February 2005

Libya

Libya is a major oil exporter, particularly to Europe. With the lifting of U.N. sanctions against Libya in September 2003, oil companies are eager to resume and/or expand operations in Libya.

Note: Information contained in this report is the best available as of February 2005.

GENERAL BACKGROUND

Oil export revenues, which account for over 95% of Libya's hard currency earnings (and 75% of government receipts), were hurt severely by the dramatic decline in oil prices during 1998, as well as by reduced oil exports and production -- in part as a result of US and UN sanctions. With higher oil prices since 1999, however, Libyan oil export revenues have increased sharply, to $18.1 billion in 2004 and a forecast $19.4 billion in 2005, up from only $5.9 billion in 1998. Even with increased oil export revenues, Libya's budget remains highly vulnerable to fluctuations in oil prices.

In part due to higher oil export revenues, Libya experienced strong economic growth during 2003 and 2004, with real gross domestic product (GDP) estimated to have grown by about 9.8% and 7.7%, respectively. For 2005, real GDP is expected to grow 6.8%, with consumer price inflation of 4.0%. Despite the country's recent economic growth, unemployment remains high. In addition, Libya's unclear legal structure, often-arbitrary government decision making process, bloated public sector (as much as 60% of government spending goes towards paying public sector employees' salaries), and various structural rigidities have posed impediments to foreign investment and economic growth.

There are signs that Libya now is moving towards a variety of economic reforms and a reduction in the state's direct role in the economy. In June 2003, President Qadhafi said that the country's public sector had failed and should be abolished, and called for privatization of the country's oil sector, in addition to other areas of the economy. Qadhafi also pledged to bring Libya into the World Trade Organization (WTO), and appointed former Trade and Economy Minister Shukri Muhammad Ghanem, a proponent of privatization, as Prime Minister. In June 2003, Libya unified its multi-tiered exchange rate system (official, commercial, black-market) around the IMF's special drawing rights, effectively devaluing the country's currency. Among other goals, the devaluation aimed to increase the competitiveness of Libyan firms and to help attract foreign investment into the country. In October 2003, Prime Minister Ghanem announced a list of 361 firms in a variety of

sectors -- steel, petrochemicals, cement, agriculture -- to be privatized in 2004. Progress in this area to date has been tentative.

On April 5, 1999, more than 10 years after the 1988 bombing of Pan Am flight 103 over Lockerbie, Scotland that killed 270 people, Libya extradited two men suspected in the attack. In response, the United Nations suspended economic and other sanctions against Libya which had been in place since April 1992. In late April 2003, Libya's foreign minister stated that Libya had "accepted civil responsibility for the actions of its officials in the Lockerbie affair," and in September 2003 the UN Security Council officially lifted its sanctions. On February 26, 2004, following a declaration by Libya that it would abandon its weapons of mass destruction (WMD) programs and comply with the Nuclear Non-Proliferation Treaty (NNPT), the United States rescinded a ban on travel to Libya and authorized U.S. oil companies with pre-sanctions holdings in Libya to negotiate on their return to the country if and when the United States lifted economic sanctions. On April 23, 2004, the United States eased its economic sanctions against Libya, with a written statement from the White House Press Secretary stating, "U.S. companies will be able to buy or invest in Libyan oil and products. U.S. commercial banks and other financial service providers will be able to participate in and support these transactions." On the same day, Libya's state-owned National Oil Corporation (NOC) announced its first shipment of oil to the United States in over 20 years. On June 28, 2004, the United States and Libya formally resumed diplomatic relations, severed since May 1981. Finally, on September 20, 2004, President Bush signed Executive Order 12543, lifting most remaining U.S. sanctions against Libya and paving the way for U.S. oil companies to try to secure contracts or revive previous contracts for tapping Libya's oil reserves. The Order also revoked any restrictions on importation of oil products refined in Libya, and unblocked certain formerly blocked assets.

Libya is hoping to reduce its dependency on oil as the country's sole source of income, and to increase investment in agriculture, tourism, fisheries, mining, and natural gas. Libya's agricultural sector is a top governmental priority. Hopes are that the Great Man Made River (GMR), a five-phase, $30 billion project to bring water from underground aquifers beneath the Sahara to the Mediterranean coast, will reduce the country's water shortage and its dependence on food imports. Libya also is attempting to position itself as a key economic intermediary between Europe and Africa, becoming more involved in the Euro-Mediterranean process and pushing for a new African Union. In April 2001, members of the Arab Maghreb Union (Algeria, Libya, Mauritania, Morocco, and Tunisia) agreed to encourage intra-regional cooperation on trade, customs, banking, and investment issues.

OIL

Oil exploration in Libya began in 1955, with the key national Petroleum Law No. 25 enacted in April of that year (a new petroleum law is currently under development). Libya's first oil fields were discovered in 1959 (at Amal and Zelten -- now known as Nasser), and oil exports began in 1961. During 2004, Libyan oil production was estimated at nearly 1.6 million barrels per day (bbl/d), with consumption of 237,000 bbl/d and net exports of about 1.34 million bbl/d. The vast majority (more than 90%) of Libya's exports are sold to European countries like Italy (545,000 bbl/d in January-October 2004), Germany (274,000 bbl/d), France (94,000 bbl/d), Spain and Greece. In addition, Libyan oil exports to the United States reached 66,000 bbl/d in October 2004, after resuming in June 2004 for the first time in two decades.

Overall, Libya would like foreign company help to increase the country's oil production capacity from 1.60 million bbl/d at present to 2 million bbl/d by 2008-2010, and to 3 million bbl/d by 2015. In order to achieve this goal, and also to upgrade its oil infrastructure in general, Libya is seeking as much as $30 billion in foreign investment over that period. Libya is considered a highly attractive

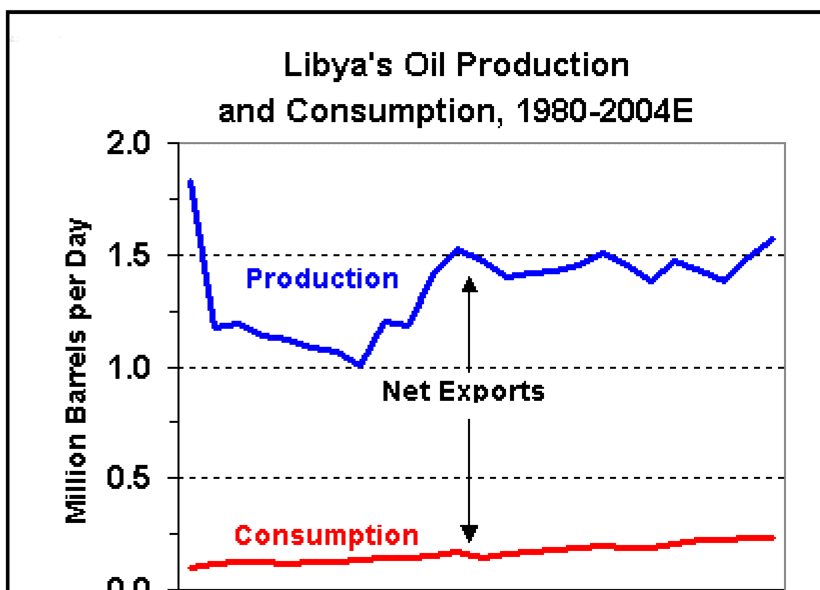
oil province due to its low cost of oil recovery (as low as $1 per barrel at some fields), the high quality of its oil, its proximity to European markets, and its well-developed infrastructure.

If Libya reaches 2 million bbl/d in oil production capacity, this would take the country back to a level it has not seen since the late 1970s. During that decade, Libya's revolutionary government imposed tough terms on producing companies, leading to a slide in oilfield investments and oil production -- from 3.3 million bbl/d in 1970 to 1.5 million bbl/d in 1975, before rising again to 2.1 million bbl/d in 1979. During the 1980s, Libyan oil production averaged around 1.2 million bbl/d, rising to around 1.4 million bbl/d in the 1990s.

Libya's main oil export grades include Es Sider (36-37° API), El Sharara (44° API), Zueitina (42° API), Bu Attifel (41° API), Brega (40° API), Sirtica (40° API), Sarir (38° API), Amna (36° API), and El Bouri (26° API). Most Libyan oil is sold on a term basis, including to the country's Oilinvest marketing network in Europe; to companies like Agip, OMV, Repsol YPF, Tupras, CEPSA, and Total; and small volumes to Asian and South African companies. Libyan oil is generally light (high API gravity) and sweet (low sulfur), but also thick and waxy.

The lifting of U.N. and U.S. sanctions, along with possible changes to Libya's 1955 hydrocarbons legislation (the country is drafting a new hydrocarbons law to cover all types of contracts), is likely to prove extremely helpful in boosting the country's oil output. Sanctions had caused delays in a number of field development and Enhanced Oil Recovery (EOR) projects, and had deterred foreign capital investment to a significant extent. Also the full lifting of sanctions is important for Libya's oil industry since U.S. companies are leaders in advanced oil and gas technologies, many of which they have under patent.

Reserves, Geology
Currently, according to the *Oil and Gas Journal,* Libya has total proven oil reserves of 39 billion barrels. The country has 12 oil fields with reserves of 1 billion barrels or more each, and two others with reserves of 500 million-1 billion barrels. However, Libya remains "highly unexplored" according to *Wood Mackenzie Consultants*, and has "excellent" potential for more oil discoveries. In addition, despite years of oil production, only around 25% of Libya's area covered by agreements with oil companies. The under-exploration of Libya is due largely to sanctions and also to stringent fiscal terms imposed by Libya on foreign oil companies.[more]



EPSA IV
On January 30, 2005, Libya held its first round of oil and gas exploration leases since the United States ended most sanctions against the country. Known as EPSA 4, the round -- launched in August 2004 -- offered 15 exploration areas for auction. Approximately 56 companies registered 104 bids, but in the end only a handful of companies actually won acreage in the intensely competitive bidding. In the end, acreage in 9 areas (5 onshore oil blocks and 4

offshore, gas-prone blocks) went to U.S.-based Occidental Petroleum, while ChevronTexaco and Amerada Hess won acreage in 1 block each. Other companies with winning bids included the Indian Oil Corp., Liwa (UAE), Oil Search Ltd. (Australia), Petrobras (Brazil), Sonatrach (Algeria), Verenex (Canada), and Woodside (Australia). Significantly, no European companies were awarded acreage in this round.

Specifically, an Occidental-Liwa consortium won onshore blocks 131 and 136 in the Murzuq basin, plus onshore blocks 106 and 124 in the Sirte area, and block 59 in the Cyrenaica area near the Egyptian border. Occidental also won offshore block 53 (Gulf of Sirte), with offshore blocks 35, 36 and 52 (all Gulf of Sirte) going to an Occidental/Liwa/Woodside consortium. Sonatrach won onshore block 65 (Ghadames), with a Verenex-led group getting onshore block 47 (North Ghadames, near Tunisia). Petrobras won offshore block 18 (Gulf of Sirte), Indian Oil Corp. won block 86 (West Sirte), and Amerada Hess won offshore block 54 (Gulf of Sirte). It is believed that winning companies paid a high price for Libyan acreage -- reportedly on both signature bonuses and production shares -- highlighting the great degree of interest in the relatively underexplored country. Occidental, for instance, paid $25.6 million for Block 106 alone.

NOC also announced that Libya would offer 40 more licenses for bid in mid-March 2005, plus possible additional rounds later in the year. In the March 2005 round, it is likely that major oil companies like ExxonMobil, ConocoPhillips, ChevronTexaco, Shell, BP, and Statoil will submit bids. This should, once again, lead to a great deal of competition and significant signing bonuses. In the first EPSA IV round in January 2005, mid-sized companies won most of the blocks on offer. For the March 2005 bidding, it is possible that EPSA-IV terms will be modified, although how significantly is not certain at the moment.

Under EPSA IV, winners are determined largely based on how low a share of production a company is willing to offer NOC. Effectively, this means that whichever companies offer NOC the greatest share of profits will most likely win under EPSA IV. In addition, oilfield developers initially bear 100% of costs (exploration, appraisal, training) for a minimum of 5 years, while NOC retains exclusive ownership. EPSA IV provides for a management committee comprised of two NOC representatives and one from the outside investor; voting is unanimous, unlike under the previous exploration and production sharing agreement (EPSA III). Other features of EPSA IV include: open competitive bidding and transparency; joint development and marketing of nonassociated natural gas discoveries; standardized terms for exploration and production; and non-recoverable bonuses.

Despite the fact that EPSA IV is underway, and that EPSA V may be forthcoming, several EPSA III contracts remain outstanding. Shell, for instance, is still waiting for approval on an EPSA III deal for an LNG venture. Other companies reportedly still negotiating under EPSA II terms include OMV, Repsol, Talisman and Wintershall. In October 2004, Ukraine's Naftogaz Ukrainy reached a deal on four Libyan exploration blocks under EPSA III terms.

Foreign and Domestic Oil Company Involvement/Organization

Under the government of reform-minded Prime Minister Shukri Ghanem, some privatization of the country's oil sector, particularly the downstream sector, now appears more likely than in the past. As described above, Libya is attempting to attract foreign companies with improved incentives and production terms (i.e., access to exploration acreage, small field developments, large field incremental production opportunities, adoption of international competitive bidding practices). [more]

Refining/Marketing

Libya has five domestic refineries, with a combined nameplate capacity of approximately 380,000 bbl/d, significantly higher than the volume of domestic oil consumption (227,000 bbl/d; the rest is exported). Libya's refineries include: 1) the Ras Lanuf export refinery, completed in 1984 and located on the Gulf of Sirte, with a crude oil refining capacity of 220,000 bbl/d; 2) the Az Zawiya refinery, completed in 1974 and located in northwestern Libya, with crude processing capacity of 120,000 bbl/d; 3) the Tobruk refinery, with crude capacity of 20,000 bbl/d; 4) Brega, the oldest refinery in Libya, located near Tobruk with crude capacity of 10,000 bbl/d; and 5) Sarir, a topping facility with 10,000 bbl/d of capacity. In May 2002, Libya signed a $280 million contract with South Korea's LG Petrochemicals to upgrade Az Zawiya. In addition, Ras Lanuf also is slated for upgrading, although that project appears to have been delayed.

In addition to its domestic refineries, Libya also has operations in Europe. Libya is a direct producer and distributor of refined products in Italy, Germany, Switzerland, and (since early 1998) Egypt. In Italy, Tamoil Italia, based in Milan, controls about 7.5% of the country's retail market for oil products and lubricants, which are distributed through around 2,200 Tamoil service stations. Libya's ability to increase the supply of oil products to European markets has been somewhat constrained by the fact that Libya's refineries are badly in need of upgrading, specifically in order to meet stricter EU environmental standards in place since 1996. In Egypt, Libya is planning to build gasoline stations on the coastal road linking the two countries as well as in other areas of Egypt. The stations are to be run by Libya's foreign oil investment arm Oilinvest, which maintains 300,000 bbl/d of refining capacity in Europe. Also in Egypt, in July 2003 Libya purchased a 39% stake in the MIDOR refinery for $430 million. Originally, the stake had been held by Israel's Merhav Group, which pulled out of the project after the Palestinian uprising began in late 2000.

In recent years, Libya has been active in various African countries. In June 2003, for instance, Tamoil reportedly secured interests in Zimbabwe's oil pipeline and storage facilities, and reportedly was set to begin pumping oil into Zimbabwe's holding tanks at the Mozambique port of Beira. Zimbabwe has been experiencing an economic and fuel supply crisis in recent months. In September 2002, the Central African Republic (CAR) signed a 99-year deal with Libya to search for oil, uranium and other minerals in the CAR. In August 2002, Libya reached a deal with Ghana to supply that country with an additional 10,000 bbl/d of crude oil to its 45,000-bbl/d Tema refinery.

Libya's refining sector reportedly was hard hit by UN sanctions, specifically UN Resolution 883 of November 11, 1993, which banned Libya from importing refinery equipment. Libya is seeking a comprehensive upgrade to its entire refining system, with a particular aim of increasing output of gasoline and other light products (i.e. jet fuel). Possible projects include a new 20,000-bbl/d refinery in Sebha (for which Libya is seeking foreign investment), which would process crude from the nearby Murzuq field, and a 200,000-bbl/d export refinery in Misurata.

Libya has a significant petrochemical industry, centered on Marsa el-Brega. Ethanol, ammonia, and urea are the main petrochemicals produced at present, with Ras Lanuf being developed to produce benzene, butadiene, and MTBE.

Libya's oilfields are connected to Mediterranean terminals by an extensive network of pipelines. Libya's main crude oil pipelines, all owned by NOC, are: Sarir-Marsa el Hariga (Tobruk); Messla-Ras Lanuf; Waha-Es Sider; Hammada El Hamra-Az Zawiya; Amal-Ras Lanuf; Intisar-Zueitina; Nasser (Zelten)-Marsa El Brega. NOC also has six oil terminals and storage facilities (Marsa El Hariga, Zueitina, Marsa el-Brega, Ras Lanuf, Es Sider, Az Zawiya), and is considering expansion of the oil terminal and refinery facility at Az Zawiya.

NATURAL GAS

Continued expansion of natural gas production remains a high priority for Libya for two main reasons. First, Libya has aimed -- with limited success -- to use natural gas instead of oil domestically (i.e., for power generation), freeing up more oil for export. Second, Libya has vast natural gas reserves and is looking to increase its gas exports, particularly to Europe. Libya's proven natural gas reserves as of January 1, 2005 were estimated at 52 Tcf by the *Oil and Gas Journal*, but the country's actual gas reserves are largely unexploited (and unexplored), and thought by Libyan experts to be considerably larger, possibly 70-100 Tcf. Major producing fields include Attahadi, Defa-Waha, Hatiba, Zelten, Sahl, and Assumud. To expand its gas production, marketing, and distribution, Libya is looking to foreign participation and investment. In recent years large new discoveries have been made in the Ghadames and el-Bouri fields, as well as in the Sirte basin. Libya also produces a small amount of liquefied petroleum gas (LPG), most of which is consumed by domestic refineries.

Libyan natural gas development projects currently underway include as-Sarah and Nahoora, Faregh, Wafa, offshore block NC-41, Abu-Attifel, Intisar, and block NC-98. In December 2000, NOC announced that it had discovered a 472-Bcf gas field in the Sirte basin, northwest of Assumud.

Libyan gas exports to Europe are increasing rapidly, with the Western Libyan Gas Project (WLGP) and $6.6 billion "Greenstream" underwater gas pipeline coming online. Previously, the only customer for Libyan gas was Spain's Enagas. However, the WLGP -- a 50/50 joint venture between Eni and NOC -- has now expanded these exports to Italy and beyond. Starting in 2005, approximately 8 billion cubic meters (280 Bcf) per year of natural gas will be exported from a processing facility at Melitah, on the Libyan coast, via a 370-mile underwater pipeline (called "Greenstream") to southeastern Sicily. After that, the gas will flow to the Italian mainland, and then onwards to the rest of Europe. The 32-inch Greenstream pipeline, which is 75% owned by Eni, came online in early October 2004, with first flows coming from the Wafa onshore gas (and oil) field near the Algerian border.

Italy's Edison Gas has committed, under a "take-or-pay" contract, to taking around half (140 Bcf per year) of this gas, and to use it mainly for power generation in Italy. Besides Edison, Italy's Energia Gas and Gaz de France have each committed to taking around 70 Bcf of Libyan gas. As part of the overall WLGP, Eni is developing huge Libyan gas reserves in offshore Block NC-41 (Bahr es Salam) in the Gulf of Gabes, in addition to the Wafa gas field. The $8.7 billion project, which began in 1999 and is expected to come fully online in mid-2005, will produce 210 Bcf per year of gas for export, as well as condensates estimated at around 70,000 bbl/d oil equivalent. Another 70 Bcf per year of gas is to produced from WLGP for the domestic Libyan market (feedstock or power generation) or possibly for export to Tunisia. Greenstream throughput reportedly can be boosted to 385 Bcf per year if desired, from 280 Bcf per year currently.

Eni also has promoted linking the reserves of both Egypt and Libya to Italy by pipeline. An agreement in principle to link Egypt and Libya's natural gas grids was reached in June 1997, following a visit to Libya by Egyptian President Hosni Mubarak. In 2001, a joint venture agreement was reached between NOC and Egypt's EGPC for construction of a pipeline to carry Egyptian natural gas to Libya (for power generation, water desalination, and possible export) and for another to carry Libyan oil to Alexandria, Egypt for refining and consumption there). The joint venture company is called "Arab Company for Oil and Gas Pipelines," or ACOG.

Yet another proposal is to build a nearly 900-mile pipeline from North Africa to southern Europe. Such a pipeline could transport natural gas from Egypt, Libya, Tunisia and Algeria, via Morocco and into Spain (a pipeline between Morocco and Spain already exists). Also, Tunisia and Libya

agreed in May 1997 to set up a joint venture which will build a natural gas pipeline from the Mellita area in Libya to the southern Tunisian city and industrial zone of Gabes. In late 1998, Tunisia and Libya signed an agreement for around 70 Bcf of gas per year to be delivered from Libyan gas fields to Cap Bon, Tunisia, and in October 2003 the two countries set up a joint venture gas company to build the pipeline. Completion by 2005 is anticipated.

In 1971, Libya became the second country in the world (after Algeria in 1964) to export liquefied natural gas (LNG). Since then, Libya's LNG exports have generally languished, largely due to technical limitations which do not allow Libya to extract LPG from the LNG, thereby forcing the buyer to do so. Libya's LNG plant, at Marsa El Brega, was built in the late 1960s by Esso and has a nominal capacity of about 125 Bcf per year. However, US sanctions prevented Libya from obtaining needed equipment to separate out liquefied petroleum gas (LPG) from the natural gas, thereby limiting the plant's output to about 15% of nameplate capacity, all of which is exported to Spain.

Now that sanctions have been lifted, however, companies are looking to Libya's LNG potential. In March 2004, Shell signed an agreement with NOC to develop Libyan oil and gas resources, including LNG export facilities. Reportedly, Shell is aiming to upgrade and expand Marsa El Brega and possibly build a new LNG export facility as well. In addition to Shell, other companies like Repsol are also interested in developing Libya's LNG export potential

ELECTRIC POWER

Libya currently has electric power production capacity of about 4.6-4.7 gigawatts (GW), with peak load of around 3.3 GW. Most of Libya's existing power stations are oil-fired, though several have been converted to natural gas. Libya's power demand is growing rapidly (around 6%-8% annually), and is expected to reach 5.8 GW in 2010 and 8 GW in 2020. During the summer of 2004, Libya was hit by widespread blackouts as power plants could not keep up with demand. To prevent such blackouts in the future and to meet surging power consumption, Libya's state-owned General Electricity Company (GECOL) has plans to spend $3.5 billion through 2010 building eight new combined cycle and steam cycle power plants. As of late 2004, however, construction had started at only one of the new plants, in part due to the fact that GECOL has serious financing issues due in part to low, subsidized electricity prices (around 0.02 Libyan Dinars per kilowatthour) and also to the fact that only 40% of Libyans pay their power bills.

Italy's Enelpower was announced as the preferred bidder in 2001 on the 640-megawatt (MW) Western Mountain Power Project, but withdrew from the project in 2003 after failing to reach a final deal. Other Libyan power projects include an 800-MW power plant in Zuwara on the west coast, a 1,400-MW power plant to be located on the coast between Benghazi and Tripoli, and the 1,400-MW "Gulfsteam" combined power and desalination complex in Sirte. In February 2002, Russia's Tekhnopromexport signed a $600 million deal with Libya to build the 650-MW Western Tripoli power plant. An expansion and upgrading project at the 450-MW Benghazi North power plant would double the plant's capacity and convert it to combined cycle. Finally, in August 2003, South Korea's Hyundai signed a $280 million deal to expand the Az Zawiya power plant, west of Tripoli, with a 330-MW gas turbine unit. As of early 2005, however, most of these projects were moving very slowly, if at all, due to a lack of liquidity by GECOL as well as difficult negotiations.

Aside from building new generation capacity, GECOL also has a $1 billion program to upgrade and expand the country's power transmission grid. In October 2003, Spain's Abengoa and Cobra signed deals worth a combined $339 million with GECOL in this area. Plans for a new 400-kilovolt (kV) grid are in the works, involving installation of 2,800 miles of new power lines. Currently, Libya's power grid consists of around 7,500 miles of 220-kV lines, 13,000 miles of 66-kV and 30kV lines,

and 20,000 miles of 11 kV lines. As of early 2005, work on the power grid was generally far behind schedule. On a positive note, in November 2004, Germany's Siemens was awarded a $225 million contract to supply five network district control centers which are aimed at helping avoid blackouts in Az Zawiya, Benghazi, Sirte, Tripoli, and Tobruk. Work is to be completed by early 2005.

COUNTRY OVERVIEW
President (Chief of State): Mu'ammar Qadhafi (since September 1, 1969)
Prime Minister: Shukri Muhammad Ghanem (since June 2003)
Independence: December 24, 1951 (from Italy)
Population (2004E): 5.6 million
Location/Size: North Africa/1,775,500 sq km (685,524 sq mi), slightly larger than Alaska
Major Cities: Tripoli (capital), Benghazi, Misurata
Languages: Arabic; Italian and English widely understood in major cities
Ethnic Groups: Arab (97%)
Religions: Sunni Muslim (97%)

ECONOMIC OVERVIEW
Secretary of the General People's Committee for Economy and Trade: Abd al-Qadir Bilkhayr
Currency: Libyan Dinar (LD)
Exchange Rate (2/18/05): US$1=1.3529 LD
Gross Domestic Product (GDP) (2004E): $29.5 billion
Real GDP Growth Rate (2003E): 9.8% **(2004E):** 7.7% **(2005F):** 6.8%
Inflation Rate (consumer prices, 2003E): - 2.1% **(2004E):** 3.3% **(2005F):** 4.0%
Main Destinations of Exports (2003E): Italy (39%), Germany (13%), Spain (13%), Turkey (7%), France (6%)
Main Origins of Imports (2003E): Italy (28%), Germany (11%), Tunisia (8%), UK (7%), France (6%), Turkey (5%)
Merchandise Exports (2004E): $15.1 billion **(2005F):** $15.7 billion
Merchandise Imports (2004E): $9.4 billion **(2005F):** $10.2 billion
Merchandise Trade Balance (2004E): $5.7 billion **(2005F):** $5.5 billion
Major Export Products: Crude oil, refined petroleum products, natural gas
Major Import Products: Manufactured goods, food and primary products
Total External Debt (non-military) (2004E): $4.2 billion
Reserves of Foreign Exchange and Gold (2004E): $19.8 billion

ENERGY OVERVIEW
Oil Minister: Fathi ben Shatwan (since March 2004)
Chairman of the National Oil Company: Abdel-Hafez Zleitni
Proven Oil Reserves (1/1/05E; Oil and Gas Journal): 39 billion barrels
OPEC Crude Oil Production Quota (effective 11/1/04): 1.445 million bbl/d
Crude Oil Production Capacity (1/05E): 1.60 million bbl/d
Oil Production (2004E): 1.58 million barrels per day (bbl/d), of which 1.51 million bbl/d was crude oil, and 65,000 bbl/d was natural gas liquids
Oil Consumption (2004E): 237,000 bbl/d
Net Oil Exports (2004E): 1.34 million bbl/d
Major Oil Customers (2004E): OECD Europe, particularly Italy, Germany, Spain, and France, account for about 98% of Libya's oil exports
Net Oil Export Revenues (2004E): $18.1 billion **(2005F):** $19.4 billion **(2006F):** $19.6 billion
Crude Oil Refining Capacity (1/1/05E): 380,000 bbl/d
Natural Gas Reserves (1/1/05E; Oil and Gas Journal): 52.0 trillion cubic feet (Tcf)
Natural Gas Production (2002E): 219 Billion cubic feet (Bcf)

Natural Gas Consumption (2002E): 197 Bcf
Electric Generation Capacity (2002E): 4.6 gigawatts (100% thermal)
Net Electricity Generation (2002E): 20.9 terawatthours
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ENVIRONMENTAL OVERVIEW
Total Energy Consumption (2002E): 0.668 quadrillion Btu* (0.16% of world total energy consumption)
Energy-Related Carbon Dioxide Emissions (2002E): 47.2 million metric tons of carbon dioxide (0.2% of world carbon dioxide emissions)
Per Capita Energy Consumption (2002E): 122.9 million Btu (vs US value of 339.1 million Btu)
Per Capita Carbon Dioxide Emissions (2002E): 2.7 metric tons of carbon dioxide (vs US value of 20.0 metric tons)
Energy Intensity (2002E): 25,437 Btu/$1995 (vs US value of 10,736 Btu/$1995)**
Carbon Dioxide Intensity (2002E): 1.80 metric tons of carbon dioxide/thousand $1995 (vs US value of 0.55 metric tons/thousand $1995)**
Fuel Share of Energy Consumption (2002E): Oil (69.2%), Natural Gas (30.8%)
Fuel Share of Carbon Dioxide Emissions (2002E): Oil (71.7%), Natural Gas (28.3%)
Status in Climate Change Negotiations: Non-Annex I country under the United Nations Framework Convention on Climate Change (ratified June 14th, 1999). Not a signatory to the Kyoto Protocol.
Major Environmental Issues: Desertification; very limited natural fresh water resources; the Great Manmade River Project, the largest water development scheme in the world, is being built to bring water from large aquifers under the Sahara to coastal cities.
Major International Environmental Agreements: A party to Conventions on Desertification, Marine Dumping, Nuclear Test Ban and Ozone Layer Protection. Has signed, but not ratified, Biodiversity, Climate Change and Law of the Sea. * The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, wood and waste electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.
**GDP based on OECD Purchasing Power Parity (PPP) figures

OIL AND GAS INDUSTRIES
State Oil Companies: *Libyan National Oil Company* (NOC) - Manages the state-owned oil industry and controls more than half of Libya's oil production, *Oilinvest* - Manages all international investments
Foreign Energy Company Involvement: Amerada Hess, Canadian Occidental, ChevronTexaco, CNPC, Eni, Husky Oil, Indian Oil Corp., Liwa (UAE), Medco Energy (Indonesia), Naftogaz Ukrainy, Nimr Petroleum (Saudi Arabia), Norsk Hydro, Occidental, OMV, ONGC, Pedco (South Korea), Petrobras (Brazil), PetroCanada, Petronas (Malaysia), Red Sea Oil Corp. (Canada), Repsol, Shell, Total, Verenex (Canada), Wintershall (Germany), Woodside (Australia)
Major Oil Ports: Es Sider, Marsa el-Brega, Tobruk, Ras Lanuf, Zawiya, Zuetina
Major Oil and Gas Fields (2004 production): Al Jurf (24,000 bbl/d), Amal (40,000 bbl/d), Beda, Bouri (65,000 bbl/d), Bu Attifel (115,000 bbl/d), Defa-Waha, El Sharara (200,000 bbl/d), Elephant (15,000 bbl/d), Ghani, Gialo, Hofra, Intisar, Kabir, Mabruk, Murzuq, Nafoora, Nasser, NC-41 (35,000 bbl/d), NC-186 fields (35,000 bbl/d), Omar, Sarah, Sarir, Wafa, Zella, Zenad, Zueitina
Major Pipelines: Amal-Ras Lanuf; Defa-Nasser; Hammada el Hamra-Az Zawiya; Intisar-Zueitina; Intisar -Hatiba; Messla-Ras Lanuf; Nasser-Hatiba; Nasser (Zelten)-Marsa el Brega; Sarir-Marsa el Hariga; Waha-Es Sider
Refineries (crude oil capacity): Ras Lanuf (220,000 bbl/d), Az-Zawiya (120,000 bbl/d), Tobruk

(20,000 bbl/d), Brega (10,000 bbl/d), Sarir (10,000 bbl/d)

Sources for this report include: Africa News; Africa Oil and Gas; AFX European Focus; Agence France Presse; AP Worldstream; BBC Summary of World Broadcasts; Business Report; Canada NewsWire; CIA World Factbook; Deutsche Bank; Dow Jones Interactive; Dow Jones Newswires; Economist Intelligence Unit ViewsWire; Energy Day; Financial Times Energy Newsletters; Global Insight; The Guardian; Hart's Africa Oil and Gas; Hart's E & P Daily; Houston Chronicle; Lloyd's List; Middle East Economic Digest (MEED); Middle East Economic Survey (MEES); Oil Daily; Oil and Gas Journal; Petroleum Economist; Petroleum Intelligence Weekly; Platt's Oilgram News; Reuters; Stratfor; US Energy Information Administration; Washington Post; World Gas Intelligence; World Markets Research Centre; World Oil.

LINKS

For more information on Libya, please see these other sources on the EIA web site:
EIA - Historical Energy Data on Libya
OPEC Revenues Fact Sheet

Links to other U.S. government sites:
CIA World Factbook- Libya
Iran-Libya Sanctions Act Extension
Library of Congress Country Study on Libya
U.S. State Department Background Note - Libya
U.S. State Department Consular Information Sheet - Libya
U.S. Treasury Department's Office of Foreign Assets Control

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