

# Republic of Iraq

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Iraq



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## 1. IRAQ IN GLOBAL OIL BALANCE OIL SECTOR OVERVIEW

At the end of 2008; Iraq was the world's 13th largest oil producer and has the world's third largest proven petroleum reserves. Notwithstanding the massive reserves; the country's hydrocarbon sector has suffered for the past several decades as investments dried up due to years of economic sanctions and geopolitical issues. Only a small portion of Iraq's known fields are in development, and the country may be one of the few places left where vast reserves, proven and unknown, have barely been exploited.

Iraq's energy sector is heavily based upon oil, with more than 90% of its energy needs met with petroleum. The value of crude oil export revenues in 2008 is estimated over \$58 billion

Country's oil & gas infrastructure is in need of modernization and investment. The United States had allocated around \$2.5 billion to the Iraqi oil and gas sector to begin this modernization, but ended its direct involvement as of the first quarter of 2008, and does not have any on going construction projects in the oil and gas sector. The 2009 Iraqi budget allocated \$3.2 billion to the Ministry of Oil, a 50% increase from the 2008 base budget, to continue this work.

The long-term Iraq reconstruction costs could reach \$100-billion or higher, of which a third will go to the oil, gas and electricity sectors. In addition, the World Bank estimates that at least \$1 billion in additional revenues needs to be committed annually to the oil industry just to sustain current production. Investment by the international oil companies will be aided by the passage of the proposed Hydrocarbons Law, which governs oil contracting and regulation. The law has been under review in the Council of Ministers since October, 2008, but has not received final passage.

### 1.1.1 Production, Consumption Reserves for Oil

In 2008, Iraq's crude oil production under the control of the regional state-owned oil companies averaged 2.4 million barrels per day (bbl/d), up from its 2007 production of 2.1 million bbl/d. However, this was still below its pre-war production capacity level of 2.8 million bbl/d in 2003. About two-thirds of production comes from the southern fields, with the remainder from the north-central fields near Kirkuk. At present, the majority of Iraqi oil production comes from just three giant fields: North and South Rumaila and Kirkuk.

The country's total installed export capacity is about 3.5 million bbl/d, although effective capacity is lower because of disruptions, lack of maintenance, and because some facilities have been closed for years and are unusable. The country exported over 1.8 million bbl/d of crude oil in 2008. About 1.5 million bbl/d of this came from Iraq's Persian Gulf port of Basra, with the rest exported via the Iraq-Turkey pipeline in the north.

### 1.1.2 Production, Consumption Reserves for Gas

Iraqi natural gas production has risen since 2003, and has returned to levels reached during the mid-1990's. However, its 2006 dry natural gas production of approximately 104 billion cubic feet (Bcf) per year is still far below its peak level of 215 Bcf reached in 1989. The Ministry of Oil reported that approximately 60 percent of associated natural gas production is flared due to a lack of sufficient infrastructure to utilize it for consumption and export. Significant volumes of gas are also re-injected to enhance oil recovery efforts. In addition, the flaring of the natural gas has meant lost Liquefied Petroleum Gas (LPG) output of an estimated 4,000 tons per day, while at the same time there are LPG shortages requiring imports of 1,200 tons per day. To reduce flaring, the state-owned South Gas Company signed an agreement with Shell in September 2008 to implement a 25-year project to capture flared gas and provide it for domestic use, with any surplus sent to an LNG project for export.

## 2. UPCOMING PROJECTS IN OIL AND GAS IN IRAQ

Iraq's 10-year strategic plan for 2008-2017 set a goal of increasing crude oil production capacity by 1.5 million bbl/d within 3-4 years, and by an additional 2 million bbl/d to a total of 6 million bbl/d within 10 years. As part of this plan, Iraq planned three licensing rounds. The first was announced June 30, 2008, and included plans to rehabilitate six giant producing fields with reserves of over 43 billion barrels.

In June 2009; Iraq put up for auction eight oil and gas fields. But, seven of the eight failed to attract bids favorable enough to meet Iraq's tough conditions and no bids were accepted from US firms. Only British Petroleum (BP), in co-operation with China's CNPC Company, were willing to agree to the terms, winning the bid to turn the Rumaila oil field into the world's third largest. A 20 year contract was awarded to a consortium of BP PLC and China National Petroleum Corporation. BP and CNPC reached an agreement to increase daily oil output to 2.8 million barrels from the current output of about 1.1 million barrels. Previously, the Iraqi government expressed the hope that investment contributed by foreign firms could increase Rumaila oil field's daily production capacity to 1.75 million barrels. Although BP and CNPC had requested USD 3.99 remuneration for each extra barrel of oil produced, the consortium accepted the terms of \$2 a barrel proposed by the Oil Ministry of Iraq. The Oil Ministry is studying whether to re-offer some of the fields to give qualified oil firms a second chance.

Oil fields for bid in Iraq	Reserves (Billion Barrels)
West Qurna Phase 1	8.7
Kirkuk	8.6
Zubair	4
Missan	2.5
Bai Hassan	2.3
West Qurna Phase 2	12.9
Majnoon	12.6
East Baghdad	8.1
Halfaya	4.1
Gharaf	0.9
Najmah	0.9
Qayarah	0.8
Kifil	0.2
West Kifil	0.2
Marjan	0.2
Badra	0.1
Qamar	0.1
Gullabat	0.1
Naudoman	0.1

Iraq also plans to sign delineation agreements on shared oil fields with Kuwait and Iran. It would like to set up joint committees with its neighbors on how to share the oil. In April 2009, Iraq started work on the Safwan field with Kuwait.

Iraqi refineries, with a total capacity of almost 600,000 bbl/d, have obsolete infrastructure, and their output does not reflect the current demand mix. Despite improvements in recent years, the sector has not been able to meet domestic demand for most refined products, and the refineries produce too much heavy fuel oil. As a result, Iraq relies on imports for about 1/4th of the petroleum products it uses, with total petroleum product consumption averaging about 600,000 bbl/d in 2008.

Table 2: Existing Refineries in Iraq

Refinery	Location	Capacity (bbl/d)	Notes
Baiji	North-Central Iraq	310000	Improvements in operational issues
Basra	Basra	150000	Considering adding 70000 bb/d distillation tower
Daura	Baghdad	110000	Considering adding 70000 bb/d distillation tower
Mosul-Qaiyarah, Kirkuk, Khanaqin, K3-Haditha	Scattered	< 10000 each	Topping plants making low-grade diesel and kerosene
Muftiah, Najaf, Maysan, and Nasiriyah-Samawah	Scattered	< 10000 each	Topping plants making low-grade diesel and kerosene

Source: Energy Information Administration - EIA

To alleviate product shortages, Iraq's 10-year strategic plan for 2008-2017 set a goal of increasing refining capacity from 600,000 bbl/d to 1.5 million bbl/d. Iraq has plans for 5 new refineries, as well as plans for expanding the existing Daura and Basrah refineries.

Iraq's natural gas sector is believed to contain significant untapped resources which the Government of Iraq would like to develop for domestic consumption and export. The non-associated gas fields reportedly slated for priority development are mostly in the northern governorates near Kirkuk, including: al-Mansuriyah and the nearby Khashem al-Ahmar and Jaria Pika, Kor Mor, Akkas, Chemchemal and Siba. It is also been reported that the government of Iraq plans to capture more associated gas at Rumaila and Az-Zubair within five to ten years.

Iraq's 10-year strategic plan for 2008-2017 set a goal of increasing natural gas production to 2.5 trillion cubic feet per year, and to end the flaring of natural gas. As part of this plan, Iraq planned three licensing rounds. The first was announced June 30, 2008, and included an expected \$5 billion investment for natural gas fields with 22 Tcf of reserves, including Akkas in the western desert and al-Mansuriyah in the east. The contracts to develop these fields are planned for mid-2009. The second bidding round with 26 Tcf of reserves was planned for 2009, and includes the Siba field in the Basra area.

**Table 3: Natural Gas Fields for Bid in Iraq**

Natural Gas Fields for Bid in Iraq	Reserves (TcF)
Al-Mansuriyah	3.3
Akkas	2.1
Siba	0.1
Khashem Al Ahmar	0.1

Source: Energy Information Administration - EIA

Plans to export natural gas remain controversial due to the amount of idle and sub-optimally-fired electricity generation capacity in Iraq - much a result of a lack of adequate gas feedstock. A central criticism of the South Gas Development Agreement remains the proposal to supply an LNG project with surplus natural gas.

Prior to the 1990-1991 Gulf War, Iraq exported natural gas to Kuwait. The gas came from Rumaila through a 105-mile, 400-MMcf/d pipeline to Kuwait's central processing center at Ahmadi. Talks have been in progress since 2005 that would export 35 MMcf/d, rising to 200 MMcf/d, but a final deal is subject to passage of Iraq's Petroleum Law. In 2007, the Ministry of Oil announced an agreement to fund a feasibility study on the revival of the mothballed pipeline.

Several other export proposals have been made. The Kuwait Foreign Petroleum Exploration Company (KUFOEC) is reported to be interested in developing Iraqi gas in the south, but no deals have been signed. Iraq has also discussed northern export routes through Turkey, including linking up to the Azeri-Turkish Baku-Tbilisi-Erzurum (BTE) line, the planned Nabucco (Iran-Europe) pipeline, and the ongoing Arab Gas Pipeline (AGP) project. The proposed AGP pipeline would deliver gas from Iraq's Akkas field to Syria and then on to Lebanon and the Turkish border sometime in 2010, and then on to Europe.

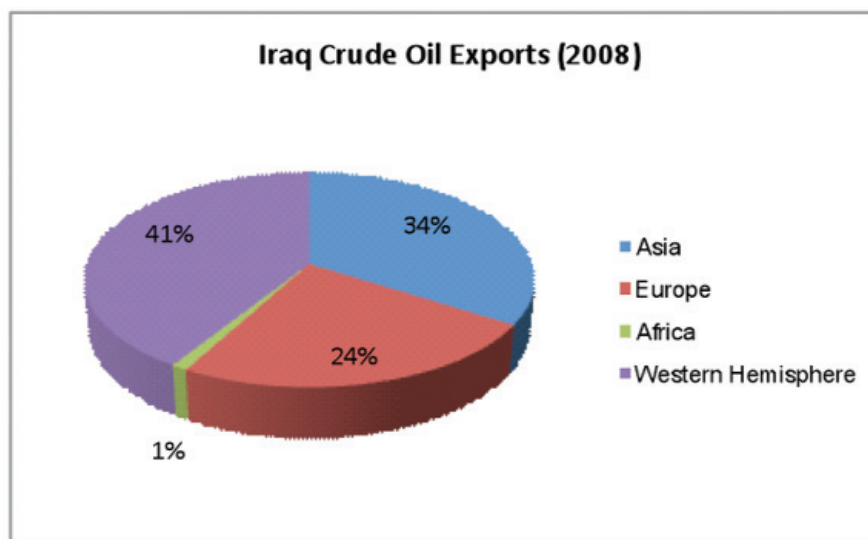
### 3. NEW OIL AND GAS LAW

The Supreme Council for Oil Policy was instructed to formulate a new petroleum law in August 2004. February 2007 witnessed the cabinet approving an Oil and Gas draft law. The long planned law will restructure the Iraq National Oil Company as an independent holding firm and establishes a Federal Council as a forum for national oil policy. According to IMF, the draft law arranges for the re-establishment of the Iraqi National Oil Company (INOC) which would have control over currently producing oil fields. The development of currently non-producing fields will be subject to an open bidding process. Contract negotiations for these fields will be the responsibility of the regional authorities, and will be based on production and development plans, bidding rules, and model contracts set by a new Federal Oil and Gas Council, which will also be responsible for final approval of contracts. The draft oil and gas law will be submitted to the Council of Representatives as part of a package of four laws, which also includes a law to re-establish the INOC, a law to reorganize the Ministry of Oil, and a hydrocarbon financial management law to set the parameters for revenue distribution. The Cabinet has agreed that all oil revenues will be collected in a central account and shared between provinces on the basis of population levels, with some details of the hydrocarbon financial management law still to be worked out.

#### 4. COMPETITIVE OVERVIEW

The Ministry of Oil has central control over oil and gas production and development in all but the Kurdish territory through its three operating entities, the North Oil Company (NOC), the South Oil Company (SOC), and the Missan Oil Company (MOC).

Figure 3: Production Capacities of Iraqi Oil Companies



Source: Company Websites

#### 5.1 NORTH OIL COMPANY

North Oil Company (NOC) is a state company within the Ministry of Oil of Iraq, the scope its work being oil and gas production. The company's geographical operation area spans the following governorates: Kirkuk, Nineveh, Erbil, Baghdad, Diyala and part of Hilla and Kut. The company carries out the duties of producing crude oil and natural gas from oil and gas Fields situated in the northern half of Iraq. The company has a total production capacity of 650,000 barrels of oil per day

The company contains more than fifty installations comprising pump stations, process units, oil tank fields, degassing stations, gas compressor stations, water treatments plants, electric generation stations, and a large number of oil wells which are connected with a network of flow lines and pipelines dispersed throughout the company's area of operation.

N.O.C. supplies crude oil of different types to Iraqi refineries and associated gas to North Gas Company units and to electric generation stations as well as for export through a network of pipeline system toward north and west of the country for export from terminals in Turkey and Syria

#### The Main Activities of North Oil Company

North Oil Company's jurisdiction extends from the Turkish borders in the north to Latitude (32.5) degrees in the south, and from Iranian borders in the east to Syrian and Jordanian borders in the west.

The main activities of the company include the following:

- Production of crude oil and natural gas from oil fields within its area of responsibilities.
- Treatment of oil in process units and transportation by pipelines to refineries and export terminals.
- Separation and compression of associated gas and production of dome gas to be transported to North Gas Company (NGC) gas processing complex to produce L.P.G for domestic consumption and dry gas as a fuel for industrial use.
- Sponsoring oil well drilling, work over and completion operations by Iraqi Drilling Company (IDC) and other foreign drilling contractors, in addition to geological control of those wells.
- Carrying out geological studies, reservoir engineering and field measurements.
- Performing research and quality control of crude oil, gas, water and other oil products.
- Implementing programmed and routine maintenance work on all surface installations and producing wells.
- Planning and follow-up of all company operational activities including the design and maintenance of computer systems and programs.
- Installation of projects for the development and sustenance of oil and gas production operations through the company's own effort and/or other contractors

- Providing operational supporting services such as transportation, materials procurement, storage and workshop services.
- Provision of medical services through a central hospital and regional medical facilities to all company and some oil sector employees and their families.
- Offering technical services to other oil sector companies within the surrounding region and to other nearby governorates.

## 5.2 SOUTH OIL COMPANY

South Oil Company (SOC) is a national Iraqi company responsible for the oil in the south of Iraq. It is situated in Basra, Iraq. South Oil Company is one of the major fundamental formations of the Iraq National Oil Company (INOC). It was the first nucleus and the basis of national direct investment projects in the 1970s, where the SOC was subsidiary to the national company.

## 5.3 MISSAN (MAYSAN) OIL COMPANY

Missan (Maysan) Oil Company is a recently established state-owned oil company aimed at managing and developing of massive oil and gas resources in the Maysan province. MOC's oil fields hold an estimated 30 billion barrels of reserves. They include Amara, Halfaya, Huwaiza, Noor, Riffae, Dijaila, Kumait and East Rafidain. Within a year of operation; the company has started implementing the plan to increase the production capacity to more than 600,000 barrels, including the current production capacity of 105,000 barrels.

## 6. FUTURE OUTLOOK OF OMAN OIL AND GAS SECTOR

The Iraq's oil production could be increased from its current rate 2.4mn b/d to at least 4mn b/d within five years dependent on international investments. Supporting this is the fact that, of Iraq's 78 oilfields identified by the government as commercial, only 27 fields are currently producing, while 25 fields are not yet developed but close to production and the rest of the fields are not yet developed and far from production ability. Thus investments in both upstream and downstream projects would play a major role in reaching such forecasted production level.

Earlier, Iraq had set a long term capacity target of 6mn b/d. If this level is achieved, it will put Iraq in the top five oil producing countries in the world. However, the development of the industry depends to a great extent on both increased investments and the improvement in security conditions. According to Iraqi government estimates, US\$20-25bn of investments from foreign companies is needed to get production up to its full potential.

## 7.CODE OF ETHICS

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