



State of Kuwait

7.03

Kuwait



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1. KUWAIT IN GLOBAL OIL BALANCE OIL SECTOR OVERVIEW

With an estimated proven oil reserve of 104 billion barrels, Kuwait is ranked number four in the world in terms of oil reserves (8%). Most of Kuwait's reserves are located in the 70 billion barrels Burgan area, which consists of Burgan, Magwa and Ahmadi. Greater Burgan generally produces lighter crudes with API's in the 28°-36° range, and has a production capacity of 1.6 million bbl/d. The South Magwa field is estimated to hold at least 25 billion bbl of light crude. Other fields surrounding the Greater Burgan area include Umm Gudair, Minagish, and Abdaliya. Umm Gudair and Minagish produce heavier crude oil, with gravities in the 22°-26° API range, and have a combined production capacity of 200,000 bbl per day. In January 2003, water injection began at Minagish to offset declines in production.

Northern Kuwait holds the majority of Kuwait's larger fields after Greater Burgan. Kuwait's second largest field, Raudhatain has 9.55 billion bbl of proven and probable recoverable oil. Raudhatain has the capacity to produce 450,000 bbl of oil per day.

In spite of its comparatively small size, Kuwait is one of the world's top exporters of oil, with over 2.4 million barrels per day exported in 2008. The country's economy is very much dependent on oil export revenues which account for roughly 90 percent of total export earnings.

2. KUWAIT OIL AND GAS RESOURCE ENDOWMENTS

The petroleum industry in Kuwait is the largest industry in the country, accounting nearly half of the country's GDP. Since the government of Kuwait owns the oil industry, it controls most of the country's economy; in all, about 75 percent of the GDP. Kuwait's oil exports vary depending on internal needs - almost all of Kuwait's energy is derived from oil - and on international demand and prices and production quotas fixed by the OPEC, of which Kuwait is a member.

2.1 PROJECTIONS OF DEMAND FOR KUWAIT OIL AND GAS

The country plans to increase its oil output from the current level of 2.6 million bbl/d to 4 million bbl/d by 2020, largely via Project Kuwait (PK). Progress towards achieving this goal, however, remains caught in the disagreement between Parliament and the ruling family on how best to proceed.

Kuwait's constitution; and longtime policy; doesn't allow foreign investment in the country's natural resources, except as provided for by law. In order to allow IOC involvement, "incentivized buy-back contract" (IBBC) arrangements, which do not involve production sharing, concessions, or the booking of reserves by foreign companies, have been created. The structure of the IBBC agreements allows the Kuwaiti government to retain full ownership of oil reserves, control over oil production levels, and strategic management of the ventures. Foreign firms are to be paid a per barrel fee, along with allowances for capital recovery and incentive fees for increasing reserves, in their role as service provider/contractor. In May 2007, the Kuwaiti ruling family conceded the responsibility to approve each related IBBC for Project Kuwait to Parliament.

With an estimated project value of \$7billion the Project Kuwait Scheme aims to increase the crude oil output of the Northern fields of Kuwait, with the help of international companies (IOCs), who has the expertise required for the expansion project. The production planned for the individual fields are Raudhatain - from 225,000 b/d to 515,000 b/d; Sabriyah - from 95,000 b/d to 250,000b/d; Ratqa - from 45, 000 b/d to 59,000 b/d; Abdali - from 33,000 b/d to 47,000 b/d and Bahara - from 3,000 b/d to 30,000 b/d. This would be followed by the development of the western fields (Minagish and Umm Gudair) from the current level of 190,000 b/d to 460,000 b/d.

Heavy oil is a major component of Kuwait's increased production capacity plans. Estimated heavy oil reserves of approximately 13 billion bbl are located primarily in the north of Kuwait.

KOC also plans to drill for oil in South East Kuwait and West Kuwait. In South East Kuwait, which holds the vast Burgan field, production is to increase by 200,000 b/d to a total of 1.7 million bbl/d; KOC hopes to maintain capacity in West Kuwait at 500,000 b/d.

Kuwait seeks to significantly increase its use of natural gas in electricity generation, water desalination, and petrochemicals to free up as much as 100,000 barrels per day of oil for export. Kuwait hopes to accomplish this through increased drilling for natural gas, and tying together gathering centers to create the infrastructure necessary to reduce associated gas flaring.

In 2005, an estimated 35 Tcf of non-associated gas was discovered in several fields near Sabriya and Umm Niga in northern Kuwait. In the summer of 2008, Kuwait began production of approximately 175 million cf per day, planned to rise to nearly 1 Bcf per day by 2015. The new production is not expected to offset Kuwait's rising demand.

As with oil, negotiations continue between Kuwait and Iran regarding the disputed Dorra offshore natural gas field and any development requires resolution of demarcation issues. The Dorra field has been claimed by Saudi Arabia, Kuwait, and Iran, and may contain up to 11 Tcf of recoverable natural gas reserves. It is not currently in production.

Even though on an annual basis natural gas consumption matches production, in recent years, Kuwait's electricity demand, the generation of which is fueled by natural gas, has outpaced natural gas production during the summer months, resulting in the shutdown of refinery and petrochemical operations to meet the increased demand in electricity.

In March 2009, Kuwait and Qatar signed an agreement whereby Kuwait would import nearly 67 Bcf of liquefied natural gas each summer for 5 years, beginning in June 2009. Besides Qatar, Kuwait seeks to import natural gas from Iran, most likely from its huge South Pars gas field. Iran and Kuwait signed a preliminary memorandum of understanding for natural gas sales in March 2005, but commerce requires the resolution of maritime border issues in the region, specifically with regards to Dorra.

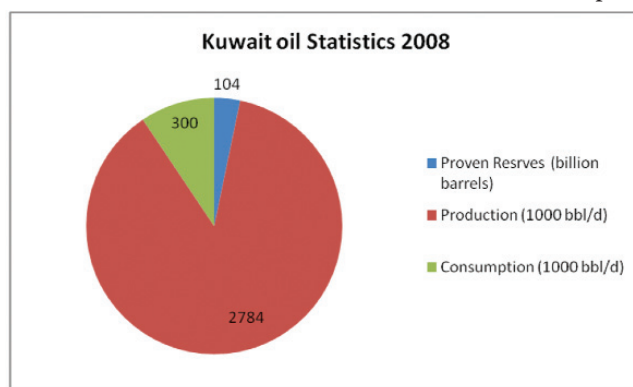
2.1.1 Production, Consumption Reserves for Oil

According to available statistics from the leading international energy agencies; Kuwait's territorial boundaries contain an estimated 101.5 billion barrels (bbl) of proven oil reserves. The Neutral Zone (Divided Zone), which Kuwait shares 50-50 with Saudi Arabia, holds an additional 5 billion bbl of reserves, bringing Kuwait's total oil reserves to 104 billion bbl.

In 2008, Kuwait produced approximately 2.7 million barrels per day (bbl/d) of oil, which includes about 300,000 bbl/d of production from the Neutral Zone. Of 2008 production, 2.57 million bbl/d was crude and 170,000 bbl/d was non-crude liquids. Overall, around two-thirds of Kuwaiti oil production comes from the southeast of the country.

The country's domestic refineries have a combined capacity of roughly 931,000 bbl/d. High demand over the last two years has kept Kuwait's refining sector running at close to full capacity. Kuwait's total oil consumption reached 300,000 bbl/d in 2008.

Figure 1: Kuwait Proven Oil Reserves, Production & Consumption Figures

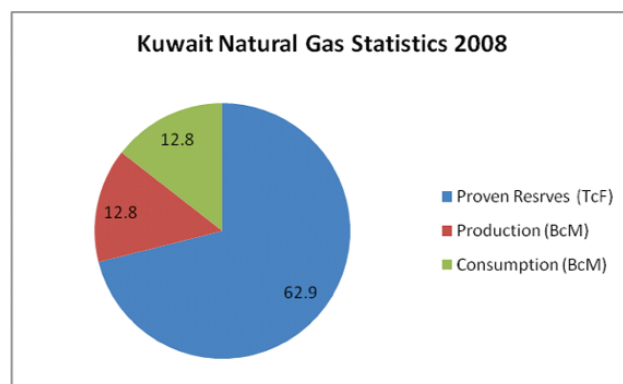


Source: BP Statistical Review of World Energy June 2009

2.1.2 Production, consumption reserves for Gas

It holds a relatively small amount of natural gas reserves but hopes to significantly increase its use of domestic and imported natural gas in electricity generation and other sectors to free up additional oil for export. According to BP Statistics Review 2009, Kuwait's estimated natural gas reserves stood at 62.9 trillion cubic feet (Tcf). Kuwait produces a relatively modest volume of dry natural gas, an estimated 12.8 billion cubic meters in 2008, the vast majority of which is associated gas.

Figure 2 Kuwait Proven Gas Reserves, Production & Consumption Figures



Source: BP Statistical Review of World Energy June 2009

2.2 EXPORTS & DOWNSTREAM ACTIVITIES

According to the available statistics from OPEC; in 2008, Kuwait's total exports of crude and refined products reached over 2.4 million bbl/d. It exported over 1.7 million bbl/d of crude oil and 707,900 bbl/d of refined product. Kuwait's single export blend has a specific gravity of 31.4°API and is considered sour with 2.5% sulfur content.

Mina al-Ahmadi is the country's main port for the export of crude oil. Kuwait also has operational oil export terminals at Mina Abdullah, Shuaiba, and at Mina Saud. To handle increased production generated by Project Kuwait, a new terminal is planned for construction on Bubiyan Island.

Kuwait Petroleum International manages KPC's refining and marketing operations internationally, with over 4,000 retail stations across Europe. With the growth of downstream markets in Asia, Kuwait has been keenly interested in acquiring downstream assets in large emerging markets such as China and India.

The Clean Fuels Project (CFP) is the umbrella under which Kuwait's existing refineries will be upgraded. With a 2008 price tag of \$18 billion, the CFP is split into three packages. In Package 1, Mina Abdullah's distillation capacity will be increased to 420,000 bbl/d. Package 2 will consist of revamping Mina Abdullah's utilities both on and offsite. Package 3 will restore and repair necessary elements of Mina Al-Ahmadi.

3. UPCOMING PROJECTS IN OIL AND GAS IN KUWAIT

The budget total of proposed Oil & Gas projects and Pipeline projects in the state of Kuwait is estimated to be more than \$47 billion. The estimated value of construction projects awarded in the Kuwait's oil & gas and the pipeline sector for the year 2005 - 2010 is over \$43 billion.

3.1 CONSTRUCTION PROJECTS AWARDED FOR OIL AND GAS IN KUWAIT

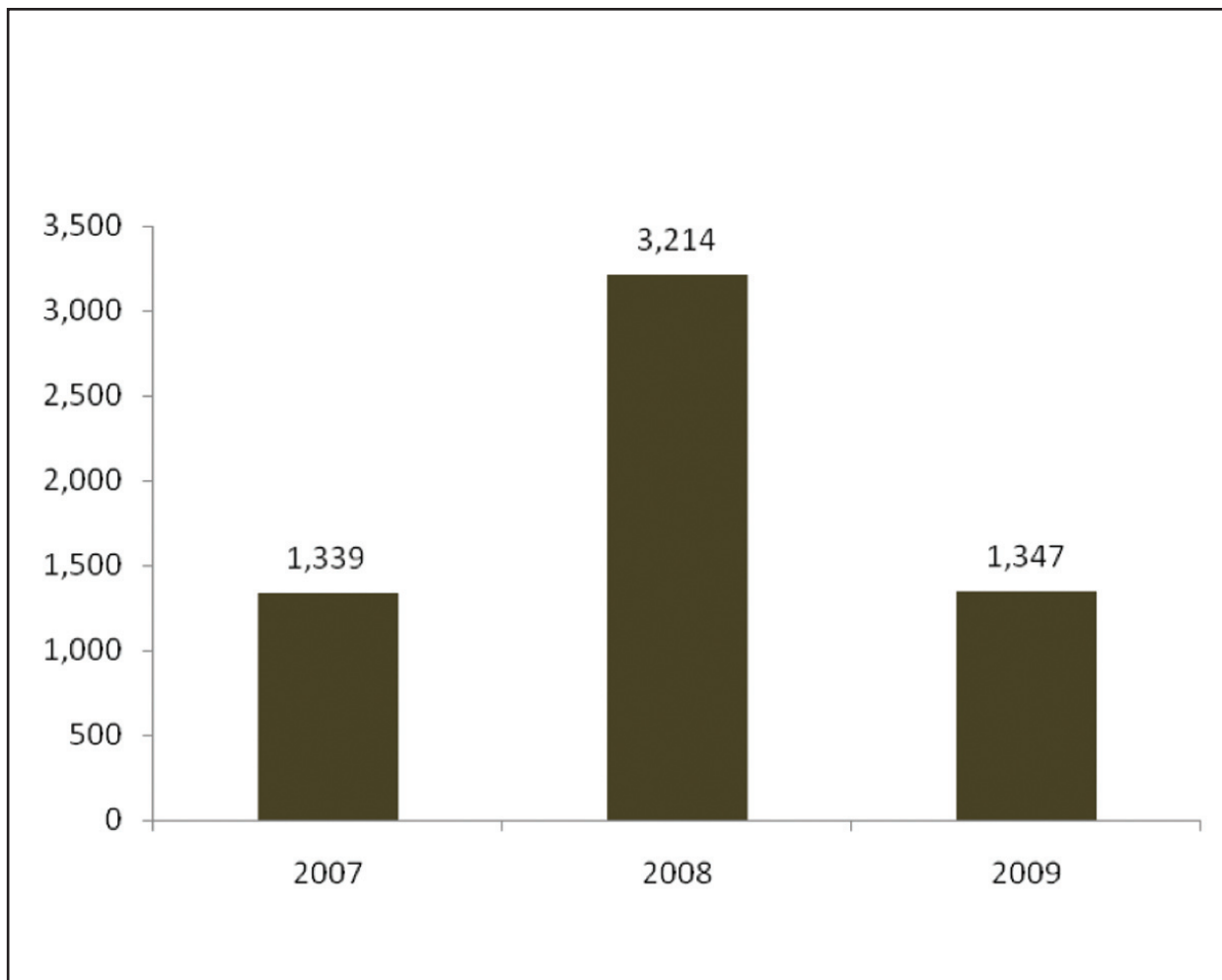


Figure 3: Construction projects awarded value for Oil & Gas in the Kuwait mn\$ (2005-10)
Source: Ventures Middle East GCC & MENA Projects Database (www.ventures-uk.com)

3.2 EXPANSION PROJECTS FOR OIL & GAS

Table 1: Kuwait Oil & Gas Expansion/Development Schemes

Source: Ventures Middle East GCC & MENA Projects Database (www.ventures-uk.com)

| Project Name | Client | Project Value(US Mn\$) |
|---|--|------------------------|
| Clean Fuels Project | Kuwait National Petroleum Company (KNPC) | 18000 |
| Project Kuwait Scheme | Kuwait Petroleum Corporation (KPC); Kuwait Oil Company (KOC); | 7000 |
| New Refinery in Al Zour - Package 1 (Process Plant) | Kuwait National Petroleum Company (KNPC) | 4000 |
| New Refinery in Al Zour - Package 2 (Process Plant) | Kuwait National Petroleum Company (KNPC) | 2600 |
| New Refinery in Al Zour - Offsites and Utilities | Kuwait National Petroleum Company (KNPC) | 2000 |
| New Refinery in Al Zour - Tank Farms | Kuwait National Petroleum Company (KNPC) | 1184 |
| Booster Station 171 | Kuwait Oil Company (KOC) | 800 |
| Gathering Center 16 in West Kuwait | Kuwait Oil Company (KOC) | 750 |
| Effluent Water Injection Phase I & Sea Water Injection Phase II | Kuwait Oil Company (KOC) | 750 |
| Fifth Gas Fractionation Train at Mina al-Ahmadi | Kuwait National Petroleum Company (KNPC) | 700 |

3.3 PRICES

Most Kuwaiti crude oil is sold on term contracts, with the price of Kuwaiti crude oil tied to Saudi Arabian Medium (for western customers) and a monthly average of Dubai and Oman crudes (for Asian buyers).

Figure 4: OPEC Reference Basket Price for Kuwait Export Crude (\$/bbl)

| | | |
|---|--|-----|
| Fourth Gas and Condensate Train at Mina al-Ahmadi Refinery | Kuwait National Petroleum Company (KNPC) | 679 |
| Gas Booster Station 160 | Kuwait Oil Company (KOC) | 649 |
| Gathering Centre 24 at Sabriya | Kuwait Oil Company (KOC) | 621 |
| Effluent Water Re-utilisation Project in the Western Fields | Kuwait Oil Company (KOC) | 600 |
| Clean Fuels Project - Supply Reactors to KNPC | Kuwait National Petroleum Company (KNPC) | 421 |

Source: Ventures Middle East GCC & MENA Projects Database (www.ventures-uk.com)

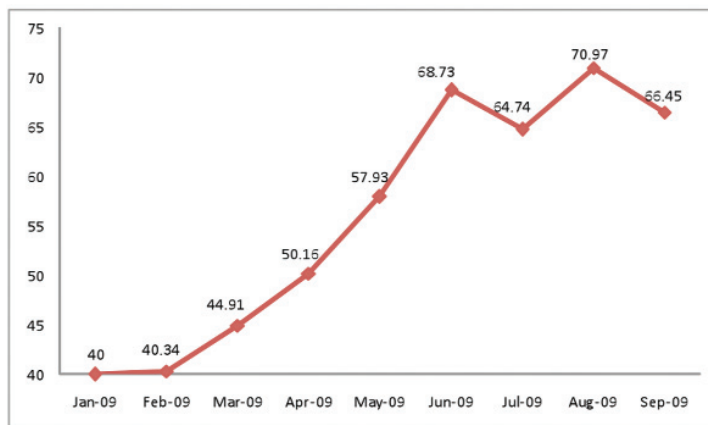
4. COMPETITIVE OVERVIEW

The Supreme Petroleum Council oversees Kuwait's oil sector and sets oil policy. The Kuwait Petroleum Council (KPC) manages domestic and foreign oil investments. KOC, nationalized in 1979, is KPC's upstream arm in Kuwait. The Kuwait Gulf Oil Company (KGOC), set up in 2002, oversees the bulk of Kuwait's interests in the Neutral Zone.

4.1 KUWAIT PETROLEUM CORPORATION (KPC)

Kuwait Petroleum Corporation (KPC) is the state-owned entity responsible for Kuwait's hydrocarbon interests throughout the world. As part of the global energy industry, KPC help to supply the world with its vital oil and gas needs by exploring for producing, refining, transporting and marketing these precious natural resources both in our home country and internationally. KPC operates through a series of specialized subsidiaries in Kuwait and across the world, with activities encompassing all aspects of the hydrocarbon industry. All of these subsidiaries are fully-owned by KPC. The subsidiaries of KPC includes the following companies: Kuwait Oil Company (KOC); Kuwait National Petroleum Company (KNPC); Petrochemical Industries Company; Kuwait Oil Tanker Company; Kuwait Aviation Fuelling Company; Kuwait Foreign Petroleum Exploration Company; Kuwait Petroleum International; Kuwait Gulf Oil Company; Oil Services Company and Oil Development Company. KPC's annual production capacity of crude oil is 2.6 million barrels per day.

The company has plans to invest around \$55 billion in Kuwait to finance its production, refineries, the building of new tankers and ships to be carried out through its subsidiaries including Kuwait Oil Company and Kuwait National Petroleum Company.



Source: OPEC

4.2 KUWAIT NATIONAL PETROLEUM COMPANY (KNPC)

The Kuwait National Petroleum Company (KNPC) is engaged in refining of crude oil, liquefaction of gas and marketing of oil and gas products. The refining operations take place in three refineries: Mina Abdullah, Mina Al Ahmadi and Shuaiba Industrial Area.

To upgrade its facilities, KNPC is implementing the Refineries Upgrade Program, a project valued at \$3.5 billion and expected to be completed in 2010. The project is comprised of tank upgrades, effluent revamping and renovation of control, safety and the main process systems at all refineries.

Other projects include building the Al Zour Refinery, which is expected to produce 615,000 barrels per day, when completed in 2012. The new refinery will be divided into five packages: the installation of crude distillation units, diesel, naphta and kerosene hydrotreater; a hydrogen production unit, gas treatment, and amine treatment units; the construction of offsites and utilities; the construction of a tank farm, and, the construction of marine export facilities.

4.3 KUWAIT OIL COMPANY (KOC)

The Kuwait Oil Company (KOC) specializes in the exploration, production and drilling of crude oil, natural gas and hydrocarbons within Kuwait. It is also involved in the storage and local transportation of crude oil. Its activities also include on-shore and offshore surveys, drilling of test wells, field development, crude and natural gas exploration. The company also manages a system of transport and delivery to tankers that export oil and gas. Its 12 oilfields are located across the country and divided into four groups, North Field, West Field, South and East Field.

As part of its Strategy 2020, KOC plans to give a push in crude oil production to 3.5 million b/d by 2015, and 4 million b/d by 2020.

5. FUTURE OUTLOOK OF KUWAIT OIL AND GAS SECTOR

Most of Kuwait's major producing fields are over sixty years old, and as a result field maturity is becoming a concern. In 2005, KOC, citing field exhaustion, lowered its production plateau estimates for the Greater Burgan area from 2 million bbl/d to 1.7 million bbl/d over a 20-30 year period. This issue places added significance on development of other Kuwaiti reserves going forward.

Because of its high viscosity and lower prices, Kuwait is currently keen on shifting to producing more heavy oil as it is a key contributor to the targeted 4.0mn b/d production capacity. Heavy oil is a huge necessity to achieve the target of 4mn b/d in 2020. Kuwait has an abundant amount of heavy oil in its soil but lacks the technology and the techniques to produce it. Thus Kuwait will need to hire foreign developers; today it's on the way to develop 12,000 oil wells in accordance to produce heavy oil.

Currently the country is self sufficient in meeting the domestic natural gas demand. However, it is expected that in the future Kuwait will have to import gas or LNG in order to meet its growing needs.

Aside from imports, Kuwait hopes to increase its domestic natural gas production, both through reduced flaring of associated gas and through new drilling. Exploratory drilling is currently being undertaken at the Raudhatain oilfield, reaching geological formations much deeper than the oil deposits, which are believed to be rich in natural gas.

Natural Gas is becoming a new alternative for power generation. Like neighboring countries in the GCC; Kuwait too is focusing on developing its Natural Gas output to meet the electricity demand

6. CODE OF ETHICS

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