray MacDermott and this was completed during the first quarter of 2009. The initial onshore engineering works of the project were carried out by the Japanese company Chiyoda during the third quarter of 2010. The contracts for onshore and offshore engineering, procurement and construction (EPC) are stipulated to be awarded by the beginning of 2011.

Train I of the project will be commissioned during the third quarter of 2014.

Production from Train II is scheduled for the second quarter of 2015.

The production capacity of the project will reach about 1.4 billion cubic feet of processed gas per day.

Markets and Customers

Basically, the project aims to supply natural gas to meet the increasing local demand used by power plants and other industries. In addition, the project will supply petrochemical plants with ethane, while local and international markets will be supplied with hydrocarbon products.

Chapter 2:
Petrochemical Companies

The State of Qatar has achieved much in the field of petrochemicals, utilizing its rich resources of oil and gas which have contributed to a diversification of its income. Investment in the petrochemical industry is through a variety of projects for the production of chemical fertilizers, ethylene, polyethylene and other products.

QP has contributed in supporting this industry by carrying out large-scale projects in collaboration with international companies specializing in this field.

2.1 Qatar Fertiliser Company

Brief History

Qatar Fertiliser Company (QAFCO) was founded in 1969 as a joint venture involving the State of Qatar, Norsk Hydro of Norway, Davy Power Gas, and Hambros Bank to produce ammonia and urea by utilizing Qatar's abundant gas resources. Following the purchase of the shares of the foreign partners, the company is now owned by Industries Qatar (IQ) with 75% shareholding and Yara International of the Netherlands, with 25% shareholding.

Major Achievements (1995 -2010)

June 1997: Inauguration of the QAFCO-3 expansion, which doubled production capacity to 3,800 tons of ammonia and 4,800 tons of urea daily and increased the annual production capacity to 1.3 million tons of ammonia and 1.6 million tons of urea.

March 2003: Gulf Formaldehyde Company established for the production of urea formaldehyde condensate (UFC-85), with a production capacity of 82 tons per day.

April 2004: Inauguration of QAFCO-IV, which is considered to be a significant addition to QAFCO's production capacity. Its facilities include an ammonia plant with a production capacity of 2,000 tons per day and an urea plant with a production capacity of 3,200 tons per day.

June 2006: Establishment of Qatar Melamine Company as a joint venture project, with 60% of its shares owned by QAFCO and the remaining 40% by Qatar Holding.

Qatar Melamine Company

The company is considered to be the largest producer of melamine in the Middle East and has the second largest production train in the world, with a production capacity of 60,000 tons of melamine per year.

This is a joint venture between QAFCO with 60% interest and Qatar Holding with 40% interest.

- The foundation stone of Qatar Melamine Company project was laid in April 2008.
- The facility was commissioned in 2010.
- Melamine is used in the manufacture of paint and surface coating as well as an adhesive for timber and many other products. Melamine is also used in a number of manufacturing applications such as Colophon paper, fabric treatment and the production of tableware. The QAFCO melamine project cost around US$350 million and uses high-quality urea produced by QAFCO as feedstock.

Current Expansions and Future Projects

QAFCO-V Project

The foundation stone for the QAFCO-V expansion project was laid in April 2008.

When the QAFCO-V project will be completed in 2011, QAFCO's overall production capacity of ammonia will increase by 73%. Similarly, the company's production capacity of urea will rise by 43%, bringing the company's annual production volume approximately 3.8 million tons of ammonia and 4.3 million tons of urea. This will make QAFCO the single largest combined producer of ammonia and urea, building upon its position as the largest single producer of urea following the completion of the QAFCO-IV expansion in 2004.

QAFCO-VI Project

In November, 2009 the QAFCO-VI expansion project was agreed, with a target completion date of the end of the third quarter of 2012. When completed, QAFCO-VI will raise the total production capacity of the company to 5.6. million tons per year of urea.

Marketing and Customers

The company exports its urea and ammonia production to all parts of the world. The main markets for ammonia include countries such as India, Jordan and South Africa, while Australia, Thailand, the USA, Bangladesh, South Africa and the Middle East are the principal markets for its urea.

2.2 Qatar Petrochemical Company

QAPCO
شركة قطر للبتروكيماويات
QATAR PETROCHEMICAL COMPANY

Brief History

Qatar Petrochemical Company Ltd. (QAPCO) was the first petrochemical company in the Middle East region. It was established in 1974 as a joint venture between Industries Qatar with 80% interest and the French company Total Petrochemicals with 20% interest.

Major Achievements (1995-2010)

- QAPCO established the Qatar Plastics Products Company (QPPC) in 1998 for the production of plastic bags, sheets and other plastic products. This is a joint venture company with QAPCO, Qatar Industrial Manufacturing Company (QIMCO) and the Italian company FEBO, with each partner having one third shareholding. Commercial production was started in 2000.
- The ethylene plant was expanded for the second time between 2004 and 2006, during which its production capacity was increased from 525,000 metric tons to 720,000 metric tons per annum.
- QAPCO has a 63% investment in QATOFIN, which produces linear low density polyethylene (LLDPE) and has a production capacity of 450,000 metric tons per annum.
- As a shareholder in QATOFIN, QAPCO has an investment of 45.69% in Ras Laffan Olefins Company (RLOC). It should be noted that RLOC is a joint venture project involving QATOFIN, QAPCO and Qatar Petroleum.
- In mid-2009, QAPCO signed an agreement for the expansion of its low density polyethylene plant with a capacity of 300,000 metric tons per annum, with completion expected in 2011.

Current Expansion Plans and Future Projects

Low Density Polyethylene (III) Project

A third line for the production of low density polyethylene is under construction, with a design capacity of 300,000 metric tons per annum. The project is located at the current QAPCO operating facilities in Mesaieed Industrial City and is expected to be completed by the first quarter of 2012. When commissioned, the total annual LDPE production capacity of the QAPCO plant will rise to 650,000 tons.

Marketing and Customers

QAPCOs LDPE is marketed in over 95 countries throughout the world. The aim behind such a widespread presence is to provide market stability to support and complete the expansion plans for QAPCO's production trains.

QAPCO works hard to enhance and expand its global marketing network through the opening of additional regional self-managed offices and QAPCO-

operated warehouses. In 2010, QAPCO established three new warehouses in China as well as regional warehouses in Syria, Egypt and Lebanon to further its efforts in establishing closer ties with its clients.

QAPCO's global marketing network now consists of 28 self-operated offices and 6 regional warehouses operated by the company.

The offices are located in China, India, Pakistan, Egypt, Syria, UAE, Lebanon, Taiwan, Bangladesh, Jordan, Yemen, Thailand, Vietnam, Australia, Indonesia, Sri Lanka, Singapore, the Philippines, Morocco, Turkey and South Africa (under establishment). QAPCO also has an international agent network to serve its growing number of customers worldwide.

2.3 Qatar Fuel Additives Company

Brief History

Qatar Fuel Additives Company (QAFAC) was established in 1991 as a joint venture involving Industries Qatar with 50% interest, OPIC Middle East Corporation (OMEC) with 20% interest, International Octane Limited (IOL) with 15% interest, and LCY Investments Corp (LYCIC) with 15% interest.

The company produces methanol and MTBE for both local and global markets, and the production design capacity of its methanol unit is 982,000 metric tons, out of which 750,000 metric tons is earmarked for export. The remaining quantity is used as feedstock for the MTBE unit, which is designed to produce 610,000 tons annually. QAFAC uses natural gas for the production of methanol and butane for the production of MTBE.

Major Achievements (1995-2010)

– In 2010, the company's annual production of methanol reached 879,000 metric tons.
– In 2010, the plant achieved the highest ever annual production of MTBE, reaching a total of 513,000 metric tons.

Current Expansion Plans and Future Projects

• Revamp plans are underway for the modernisation and expansion of the methanol and MTBE plants; start-up is expected in 2011.

Marketing and Customers

The main markets for methanol are the Far East and Southeast of Asia while the Far East, the Middle East, North Africa and Europe constitute the main markets for MTBE.

2.4 Qatar Chemical Company Ltd.

Brief History

Q-Chem is a joint venture between Qatar Petroleum and Chevron Phillips Chemical International Qatar Holdings LLC (CPCIQ). The latter is a company fully owned by Chevron Phillips Chemical Company.

Qatar Petroleum owns 51% of Q-Chem and CPCIQ owns the remaining 49%. The Q-Chem facility is a world-class integrated petrochemical plant capable of producing high-density and medium-density polyethylene (HDPE & MDPE), hexene-1 (alpha olefins) and other associated products, using state-of-the-art technology provided by Chevron Phillips Chemical, a major integrated producer of chemicals and plastics. Q-Chem (I) began operations in 2003.

The Q-Chem complex in Mesaieed Industrial City is comprised of an ethylene unit (capable of producing 500,000 metric tons per annum (mtpa), a polyethylene facility (capable of 453,000 mtpa), and a hexene-1 unit (capable of 47,000 mtpa).

Qatar Chemical Company II Ltd. (Q-Chem II)

Q-Chem II is a joint venture between Qatar Petroleum with 51% interest and Chevron Phillips Chemical International Qatar Holdings LLC (Chevron Phillips Chemical) with 49% interest. The joint venture has established a world-class high density polyethylene (HDPE) and normal alpha olefins (NAO) plant adjacent to the existing Q-Chem plant in Mesaieed. The facilities of the company include a new 350,000-mtpa high-density polyethylene plant and a 345,000-mtpa normal alpha olefins plant. The plant began operations in November 2010.

Ras Laffan Olefins Company Ltd. (RLOC)

Qatar's Ras Laffan Olefins Company (RLOC) is a Qatari joint venture company owned 53.3% by Q-Chem II, 45.69% by Qatofin and 1% by Qatar Petroleum. RLOC operates an ethane cracker plant with a production capacity of 1.3 million tons of ethylene per annum using the latest technology at Ras Laffan. There is a plan to increase the production capacity in its second phase to 1.6 million tons to make it the largest unit of its type in the world.

The RLOC foundation stone was laid in May 2006, and the plant was inaugurated in May 2010.

Marketing and Customers

Q-Chem's marketing policy aims to make the company the preferred supplier in target markets in Asia, Africa, Europe and the Middle East. The polyethylene resins produced include blow-molding grades for containers used in consumer and industrial packaging as well as extrusion grades for packaging films, heavy gauge sheets and polyethylene pipe applications.

2.5 Qatar Vinyl Company Ltd. Q.S.C.

شركة قطر للفينيل المحدودة ش.م.ق.

QVC

QATAR VINYL COMPANY LTD. Q.S.C.

Brief History

Qatar Vinyl Company (QVC) was established at the end of 1997 and began operations in April 2001.

Qatar Petroleum currently owns 55.2% of the shares of QVC, QAPCO owns 31.9%, and the French company Arkema holds 12.9%. QP bought back Norsk Hydro's 29.7% stake in the company in 2008.

The company's current annual production is as follows:

- 330,000 tons of vinyl chloride monomer (VCM)
- 200,000 tons of ethylene dichloride (EDC)
- 365,000 tons of 100% caustic soda solution

Current Expansion Plans and Future Projects

The company is now studying an expansion plan, wherein additional basic feedstock (ethylene) would be provided to the company to potentially double its current production of ethylene dichloride (EDC).

Marketing and Customers

The main markets identified for VCM are India, Australia and Southeast Asia. Currently, 80% of QVC's products are sold to India, while 20% goes to markets in Australia.

As for caustic soda, Australia is its principal market, constituting about 60% of total sales. Other markets include South Africa, Kenya, Iran, India, Malaysia and Singapore, in addition to the local demand.

The most important markets for ethylene dichloride (EDC) are Thailand, Malaysia and Iran.

In addition to the above-mentioned key markets, QVC exports its products from time to time to Europe, the Far East and even to South America on spot-sales basis.

2.6 Qatofin Company Limited

Brief History

Qatofin was founded in early 2000 and came to fruition in 2005 when an agreement was signed to form a joint venture involving Qatar Petrochemical Company with 63% interest, Total Petrochemicals with 36% interest and Qatar Petroleum with 1% interest. The annual production capacity of high-quality low linear density polyethylene (LLDPE) is 450,000 tons per annum. The project is located in Mesaieed and production commenced in 2009.

Marketing and Customers

Qatofin's polyethylene is marketed around the world under the trade name "Lotrene".

2.7 SEEF Limited

Brief History

United Development Company, a local Qatari company, has a 20% shareholding in SEEF Limited, with Qatar Petroleum holding the remaining 80%. Its linear alkyl benzene (LAB) plant is adjacent to the QP Refinery in Mesaieed for the convenient availability of feedstock.

The LAB plant commenced production in March 2006.

SEEF Limited's LAB plant produces 100,000 metric tons per annum of LAB, 80,000 mta of normal paraffin, 36,000 mta of benzene and 3,600 mta of heavy alkylate benzene (HAB).

Major Achievements

- The linear alkyl benzene (LAB) project was completed in accordance to plan on March 6, 2006, one month ahead of schedule and within budget.
- Realization of a 30% reduction in the amount of gasoline imported, the second key element in the manufacture of linear alkyl benzene.

Current Expansion Plans and Future Projects

The company is currently working at increasing its production capacity by 50% to reach 150,000 metric tons per year. Other expansion projects are under study.

Marketing and Customers

Linear alkyl benzene is marketed directly to clients around the world through well-known distributors.

Heavy alkyl benzene is marketed to local clients as well as to global manufacturers of lubricants and other petroleum derivatives.

2.8 Industries Qatar

صناعات قطر
Industries Qatar

Brief History

Industries Qatar is a publicly listed Qatari company, with QP holding 70% of its shares. It employs over 3,000 employees and has offices spread all over the world.

Industries Qatar was incorporated in 2003 and comprises the following companies:

- Qatar Petrochemical Company Limited (QAPCO)
- Qatar Fertilizer Company Limited (QAFCO)
- Qatar Steel Company (QASCO)
- Qatar Fuel Additives Company Limited (QAFAC)
- Fereej Real Estate Company (Fereej)

Chapter 3:
Refining and Gas-to-Liquids Industry

In order to exploit the huge natural gas reserves of Qatar's North Field and to support the competitive position of the State of Qatar in world markets, Qatar Petroleum established a number of plants for the conversion of natural gas into gas-to-liquids (GTL) products in cooperation with international partners.

The GTL plants supply a number of high-quality products for sale in world markets, such as clean-burning GTL kerosene, GTL gas oil and clean fuel for engines.

مصفاة لفان
Laffan Refinery

ORYX GTL
QP - SASOL joint venture

3.1 Laffan Refinery

Brief History

Laffan Refinery is one of the largest condensate refineries in the world. The shareholders of the Laffan Refinery are Qatar Petroleum (51%), ExxonMobil (10%), Total (10%), Idemitsu (10%), Cosmo (10%), Mitsui (4.5%) and Marubeni (4.5%).

The production capacity of the refinery is 146,000 barrels per day, comprised of 62,000 barrels per stream day (bpsd) of naphtha, 52,000 bpsd of kerojet, 24,000 bpsd of gasoil, and 8,000 bpsd of LPG.

Major Achievements

- The foundation stone of the project was laid in April, 2006.
- The refinery started production on 23rd September, 2009.
- The official opening of the refinery was in March, 2010.

Current Expansion Plans and Future Projects

Ras Laffan II expansion is currently under construction. This facility will be able to process an additional 146,000 bpsd, raising the total processing capacity to 292,000 bbl/d.

Marketing and Customers

In addition to the domestic market, the refinery targets Southeast Asia and Europe as its main markets.

3.2 ORYX GTL Limited

Brief History

ORYX GTL Limited was established in Qatar in January 2003 with the mandate to develop, construct and operate a large-scale gas-to-liquids (GTL) plant for converting natural gas into high-quality GTL products.

ORYX GTL is a 51/49 joint venture company between Qatar Petroleum and Sasol Synfuels International (SSI), a wholly owned subsidiary company of Sasol Limited of South Africa.

ORYX GTL is currently one of the world's largest operating GTL companies and has a plant capacity of about 32,400 b/d. The GTL diesel and GTL naphtha produced by ORYX GTL is marketed internationally by Sasol Synfuels International Marketing (SSIM).

Major Achievements (2006-2010)

- Establishment of the first Gas Unit in the plant in August 2006.
- First product shipment was in April 2007.
- Sustainable train 2 operations began in December 2007.
- Exceeded 100% plant loads for two trains demonstrated in January 2009.
- Exceeded 29,000 bbl/d average production in February 2009.

Current Expansion Plans and Future Projects

The focus during 2011 will be to improve the efficiency of the plant and consequently increase the production rate. In addition, ORYX GTL is planning to increase its production capacity through an expansion project. Through cooperation with Gasal QSC, additional oxygen supplies will help towards an increase in production in 2011.

Marketing and Customers

Between 2007 and 2010, ORYX GTL exported more than 2.96 million tons equivalent to 24.830 million barrels of high-quality GTL products, which have been well received by the market.

The high-quality diesel from ORYX GTL is characterized by a high cetane number, with low sulphur content and low aromatics and is used in a mix of diesel feedstock for the production of low-sulphur diesel, mainly in western Europe. The GTL naphtha is used in the production of ethylene in Southeast and West Asia.

3.3 Pearl GTL

The Pearl GTL project in Qatar is the world's largest gas-to-liquids (GTL) plant. The plant will produce cleaner-burning diesel, kerosene and base oils. The production capacity of the plant is about 140,000 barrels per day of manufactured fuel and base oils used in the manufacture of lubricants.

Major Achievements (2004-2010)

- In July 2004, Qatar Petroleum signed a development and production agreement with Shell to develop the Pearl Gas-to-Liquids Project.
- Drilling and commissioning phases of Pearl I and II were completed in the third quarter of 2009 and March 2010, respectively.

Current Expansion Plans and Future Projects

It is anticipated that the plant will start its first production from phase I during the second quarter of 2011.

The second phase of the project will be operational by the end of 2011.

Marketing and Customers

In 2007, a partnership agreement was concluded between Airbus, Qatar Airways, Qatar Petroleum, Shell and Rolls Royce to determine the benefits of using GTL manufactured fuel in gas turbine engines for jet aircraft.

Chapter 4:
Other Industries

4.1 Qatar Steel Company

قطر ستيل
QATAR STEEL

Brief History

Qatar Steel was established on October 14, 1974 as a joint venture involving the Government of the State of Qatar with 70% interest, the Japanese company Kobe Steel with 20% interest and the Japanese company Tokyo Boeki with 10% interest.

The company became fully owned (100%) by the Government of the State of Qatar in January 1997, after buying the shares of its Japanese partners. In 2003, the ownership of the company was transferred to Qatar Petroleum through its stake in Industries Qatar.

The plant consists of four major production units, all operating according to the latest technology:

1. Direct reduction for the production of sponge iron
2. Electric arc furnace for the smelting of iron ore and scrap iron
3. Continuous casting for the production of 150X150 steel billets
4. Rolling mills for the production of 8X40 steel concrete reinforcing rods of sizes in accordance with US, English and Japanese specifications.

Major Achievements (1995-2010)

- Took a 50% shareholding in Qatar Metals Coating Company (Q-Coat), which is based at Mesaieed Industrial City.
- Constructed Direct Reduction Plant No. 2, with an annual production capacity of 1.5 million tons.
- Constructed a fourth electric arc furnace to raise the total production capacity of iron smelting to 1.6 million tons.
- Built a second rolling plant with an annual production capacity of 700,000 tons.
- Purchased the Dubai Steel Plant in 2003 and transferred it into Qatar Steel Company-Dubai in the free zone area in the UAE.
- Took a 25% stake in Gulf United Stainless Steel Holding Company (Foulath), which is based in Bahrain.
- Took a 25% stake in the Bahrain-based Gulf Industrial Investment Company, which produces iron coils.
- Took a stake in the United Steel Company (STEEL), an integrated steel facility based in Bahrain.
- Took a stake in the construction of iron steel coil plants to be set up in the Sultanate of Oman and in Egypt.
- Purchased 8.9% of the shares of Sphere Investments in Australia
- Purchased the shares of Shield Mining Limited of Australia.

Current Expansion Plans and Future Projects

1. Limestone plant (under construction)
2. Phase II of Qatar Steel is expected to start in 2011 and includes:
   - A smelting and continuous casting unit with an annual design capacity of 1,242,000 tons.
   - A new rolling plant with a design capacity of 700,000 tons per year.
3. Phase III of Qatar Steel is expected to start in 2012:
   - A direct reduction plant with an annual production capacity of 1.5 million tons.
   - An integrated smelting continuous casting and rolling unit to produce steel sheets with a design capacity of 1,240,000 tons

Marketing and Customers

Qatar Steel has maintained an active presence in all GCC countries, in addition to being the major player in the domestic market.

4.2 Qatar Aluminium

Brief History

Qatalum is a joint venture between Qatar Petroleum and Hydro. Its capacity in the first phase is 585,000 tons of primary aluminum, all of which is shipped as value-added aluminum cast-house products. A dedicated power plant with an installed capacity of 1350 MW ensures a stable supply of electricity.

Phases of the Project

- The final approval for plant construction was given on July 19th, 2007.
- The first metal was produced in late 2009.
- The official opening ceremony took place in April 2010.

Marketing and Clients

- The products of the company include metal plates used in construction and building materials, in addition to sheets used in the manufacture of vehicle body and vehicle engine parts. The third product category consists of aluminum alloys used in aluminum plants.
- The targeted markets cover Europe, Asia and Africa, in addition to the local and regional markets.

Chapter 5:
Support Services and Investment Companies

In addition to Qatar Petroleum's activities in the field of oil and gas exploration and production, refining and gas projects, the corporation has also established a number of specialized companies in the oil and gas sector, fuel distribution, supply services, transportation, insurance and others.

Qatar Petroleum wholly owns some of these companies, while others are joint ventures with other companies or listed stock companies.

الكوت للتأمين وإعادة التأمين
Insurance & Reinsurance Co.

AMWAJ catering services
أمواج لخدمات التموين

غزال Gasal

الخليج العالمية للحفر
GULF DRILLING INTERNATIONAL

GULF HELICOPTERS

وقود WOQOD

قطر للبترول الدولية
Qatar Petroleum International
www.qpi.com.qa

تسويق Tasweeq
شركة قطر العالمية لتسويق البترول المحدودة
Qatar International Petroleum Marketing Company Ltd.

5.1 Al-Koot Insurance and Reinsurance Co.

Brief History

Al Koot Insurance and Reinsurance Company was incorporated on October 27th, 2003. In 2008, QP offered 70% of Gulf International Services to the public through an initial public offering (IPO) in the Qatar Exchange. Following the privatization process, Al Koot became a subsidiary of Gulf International Services Q.S.C., established as a Qatari shareholding company under the laws of Qatar. Following this reorganisation, Al Koot is no longer a direct subsidiary of QP. Under the terms of the IPO, QP agreed to continue to use the insurance and reinsurance services of Al Koot as if the company was still the QP group's captive insurer.

Objective of Its Incorporation

- Risk management of QP and its group companies.
- Reducing reliance on external markets and increasing control over the group's own business;
- Arranging insurance risks that are difficult to cover in the market due to a lack of capacity and high prices, such as insurance against terrorism and business interruption.

Major Achievements (2003-2010)

- Al-Koot has succeeded in achieving its objectives of managing the risks of Qatar Petroleum and its affiliates. It has also secured 100% of the property of Qatar Petroleum and fulfilled its legal and contractual commitments, as well as covering Qatar Petroleum's share in all subsidiaries. In addition, the company has taken a 30% share of the risk covering the oil and gas construction projects of Qatar Petroleum and its affiliates.
- Al-Koot has established an insurance fund for terrorism and sabotage in the period immediately following the events of September 11.
- In 2007, Al-Koot introduced a comprehensive medical insurance system for the staff of Qatar Petroleum and their families. It also succeeded in bringing under its insurance and reinsurance umbrella most of the companies operating in Qatar's oil and gas sector.

Current Expansion Plans and Future Projects

Al-Koot has begun to prepare a business plan for the next five years based on Qatar Petroleum's business plan. The primary objective of the business plan is to provide a reference for the company's performance in the future. The company is also working on obtaining a credit rating from Standard &

Poors in order to strengthen its financial position and reduce its dependence on guarantees granted by its parent company, Qatar Petroleum, in securing major projects funded by banks and international financing institutions.

Marketing and Customers

The current domain of Al-Koot is confined to the group of companies affiliated with Qatar Petroleum. Any commercial activity or expansion of coverage must take cognizance of its nature as a company established to serve the needs of the Qatar Petroleum group. On this basis, the evolution of Al-Koot and the achievement of its goals depend on the future actions and projects of Qatar Petroleum and its group of companies, as well as on the increase in the limit of its premium retention, which must be linked to increases in annual technical reserves.

5.2 Amwaj Catering Services Ltd.

Brief History

AMWAJ Catering Services Limited was established in 2007 as a 100% -owned subsidiary of QP.

AMWAJ Catering Services Limited aims at providing high-quality catering services to Qatar Petroleum and its affiliates as well as to government authorities and institutions.

Major Achievements (2007-2010)

AMWAJ provided a wide range of services to all the work sites of Qatar Petroleum and its affiliated companies.

Current Expansion Plans and Future Projects

The Dukhan residential complex, with a capacity of more than 600 workers, is one of the largest projects initiated by AMWAJ Catering Company. The complex contains numerous services and facilities.

5.3 Gasal Q.S.C.

Brief History

Gasal Q.S.C. was established in 2006 as a joint venture involving Qatar Petroleum, Air Liquide and Qatar Industrial Manufacturing Company in order to provide industrial gases, such as oxygen, nitrogen, hydrogen and argon, to the steel, oil, gas and chemical downstream industries in Qatar.

The company safely and reliably distributes large quantities of industrial gases by pipeline and by bulk liquid trailer in the State of Qatar.

After constructing the first nitrogen pipelines at Mesaieed, Gasal succeeded in realizing its strategy to create an integrated supply network between the steel, refining and chemical manufacturing industries at Mesaieed.

Major Achievements (2008 – 2010)

- In 2008, Gasal was able to secure a nitrogen supply and off-take agreement with ORYX GTL.
- Gasal successfully started up the ASU for nitrogen for Ras Laffan Olefins Company in July 2009, while the mechanical completion was realized on time in 2008.
- In July 2009, the excavation works for Qatar's second nitrogen pipeline network commenced at Ras Laffan Industrial City.

Current Expansion Plans and Future Projects

Gasal continues its rapid development in the State of Qatar with the signing of a long-term oxygen supply agreement with ORYX GTL.

4.5 Gulf Drilling International Ltd.

Brief History

Gulf Drilling International Ltd. (GDI) was incorporated on May 18, 2004 as the first onshore and offshore oil and gas drilling company in Qatar. GDI was formed as a joint venture involving Qatar Petroleum, Qatar's National Oil Corporation and Japan Drilling Co., Ltd., which brings in more than 40 years of offshore experience.

During the first quarter of 2008, the shares of QP were transferred to Gulf International Services (GIS), which became a public shareholding company and is listed on the Doha Securities Market (DSM). Qatar Petroleum holds 30% of the shares of GIS and effectively controls them by retaining special shares with enhanced share rights.

Major Achievements (2004- 2010)

- In 2004, the company bought the land rig, GDI-1, and the Gulf-1 offshore rig. A contract was signed with Qatar Petroleum on the operation of these rigs.
- In the year 2005 two rigs were added to the fleet.
- In 2008, Occidental Petroleum of Qatar and Qatargas Company Limited joined the list of GDI clients, in addition to Qatar Petroleum.
- The company currently has a 100% share of the onshore drilling market, while its share of the offshore drilling market stands at more than 30%. It plans to further expand its business to cover new sectors related to the industry, thus further boosting its presence in the local market.

Current Expansion Plans and Future Projects

The company hopes to increase its share in the market for offshore drilling operations, with a target of 50% or more over the next five years, whilst maintaining its 100% share of the land drilling market in the State of Qatar. It also plans to diversify its services to include heavy lift boats, maintenance and well performance work.

5.5 Gulf Helicopters Company (GHC)

GULF HELICOPTERS

Brief History

Gulf Helicopters Company was incorporated in 1970 as a subsidiary of British Overseas Airways Corporation. Subsequently, Gulf Air acquired the company in full and then Qatar Petroleum later acquired it in 1998, transferring it to Gulf International Services in 2007.

Gulf Helicopters Company provides air transport services and helicopters for emergency medical services.

The Current Fleet

Gulf Helicopters Company owns a fleet of 32 of the latest-generation helicopters. It is the first operator of Sikorsky S-92's in the Middle East region and is committed to owning the largest fleet of Augusta Westland AW 139's in the future.

Type of Helicopter	Quantity
Bell 412	16
Bell 212	6
Augusta- Bell 206	1
Augusta Westland AW 139	7
Sikorsky S-92	2
Total	32

Marketing and Clients

The company has grown significantly since its inception and is presently one of the most important and leading operators of helicopters in the Middle East, with operations in India, the Sultanate of Oman, Saudi Arabia, Sudan, Yemen and Libya, in addition to the State of Qatar.

Current Expansion Plans and Future Projects

- Expansion of its fleet to 100 helicopters in the next ten years to cater to expanding domestic and international markets.
- Diversification of helicopter operations into various roles including emergency medical services (EMS), fire fighting, aerial photography, VVIP and executive transport.
- Establishment of a regional service center for major helicopter manufacturers, such as Augusta Westland and MD Helicopters.
- Establishment of a training center with simulator at the company's headquarters.
- Transfer of all its operations from Doha International Airport to a satellite site in Al-Khor.

5.6 Qatar Fuel

Brief History

Qatar Fuel, or WOQOD, was formed in 2002 as a joint stock company listed on the Doha Securities Market. It started its activities as a distributor of fuel on behalf of Qatar Petroleum, which was then the owner of Qatar's fuel distribution depot located in Abu Hamour.

Major Achievements

A) Network of Fuel Stations

In 2009, WOQOD opened and commenced operating a number of new fuel stations. It is about to complete the construction and equipping of 5 other stations. Similarly, WOQOD runs a number of private sector stations. It is also planning to cover most of the regions of Qatar by constructing 50- 70 stations during the next phase of its expansion.

B) Bottling Gas Cylinders

This consists of two production trains with a production capacity of 2,400 cylinders per hour.

Current Expansion Plans and Future Projects

New Pipeline Projects

Work is progressing to construct a new pipeline connecting the Mesaieed Refinery with the Doha Depot. The 18–inch-diameter pipeline will supply the depot with 120,000 barrels per day of petroleum products.

The second pipeline, measuring 16 inches in diameter, is intended for jet fuel. It will supply jet fuel from the Mesaieed Refinery to the New Doha International Airport. This pipeline will allow for more storage capacity for the three types of petroleum products at the Doha Depot.

Marketing and Customers

Bitumen

Currently, WOQOD supplies two kinds of bitumen: normal bitumen and polymer enhanced bitumen.

The marketing activities of this sector can be summarized as follows:

Bulk LPG

This type of LPG is used in homes, restaurants, hotels, villas, palaces and residential complexes and is supplied through standard multiple-size tanks.

LPG Cylinders

During the second half of 2008, WOQOD carried out radical changes on the regulators of LPG cylinders, replacing the old regulators with a new, more secure and flexible system. An empty gas cylinder can now, within seconds, be replaced with a new one without using any tools.

LPG for Vehicle Use

Since 2007, WOQOD has been working in cooperation with the transport company Mowasalat (KARWA) to popularize the use of LPG in KARWA's fleet, particularly in small trucks and buses. During 2008, the first station for supplying LPG for vehicles was opened, with the purpose of supplying KARWA's vehicle fleet.

Natural Gas

A natural gas network was constructed in 2008 to serve small industries and craftsmen in the industrial zone. This service will be launched when the production of sweet gas at Mesaieed refinery starts operations.

5.7 Qatar Petroleum International (QPI)

قطر للبترول الدولية
Qatar Petroleum International
www.qpi.com.qa

Qatar Petroleum International (QPI) was incorporated during 2006/2007 to make strategic commercial investments across the energy value chain around the world and is currently 100% owned by Qatar Petroleum (QP).

QPI manages these investments including, but not limited to, upstream, gas & power, refining, petrochemicals, and other midstream and downstream activities, such as LNG plants and receiving stations, be they new or previously developed projects.

Achievements (2009-2010)

On December 31, 2009, QPI completed the development of its joint petrochemical project with Shell in Singapore called QPI and Shell Petrochemicals (Singapore) Pte Ltd. (QSPS). Contract was also signed for the exploration of onshore fields in Mauritania (CA 7and CA 8), where Total owns 60% of the shares and is the operating company, while Qatar Petroleum and SONATRACH each have 20%. During 2010, Total Mauritania drilled an exploratory well, the results of which are still under evaluation. In the meantime, technological preparations are underway to drill other exploratory wells in 2011 and 2012.

Qatar Petroleum's ownership of LNG ports, South Hook in the UK, Golden Pass in the USA and the Adriatic in Italy (together called Terminals), was transferred to QPI.

Current Expansion Plans and Future Projects

In 2011, QPI will focus on expanding its investment portfolio at the pre-production phase, through the acquisition of assets that follow the trends of production projects

5.8 Qatar International Petroleum Marketing Company

Tasweeq تسويق®

شركة قطر العالمية لتسويق البترول المحدودة

Qatar International Petroleum Marketing Company Ltd.

Brief History

Qatar International Petroleum Marketing Company Ltd. (Tasweeq) Q.J.S.C. is an independent state-owned company, created under Qatar's Emiri Decree Law Number 15 of 2007, with the mandate of capturing maximum market value from the rapidly increasing exports of regulated products from the State of Qatar, reliably and efficiently. Tasweeq currently delivers products to customers and markets globally.

Marketing and Customers

Refined Products

Tasweeq is responsible for the overseas marketing of all refinery products from the QP Refinery.

Condensate

Condensates are a mixture of light hydrocarbons from crude oil/gas production and are distinguished by being either a very light oil or heavier than LNG. Their characteristics vary according to the crude oil/gas reservoir.

Liquefied Petroleum Gas (LPG)

LPG is the collective name for propane and butane liquefied at room temperature for easy transport or distribution by either chilling or pressurizing the gas. LPG is usually used for residential, transportation and industrial purposes.

Tasweeq markets and supplies refrigerated propane and butane separately on Very Large Gas Carrier (VLGC) vessels around the world.

Sulphur

Sulphur is an important industrial raw material used primarily in the manufacture of fertilisers and the mining of precious stones.

5.9 Al-Shaheen Energy Services Company

Brief History

Al-Shaheen Energy Services Company was formed to study and explore the feasibility of establishing a variety of fully-owned companies or joint-partnership projects to effectively support the business of current and future energy services in Qatar.

Al-Shaheen Energy Services Company was established in 2006 targeting stronger national participation in the energy services industry and becoming the first national technology-based services provider in Qatar's energy sector. Subsequently, the company formed its first affiliate, namely Al-Shaheen Well Services in a 50/50 partnership with Weatherford International (Weatherford ME), one of the world's leading companies in the area of well services. Weatherford has divisions on research and technology development and it produces many types of equipment related to well services.

Founded in June 2008, Al-Shaheen Well Services operates globally and is active in the State of Qatar through contracts with Qatar Petroleum and its affiliated companies in the oil and gas industry.

Current Expansion Plans and Future Projects

As part of its future plans, Al-Shaheen Energy Services Company is in the process of establishing other companies in partnership with internationally known global companies that are renowned for their technical and technological leadership in the field of energy such as:

1. A company specializing in oil and gas pipelines inspection and integrity.
2. A company specializing in well services;
3. A marine services company.

In line with this, Al-Shaheen Energy Services Company has negotiated with local and global companies and examined the various options submitted by companies that provide services for the oil and gas and energy sector.

PART THREE

GENERATION, TRANSMISSION AND DISTRIBUTION OF ELECTRIC POWER

Chapter 1:
Power Generation

The electricity sector is considered to be a vital part of the company's infrastructure and it is also a key contributor to supporting all aspects of development and other industries. Moreover, it requires huge financial outlays.

In light of the surge and boom which the State of Qatar has witnessed in all areas, the demand for electricity and water has increased tremendously with the implementation of giant projects. Consequently, the amount of electric power generated has increased from 497 megawatts in 1980 to 8,000 megawatts with the completion of current projects. Similarly, the available treated water also increased from 255,000 cubic meters in 1995 to 940,000 cubic meters in 2009.

شركة الكهرباء والماء القطرية
QATAR ELECTRICITY & WATER CO.

قطر للطاقة
QPOWER

RLPC
Safe, Clean and Reliable Power & Water

Ras Girtas Power
رأس قرطاس للطاقة

1.1 Qatar Electricity & Water Company

شـــركة الكهرباء والمـــاء القطـرية
QATAR ELECTRICITY & WATER CO.

Brief History

Qatar Electricity & Water Company (QEWC) is one of the first private sector companies in the region engaged in the production of electricity and water. It is a public shareholding company established in 1990 in accordance with the provisions of the Commercial Companies Law promulgated by Act No. 11 of 1981 and according to Emiri Decree No. 89 issued on 5/7/1990. The company was established for the purpose of owning and managing power plants and water desalination plants as well as the sale of their products under a 50 years renewable license.

Major Achievements (1995-2010)

The beginning of 2003 marked a turning point in the history of the company as it witnessed the transfer of ownership of RAS Abu Fontas Station (A) and its subsidiary generation plants from Qatar General Electricity and Water Corporation to Qatar Electricity & Water Company. The plants cover the Al-Wajbal, Al-Sailiya and South Doha stations.

QEWC has doubled its production capacity in recent years by developing existing plants through continuous expansion, in addition to the establishment of new projects. The expansion of Ras Abu Fontas–B 1 station increased its power generating capacity by 376.5 megawatts, while the expansion of Ras Abu Fontas-B2 boosted its production capacity to 567 megawatts of electricity and 30 million gallons of water per day. Moreover, the company has been involved in a number of large projects such as the Q Power Project, which has a production capacity of 1,025 MW of electricity and 60 million gallons of water per day. QEWC's share in this company is 55%. QEWC also owns 25% of Ras Laffan Power Company, which has a production capacity of 750 megawatts of electricity and 40 million gallons of water per day.

Current Expansion Plans and Future Projects

The completion of the final phases of expansion at Ras Abu Fontas (A-1) is currently underway. Ras Abu Fontas (A-1), which is fully owned by QEWC, has a production capacity of 45 million gallons of water per day and was completed at the end of 2009. In addition, the Mesaieed Power Project, wherein QEWC has a 40% share, has also been completed and has a production capacity of 2,007 MW of electricity. The company also has a 45% share in Ras Girtas Power Company, one of the largest ongoing projects with a capacity of 2,730 megawatts of electricity and 63 million gallons of water per day, which is expected to be fully completed in 2011.

Marketing and Customers

The company is working to diversify its sources of income by investing surplus funds to buy shares of some large quoted local companies.

QEWC, in partnership with the Japanese companies Marubeni Corporation and Chubu, has tendered a quote for the construction of the Barka Station-3 and Sohar Plant-2 project for power generation and water desalination, which are owned by Oman Power and Water Procurement Company. The two projects, each of which cost about one billion dollars, are considered by QEWC as a form of external investment.

The company is looking forward to continuously playing an active role in energy production and water desalination projects in the country, consistent with its role in supporting the national economy.

1.3 Qatar Power Company

Brief History

The purpose of Qatar Power Company is to build, own, maintain and operate the Ras Laffan (B) Station using clean gas to produce electricity and desalinated potable water in accordance with international standards, linking it with the KAHRAMAA electricity and water networks to supply all regions of the country.

The shareholders are:

Qatar Electricity & Water Company Q.S.C.	55%
International Power Ltd., U.K.	40%
Chubu Electric Power of Japan	5%

Qatar General Electricity & Water Corporation (KAHRAMAA) is committed to purchasing power and water from Q Power for a period of 25 years from the date of completion of the project (June 2008), renewable for an additional five years.

Due to the very large size and scope of the project in the production of power and desalination of water, the station was commissioned in three phases, as follows:

– Phase 1 - 23/06/2006:
  600 MW of electricity and 15 million gallons of water

– Phase 2 - 12/06/2007:
  An additional 300 MW, increasing the total to 900 MW

– Phase 3 - 15/06/2008:
  An additional 125 MW, increasing the total to 1025 MW, plus an additional 45 million gallons per day of water, increasing the total to 60 million gallons of water per day.

1.3 Ras Laffan Power Company Ltd.

Brief History

Ras Laffan Power Company Ltd. (RLPC) is a Qatari shareholding company. It was established in 2001 by Emiri Decree No. 44 to put into operation the Ras Laffan Power and Water Plant. RLPC is owned by Qatar Petroleum (QP), Qatar Electricity and Water Company (QEWC), Gulf Investment Corporation and AES Ras Laffan Holdings Ltd. RLPC is the first Independent Water and Power Project (IWPP) in the State of Qatar.

RLPC has a state-of-the-art combined power and desalination plant with a production capacity of 756 MW. The gas-fired power plant generates over 15% of the Qatar grid peak system capacity, and the desalination plant provides approximately 15% of the country's water supply.

1.4 Ras Girtas Power Company

Brief History

Ras Girtas Power Company is considered to have the largest electricity generation plant in Qatar. The plant is located in Ras Laffan Industrial City and it has a production capacity of 2,730 MW of electricity and 63 million gallons per day of potable water. It is a strategic project with a 60% Qatari holding, of which 45% is held by Qatar Electricity & Water Company and 15% by Qatar Petroleum.

Chapter 2:
Power Transmission and Distribution

Qatar General Electricity and Water Corporation (KAHRAMAA) has the responsibility of being the sole owner and operator of the electricity and water transmission distribution network system in the State of Qatar.

KAHRAMAA was established in 2000 by Emiri Decree No. 10 with the aim of regulating and maintaining the sale of electricity and water to customers in order to ensure regular supplies to meet the growing requirements in Qatar.

Since its inception, KAHRAMAA has operated as an independent legal entity on a commercial basis.

KAHRAMAA
كهرماء
المؤسسة العامة القطرية للكهرباء والماء
Qatar General Electricity & Water Corporation

2.1 Qatar General Electricity & Water Corporation

Brief History

The Ras Abu Fontas plant was built between 1977 and 1980 with a capacity of 897 MW, and then in 1983, the Al-Sailiya and Doha South Super stations were built with capacities of 121 and 62 MW, respectively.

The Al-Wajba station was established in 1992, with a capacity of 290 MW, while the Ras Abu Fontas (B) station was opened in 1996, with a capacity of 609 MW.

With the advent of the new millennium, a number of new stations were established.

Major Achievements (1995-2010)

In 2011, the total power generation capacity is expected to increase by 4730 MW, and will also contribute towards meeting the needs of neighboring countries through a grid.

Table Describing the Units of Energy Production

Terminal	Operating Year	Technology Used	Compound Capacity MW (Contracted Capacity)	Number of the Compound Units (Number X Capacity of the Unit)	Gross Energy Generated Gigawat Hour	Net Energy
Ras Abu Fontas-A	1995-1996	gas turbines- double chamber	609	5X121.8	4342	3964
Ras Abu Funtas-B1	2002	gas turbines-single chamber	387	3X129	1532	1529
Ras Laffan A	2007	gas turbines-double chamber	567	3X189	2298	2116
RasLaffan B	2003 2004	gas turbines- double chamber+ steam turbines	756	4X100 2X178	4288	3916

Power Transmission and Distribution Sector

The field of energy production is going through a major expansion phase and has the support and keen interest of the Government. The additional capacity and the need to enhance control of the network require a high level of professionalism to achieve the highest level of operational effectiveness.

The Ministry of Energy and Industry established in 1996 the first national control centre which runs, manages and regulates the transfer of energy from sources of production to consumers through the use of a state–of-the-art solution, the Supervisory Control and Data Acquisition (SCADA).

At a later stage, a distribution control centre was established in 2004 to manage and organize energy demand and delivery to all subscribers in the national electricity network, in addition to the emergency control center, Doha control centre and subscribers' complaint center, which were completed between 2007 and 2009.

Significant developments have taken place in the number of main and sub-stations during the last 15 years, where the number of main stations with 66 KV voltage increased from 65 to 257 and the number of 11-KV sub-stations increased from 3,900 in 1994 to 8,000 today.

Several maintenance centers and mobile workshops have been set up throughout the country to provide year-round customer support and ensure the quick resumption of electrical supply in the event of an interruption.

Water Sector

There has been a 72% increase in the demand for potable water, with the quantities produced rising from approximately 255,000 cubic meters in 1994 to 940, 000 cubic meters in 2009. This has led to an expansion of storage requirements from 844,000 cubic meters to 1,320,000 cubic meters, an increase of 36%. The production of desalinated water to meet the needs of consumers has increased from 239,000 cubic meters to 880,000 cubic meters.

There has been an expansion of the water network to ensure access to consumers whose numbers have increased from 75,000 to 182,000, eventually leading to an increase in the diameters of water pipes used as well as an increase in the pipeline network.

Current Expansion Plans and Future Projects

Gulf Joint Interconnection Project

This project aims to link the State of Qatar with other Gulf States sometime in the future by the will of God, through a modern and specialized transmission network in the region. This project will provide energy transmission lines with up to 400 KV between Gulf countries.

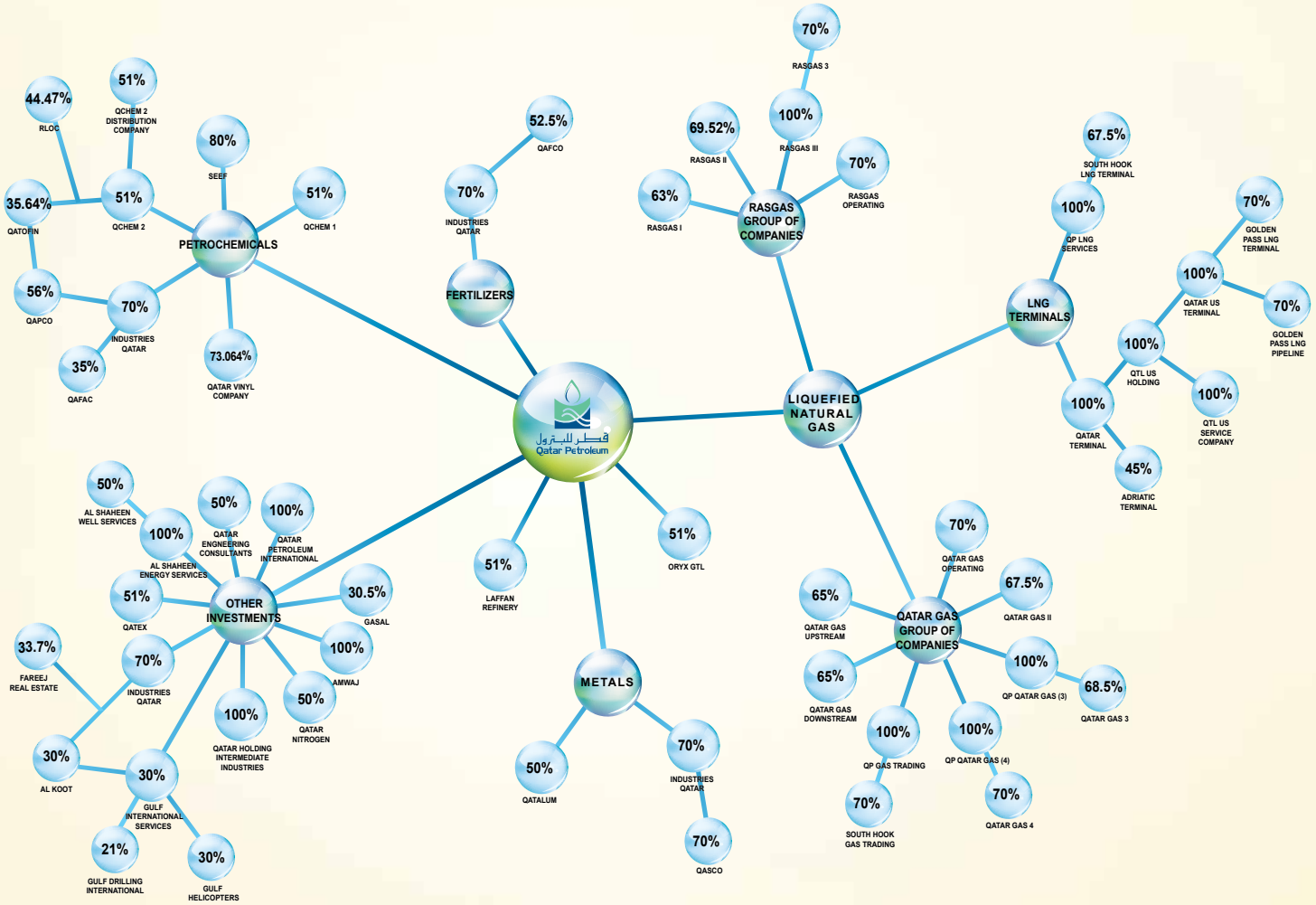
Undersea Cable Project

One of the largest electricity projects and launched in 2008, this project will link the multi-purpose station located in the West Bay business district with sources of energy production. It is also necessary to mention the enormous improvement in the electricity transmission network in terms of its capacity, which can carry 400 KV and is one of the most reliable in the region and the world in general.

Other Projects

Additional projects were introduced in 2009, such as digital remotely read meters and the building of high-voltage underground stations in the City Centre.

QATAR PETROLEUM INVESTMENT PORTFOLIO



www.qp.com.qa

Effective shareholding of Qatar Petroleum as of December 2010

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Acknowledgment and Appreciation

We are delighted to present this book, which narrates the achievements of the energy sector in the State of Qatar between 1995 and 2010.

The book was prepared by the Directorate of Strategic Planning and Policy, which formed, in cooperation with Public Relations and Communications Department, an internal working group to collect all pertinent data and information and to coordinate with a number of relevant departments within and outside Qatar Petroleum (QP).

Accordingly, we would like to thank everyone that contributed towards accomplishing this task and who provided us with strong support and assistance. These include the Ministry of Energy and Industry, QP departments, subsidiaries and joint ventures as well as government authorities and organizations in the State of Qatar.

We hope that this book has achieved its objective of highlighting the achievements of Qatar's energy sector over the past 15 years. We welcome all of your suggestions and comments on both Arabic and English versions, either to correct any mistakes or to update any of its contents.

Directorate of Strategic Planning and Policy
November 2011