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## Egypt

*Egypt is a significant oil producer and a rapidly growing natural gas producer. The country's first liquefied natural gas (LNG) export terminal began operation in January 2005. The Suez Canal and Sumed Pipeline are strategic routes for Persian Gulf oil shipments, making Egypt an important transit corridor.*

*Note: Information contained in this report is the best available as of May 2005 and can change.*



### GENERAL BACKGROUND

Egypt's economy is continuing its gradual recovery from the declining growth rates it experienced in 2001 and 2002, but with a growth rate still far below what was achieved in the 1990s. The country's real Gross Domestic Product (GDP) grew 3.6 percent in 2004, after achieving real growth of 2.9 percent in 2003. Real GDP growth is forecast at 3.6 percent for 2004, with an upward trend projected toward 5.3 percent by the end of the current decade.

Remittances from Egyptian workers in the Persian Gulf region have risen with higher oil prices, and tourism has recovered to near the levels before the slump which began after September 2001. In a normal year, tourism revenues account for about 5 percent of Egypt's GDP, and are among the country's five main sources of hard currency inflows (the others being

remittances from Egyptian workers abroad, hydrocarbons exports, Suez Canal tolls, and foreign aid). Over the long term, Egypt's macroeconomic prospects may be more favorable, provided progress is made on such structural issues as privatization, trade liberalization, and deregulation. Egypt's main challenge is matching employment growth to the nearly 800,000 new job seekers coming into the labor market each year. Unofficial estimates put Egypt's unemployment rate in the 15 percent-25 percent range, roughly twice the official figure.

Egypt's government plans to accelerate its program for the privatization of state-owned enterprises (SOEs), though to date, the privatization program has moved slowly because of large SOE debt and severe overstaffing (layoffs are still difficult due to labor regulations). In recent years, the private sector percentage of overall Egyptian GDP has been growing by around 1.5 percent per year, with

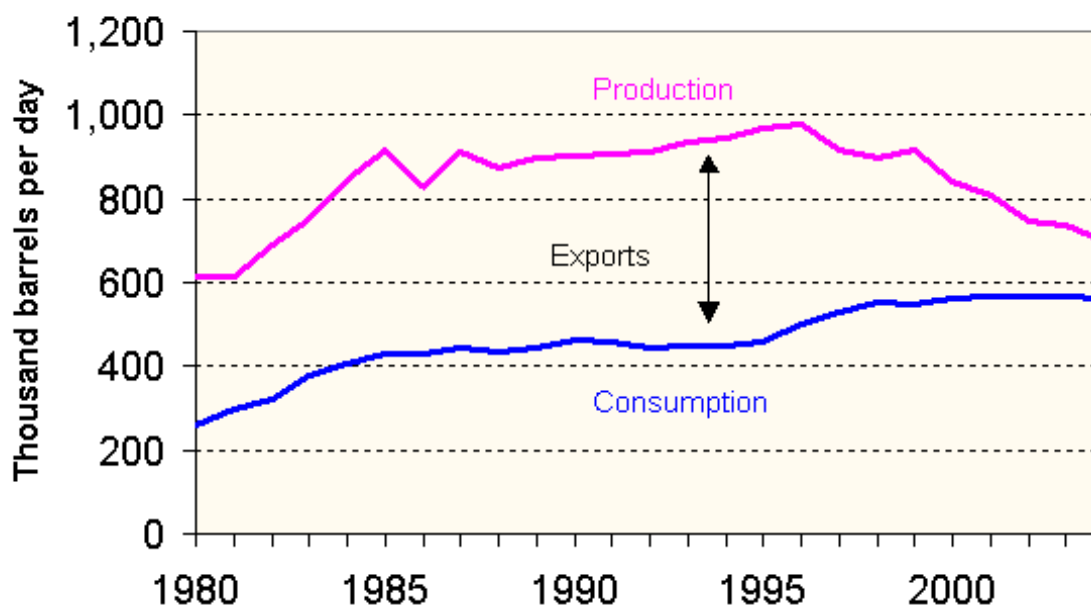
about 40 percent of Egypt's SOE's having been privatized since 1994. In the future, the government plans to target "strategic" areas for privatization, including telecommunications and other utilities, including the Egyptian Electricity Authority, although the Egyptian General Petroleum Corporation (EGPC) and the new natural gas entity, Egypt Gas (EGAS), remain off limits.

Energy will continue to play an important role in Egypt's economy in coming years. Though net exports of crude oil and petroleum products have declined in recent years, higher prices on world markets have pushed Egypt's oil revenues upward. The country also began exports of liquefied natural gas (LNG) from its first terminal in January 2005, adding another hard currency revenue stream, which is set to expand in late 2005 with the completion of the second LNG export terminal.

## OIL

Egypt produced an average of about 594,000 barrels per day (bbl/d) of crude oil in 2004, down sharply from its peak of 922,000 bbl/d in 1996, but only modestly below the 618,000 bbl/d produced in 2003. Demand for petroleum products has been relatively flat since 1999, after rapid growth between 1995 and 1998. This is due largely to reductions in subsidies for petroleum products consumption and the increased use of compressed natural gas (CNG) as a fuel for motor vehicles. Egypt is hoping that exploration activity, particularly in new areas, will discover sufficient oil in coming years slow the decline in output. Egyptian oil production comes from four main areas: the Gulf of Suez (about 50 percent), the Western Desert, the Eastern Desert, and the Sinai Peninsula. Increased production of natural gas liquids, which averaged 114,000 bbl/d in 2004, also has offset some of the decline in crude oil production.

**Egypt's Oil Production and Consumption,  
1980-2004**



source: EIA

Oil from the Gulf of Suez basin is produced mainly by Gupco (Gulf of Suez Petroleum Company) under a Production Sharing Agreement (PSA) between BP and the Egyptian General Petroleum Corporation (EGPC). Production in the Gupco fields, with most wells in operation since the 1960s and 1970s, has fallen in recent years. Gupco is attempting to slow the natural decline in its fields

through significant investments in enhanced oil recovery as well as increased exploration. Egypt's second largest oil producer is Petrobel, which is a joint venture between EGPC and Agip of Italy. Petrobel operates the Belayim fields near the Gulf of Suez and also is undertaking an upgrade program to stem declining production. Other major companies in the Egyptian oil industry include Badr el-Din Petroleum Company (EGPC and Shell); Suez Oil Company (EGPC and Deminex); and El Zaafarana Oil Company (EGPC and British Gas -- BG). A new oil find was reported in October 2001 in the Gulf of Suez. Canada's Cabre Exploration reported a drilling success in the offshore East Zeit block which tested at around 8,000 bbl/d. A larger new find, which may prove to attenuate the fall in overall Gulf of Suez production, was announced by BP in May 2003. The Saqqara field, located offshore adjacent to the existing El-Morgan field, is expected to reach peak production of around 40,000 to 50,000 bbl/d, and begin commercial production in late 2005 or early 2006. Saqqara represents the largest new crude oil discovery in Egypt since 1989.

Egypt's overall oil production has been declining more slowly than in the Gulf of Suez fields, due to new output from independent producers like Apache and Seagull Energy at smaller fields, especially in the Western Desert and Upper Egypt. Crude oil production in the Qarun block in southern Egypt reached around 60,000 bbl/d by early 2000, but has since fallen to 34,000 bbl/d. Apache and Seagull have developed the Beni Suef IX field in the East Beni Suef concession in Upper Egypt, which produces over 5,000 bbl/d. The field is said to contain around 100 million barrels of crude oil. Apache and Seagull also have developed the Wadi El-Sahl field in the South Hurghada block, which is producing around 20,000 bbl/d. A joint venture between EGPC and Agip also is producing about 40,000 bbl/d from an area in the Qattara Depression in the Western Desert, in the Meleiha and West Razzaq blocks. Khalda Petroleum, a joint venture between Apache and EGPC, produces around 50,000 bbl/d in the Western Desert in the Khalda and East Bahariyya areas.

Offshore oil production possibilities in the Mediterranean are beginning to be explored. The largest concession awarded went to Shell, in February 1999, for a large deepwater area off Egypt's Mediterranean coast. BP and TotalFinaElf also were awarded a large offshore block from the same bidding round. A smaller offshore concession was awarded to Italy's ENI-Agip. While most discoveries offshore from the Nile Delta have been natural gas, it is believed that there may also be significant quantities of oil in the area. Shell reportedly is optimistic about the prospects for its North East Mediterranean Deepwater (NEMED) concession, but drilling so far has yielded natural gas rather than significant quantities of oil.

EGPC awarded five exploration contracts in July 2004 to a newly-formed state-owned upstream oil firm, Tharwa Oil. Four of the five concessions cover unexplored areas of the Western Desert, with the fifth covering an offshore block in the Mediterranean. Burren Energy of the UK also was awarded two blocks in the Gulf of Suez under the 2004 licensing round, which closed in January 2005. Other awards under the 2004 licensing round are still pending.

### **Suez Canal/Sumed Pipeline**

In addition to its role as an oil exporter, Egypt has strategic importance because of its operation of the [Suez Canal and Sumed \(Suez-Mediterranean\) Pipeline](#), two routes for export of Persian Gulf oil. The SCA offers a 35 percent discount to liquefied natural gas (LNG) tankers, with even deeper discounts for the largest LNG tankers, as well as other discounts for oil tankers.

The SCA is continuing enhancement and enlargement projects on the canal. The canal has been deepened so that it can accept the world's largest bulk carriers, but it will need to be deepened further to 68 or 70 feet, from the current 58 feet, to accommodate fully laden very large crude carriers (VLCCs). The SCA has attempted to reach an agreement with its main competition for northbound crude traffic, the Sumed pipeline. Such an agreement could bar any tanker small enough

to traverse the canal from transporting oil through the pipeline. The SCA offers incentives for tankers to off-load a portion of its cargo through the Sumed, allowing for passage through the canal, and reloading at the other end of the pipeline.

The Sumed pipeline is an alternative to the Suez Canal for transporting oil from the Persian Gulf region to the Mediterranean. The 200-mile pipeline runs from Ain Sukhna on the Gulf of Suez to Sidi Kerir on the Mediterranean. The Sumed's original capacity was 1.6 million bbl/d, but with completion of additional pumping stations, capacity has increased to 2.5 million bbl/d. The pipeline is owned by the Arab Petroleum Pipeline Company (APP), a joint venture between Egypt (50 percent), Saudi Arabia (15 percent), Kuwait (15 percent), the U.A.E. (15 percent), and Qatar (5 percent). The APP also has been increasing storage capacity at the Ain Sukhna and Sidi Kerir terminals.

### **Refining**

Egypt's nine refineries are able to process 726,250 bbl/d of crude, with the largest refinery being the 146,300-bbl/d El-Nasr refinery at Suez. The government has plans to increase production of lighter products, petrochemicals, and higher octane gasoline by expanding and upgrading existing facilities. There are no new "greenfield" refinery projects under construction as of April 2005, but the Egyptian Ministry of Petroleum is considering one project to be located near Port Said, with a capacity of 200,000-to-300,000 bbl/d, to be co-located with a major petrochemicals complex. If built, it would be primarily an export-oriented facility.

The new 100,000-bbl/d MIDOR (Middle East Oil Refinery Ltd.) refinery in Alexandria commenced operation in April 2001. While it had originally been planned as a primarily export-oriented project, most of its products are now sold locally. The Israeli company Merhav, which had been the largest Israeli investor in Egypt, sold its 20 percent stake in the refinery to the National Bank of Egypt in June 2001.

### **NATURAL GAS**

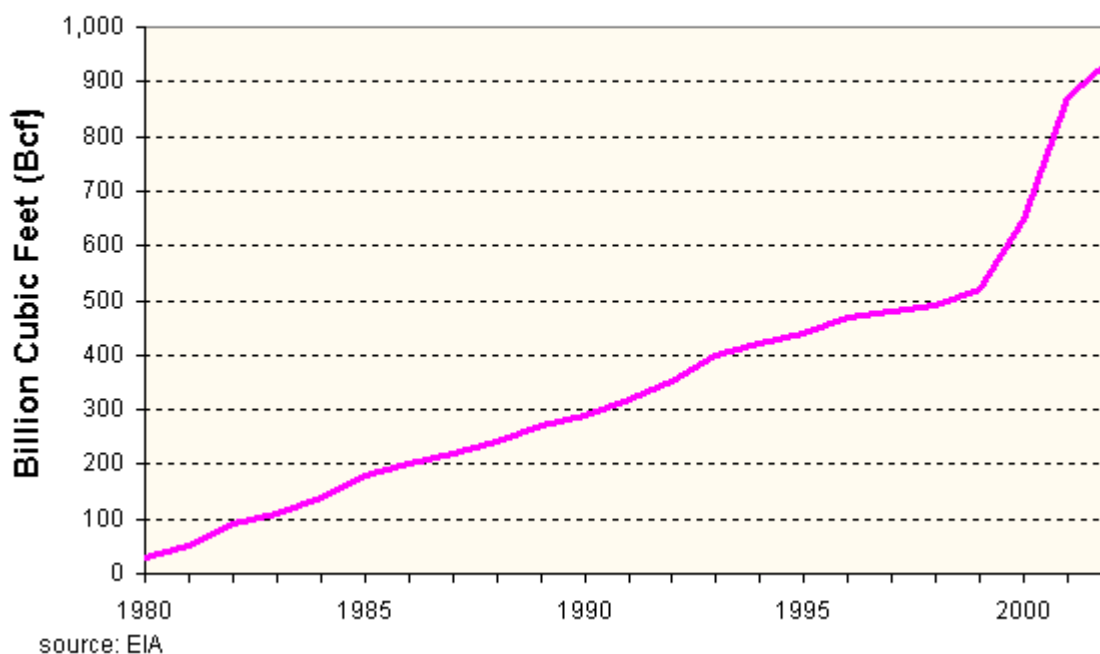
Due to major recent discoveries, natural gas is likely to be the primary growth engine of Egypt's energy sector for the foreseeable future. Beginning in the early 1990s, foreign oil companies began more active exploration for natural gas in Egypt, and very quickly found a series of significant natural gas deposits -- in the Nile Delta, offshore from the Nile Delta, and in the Western Desert. Today, Egypt's natural gas sector is expanding rapidly, with production having more than doubled between 1999 and 2003. Natural gas production in Egypt averaged about 3.6 billion cubic feet per day (bcf/d) in 2004. Production is expected to rise to around 5.0 bcf/d by 2007, with much of the increased volume being exported as LNG. Major foreign companies involved in natural gas exploration and production in Egypt include BG, BP, ENI-Agip, and Shell. Apache also produces gas from its concessions in the Western Desert. The Egyptian government formed a new state-owned entity in August 2001 to manage the natural gas sector, Egyptian Natural Gas Holding Company (EGAS), separating those assets out from EGPC.

Egypt's government estimates the country's proven natural gas reserves at 66 trillion cubic feet (Tcf), based on several new finds. Probable reserves are believed to be 120 Tcf or more. Most of this increase has come about as a result of new natural gas discoveries offshore from the Nile Delta, and some finds in the Western Desert. In the Nile Delta, which has emerged as a world-class natural gas basin, recent offshore field developments include Port Fuad, South Temsah, and Wakah. In the Western Desert, the Obeiyed Field is an important natural gas area currently under development.

The International Egyptian Oil Company (IEOC), a subsidiary of Italy's ENI-Agip group, is Egypt's leading natural gas producer, operating in the Gulf of Suez, the Nile Delta, and the Western Desert

regions. In cooperation with BP Amoco, IEOC has been concentrating its natural gas exploration and development efforts in the Nile Delta region. On November 4, 1997, BP (along with its partners EGPC and IEOC) announced plans to develop the giant Ha'py gas field in the Ras el-Barr concession of the Nile Delta region at an estimated cost of \$248 million. The field came onstream in February 2000, and has reached an output of 280 million cubic feet per day (Mmcf/d). In September 1997, IEOC tested the Temsah gas field (located offshore from the Nile Delta) at 11.6 Mmcf/d. In October 1998, BP (25 percent owner) and ENI-Agip signed a natural gas sales agreement with EGPC (50 percent owner) and IEOC (25 percent owner) for Temsah. Temsah's gas reserves are estimated at 3.9 Tcf, and the field reached peak production of 480 Mmcf/d in 2003. IEOC also operates several other smaller natural gas fields.

**Egypt's Natural Gas Production,  
1980-2002**



Two areas in the Western Desert -- Obeiyed and Khalda -- have shown great potential for increasing Egypt's natural gas production in the near future. Obeiyed is producing 300 Mmcf/d, after the completion of a pipeline linking it to Alexandria. Production in the Khalda concession is currently around 275 Mmcf/d. Apache reported two new natural gas discoveries in Khalda in 2003, the Qasr field, and signed an agreement with EGAS in 2004 for development and sales of the output. By the end of 2005, this is expected to bring Apache's output to 650 Mmcf/d. Output from Obeiyed and Khalda is transported to Alexandria by a 180-mile pipeline. Apache also has one offshore concession, the West Mediterranean block, where it has been conducting exploratory drilling since 2002. All of the offshore wells completed thus far have shown commercial quantities of natural gas, with reserves in the Western Mediterranean block estimated at around 3 Tcf.

Several other major new natural gas finds currently are under development. In May 1999, the Italian firm Edison and the BG Group made a large find ("Scarab/Saffron") in their West Delta Deep Marine concession, which tested at 45 Mmcf/d, followed by another ("Simian/Sienna") which tested at 44 Mmcf/d in October 1999. The two companies announced in July 2000 that their second and third wells at the field also had tested successfully at a similar flow rate, which was constrained by

the capacity of the equipment. Another successful test well drilled on another structure within the same concession also was announced in September 2000. The Scarab/Saffron finds began commercial production in early 2003, and Edison's stake in the fields was sold to Petronas of Malaysia in April 2003. The Simian/Sienna fields began production in April 2005, and are linked into the same pipeline to the Egyptian coast as the Scarab/Saffron fields. Shell has announced that probable reserves in its Northeast Mediterranean (NEMED) concession are 15 Tcf, and announced in November 2003 that drilling in NEMED had been successful. ExxonMobil also holds a 25 percent stake in this concession. BP and the IEOC also are preparing to bring several fields off the Nile Delta coast into production.

Natural gas demand has grown rapidly in Egypt as thermal power plants, which account for about 65 percent of Egypt's total gas consumption, have switched from oil to gas. Domestic natural gas consumers are to be served by several private distributors, franchises for which were awarded in late 1998. One of the franchises, awarded to a team headed by BG and including the Egyptian construction firm Orascom and Petronas of Malaysia, built distribution infrastructure in Upper Egypt as far south as Asyut, where no piped natural gas had been available.

The rapid rise in natural gas reserves has led to a search for export options, which has become particularly important to Egypt's future international balance of payments due to the decline in oil exports. In late 1999, the Egyptian government stated that natural gas reserves were more than sufficient for domestic needs, and that foreign firms producing gas in Egypt should seek export customers. In early 2000, the government announced a moratorium on new purchase agreements by EGPC for domestic consumption, as previously signed agreements would meet projected demand for the next several years. It also announced in September 2000 a new pricing policy which includes ceiling and floor prices, designed to protect both consumers and producers from the risks of prices indexed to oil.

The idea of exporting natural gas to Israel has been under discussion since the mid-1990s, and after being sidelined for several years by the Israeli-Palestinian violence which began in late 2000, seems to again be under serious consideration. The original version of the plan would have involved construction of an offshore pipeline from El-Arish in Sinai up the coast of Israel, with a possible extension onward to Turkey. The East Mediterranean Gas Company (a consortium of EGPC, Merhav of Israel, and Egyptian businessman Hussein Salem) had been set up to pursue the project. ENI completed a pipeline up Egypt's Mediterranean coast to El-Arish, which could serve as a starting point for the export pipeline. This would involve a short offshore pipeline to Ashkelon from northern Sinai, bypassing Gaza. A framework agreement between the two governments was concluded in February 2005, and negotiations for a binding natural gas sales contract with the Israel Electric Corporation (IEC) are underway.

Another export pipeline to Jordan began commercial operation in July 2003, making possible Egypt's first exports of natural gas. Egypt was responsible for building the section from the existing pipeline terminus at El-Arish to Aqaba in Jordan, with a subsea section in the Gulf of Aqaba bypassing Israeli waters. Construction of the section of the pipeline from Aqaba to northern Jordan is being undertaken by a Jordanian firm, the Al-Fajr Company for Natural Gas Transportation. A contract was awarded in January 2004, and construction is scheduled to be completed by the end of 2005. Egypt, Jordan, and Syria agreed in principle in early 2001 to extend the pipeline into Syria, with eventual natural gas exports to Turkey, Lebanon, and possibly Cyprus. The feasibility of this option is questionable, though, as Turkish demand probably would not support another source of piped gas (beyond agreements in place with Russia, Azerbaijan, and Iran). A more modest version of the plan could include the addition of pipeline links to only Syria and Lebanon.

Egypt's other option for exports is LNG. Two LNG projects are currently underway. The Spanish firm Union Fenosa is building a two-train liquefaction facility at Damietta, which shipped its first cargo in January 2005 upon the completion of the first train, with a capacity of 268 Bcf per year. Unlike most previous LNG projects, this one is not tied in directly with upstream natural gas production. Union Fenosa has contracted with EGAS for the supply of natural gas from its distribution grid, and will take 60 percent of the LNG output itself for use at the company's power plants and distribution to other users in Spain and elsewhere in Europe. ENI also has become involved in the project, purchasing a 50 percent stake in Union Fenosa's natural gas business in December 2002. BP signed an agreement for sales of natural gas from its offshore fields to supply the second train at Damietta in July 2004.

The second LNG export project ("Egyptian LNG"), at Idku, is to be built by BG in partnership with Petronas. The project is tied in to natural gas reserves from BG's Simian/Sienna offshore fields, and began production ahead of schedule in March 2005, with a second liquefaction train operational by late 2005. Gaz de France is to be the main offtaker for the Idku LNG project's first train, having signed a contract in October 2002 for 127 Bcf per year beginning in 2005. An agreement to purchase a similar quantity of LNG from the second train was signed in September 2003 by BG LNG Services. The LNG will initially be delivered to the Lake Charles, Louisiana import terminal for the U.S. market, starting in mid-2006. Later, probably in 2007, BG will switch the output from Idku to an import terminal under construction at Brindisi, Italy, and use additional production from Trinidad to supply the Lake Charles terminal. BP and Shell both are also contemplating potential LNG projects in Egypt.

Another potential use for Egypt's natural gas reserves is gas-to-liquids (GTL) projects. Shell has proposed a 75,000-bbl/d GTL plant to be co-located with its LNG export terminal when it is built, using reserves from its offshore NEMED find as feedstock. No final agreements have yet been reached on the proposal.

## **ELECTRIC POWER**

Egypt had installed generating capacity of 17.6 gigawatts (GW) as of 2002, with plans to add 4.5 GW of additional generating capacity by 2007. Around 84 percent of Egypt's electric generating capacity is thermal (natural gas), with the remaining 16 percent hydroelectric, mostly from the Aswan High Dam. All oil-fired plants have been converted to run on natural gas as their primary fuel. With electricity demand growing, Egypt is building several power plants and is considering limited privatization of the electric power sector. Egypt's power sector is currently comprised of seven regional state-owned power production and distribution companies, which were held by the Egyptian Electricity Authority (EEA). In July 2000, the EEA was converted into a holding company, though still owned by the state. Previous privatization plans have stalled, and the future direction of government policy in the electric utilities sector is unclear.

Egypt has several privately-owned power plants currently under construction which were financed under Build, Own, Operate, and Transfer (BOOT) financing schemes. BOOT projects are used to fund large-scale public infrastructure without affecting the country's debt profile. Private developers are allowed to recover their costs of construction through ownership and operation of the plant for a fixed period before handing it over to the state. The first BOOT project was a gas-fired steam power plant with two 325-megawatt (MW) generating units, located at Sidi Kerir on the Gulf of Suez. The plant cost \$450 million, and began commercial operation in late 2001. Electricity from the plant is priced at 2.54 cents per kilowatt-hour. This competitive price stems largely from the availability of cheap natural gas -- to be supplied by Egypt's EGAS -- as a feedstock. U.S.-based InterGen (a joint venture of Bechtel Enterprises and Shell Generating Ltd.), along with local partners Kato Investment and First Arabian Development and Investment, have the 20-year BOOT contract for

Sidi Kerir. The second BOOT power project award went to Electricite de France (EDF), for two gas-fired plants to be located near the cities of Suez and Port Said. Each plant will have an installed capacity of 650 MW, and the project cost will total around \$900 million. The price for power from the EDF plants will be 2.4 cents per kilowatt hour (Kwh), the lowest price yet offered for a BOOT plant. The plants both began commercial operation in 2003. The future of BOOT financing in Egypt is unclear, however, and recent government statements indicate that no new BOOT projects are likely in the near future.

EEHC-owned projects currently under construction include the 1,500-MW plant planned at Nuberiya in the western Nile Delta near Alexandria. The first 750-MW generating unit at Nuberiya is scheduled to begin operation by the end of 2005. The 64-MW Nag Hammadi hydropower project is under construction, with European Investment Bank financing, and is scheduled for completion in 2006. After several years of delays, the 1,500-MW capacity expansion at the Cairo North power complex came online in mid-2004. A contract has been awarded to Russia's Power Machines Group for the refurbishment of the turbines at the Aswan High Dam. The project will extend the operational life of the turbines by about 40 years and increase generating capacity at the dam from 2,100 MW to 2,400 MW.

Egypt also is planning to build a part-solar power plant at Kureimat as a BOOT project, which will have 30 MW of solar capacity out of a total planned capacity of 150 MW. The World Bank will provide a financing package from its Global Environmental Facility which will offset the cost difference between the solar capacity and thermal capacity. A Netherlands-funded project is building 60 MW of wind power units in the Suez Canal area. Egypt also has a 22-MW nuclear research reactor at Inshas in the Nile Delta, built by INVAP S.A. of Argentina, which began operation in 1997.

Work has been completed on the interconnection of Egypt's electric transmission grid with other countries in the region. The Five-Country interconnection of Egypt's system with those of Jordan, Syria, and Turkey was completed by 2002. Egypt also activated a link to Libya's electric grid in December 1999.

## **ENVIRONMENT**

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*Sources for this report include: CIA World Factbook 2004; CWC Africa Energy Alert; Dow Jones News Wire service; Economist Intelligence Unit ViewsWire; Global Insight Middle East Economic Outlook; Hart's Africa Oil and Gas; Middle East Economic Digest; Oil and Gas Journal; Petroleum Economist; Petroleum Intelligence Weekly; International Market Insight Reports; U.S. Energy Information Administration; World Gas Intelligence.*

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## **COUNTRY OVERVIEW**

**President:** Mohammed Hosni Mubarak (since October 1981)

**Prime Minister:** Atef Obeid (since October 1999)

**Independence:** February 28, 1922 (from the United Kingdom)

**Population (7/04E):** 77.5 million

**Location/Size:** Northern Africa/1,001,450 sq. km (386,662 sq. miles), about the size of Texas and New Mexico

**Major Cities:** Cairo (capital), Alexandria, Aswan, Asyut, Giza, Ismailiya, Port Said, Suez, Tanta

**Languages:** Arabic (official), English, French

**Ethnic Groups:** Egyptian, Bedouin, and Berber compose 99% of the population



**Religions:** Sunni Muslim (94%), Coptic Christian (6%)

## ECONOMIC OVERVIEW

**Currency:** Egyptian Pound (LE)

**Market Exchange Rate (5/2/05):** LE 5.87 = \$1 U.S.

**Nominal Gross Domestic Product (GDP) (2004E):** \$76.6 billion

**Real GDP Growth Rate (2004E):** 5.0% **(2005F):** 4.7%

**Inflation Rate (2004E):** 11.3%

**Current Account Balance (2004E):** \$8.1 billion

**Major Trading Partners (2004):** United States, Italy, Germany, Japan, South Korea

**Merchandise Exports (2004E):** \$12.6 billion

**Merchandise Imports (2004E):** \$17.4 billion

**Merchandise Trade Balance (2004E):** -\$4.8 billion

**Major Export Products:** Crude oil and petroleum products; cotton yarn and textiles; engineering and metallurgical goods; agricultural goods and raw cotton

**Major Import Products:** Machinery and transport equipment; livestock; food and beverages

**Total External Debt (2004E):** \$25.1 billion

## ENERGY OVERVIEW

**Energy Ministers:** Sameh Fahmy (Minister of Petroleum), Hassan Younis (Minister of Electricity and Energy)

**Proven Oil Reserves (1/1/05E):** 3.7 billion barrels

**Oil Production (2004E):** 698,000 barrels per day (bbl/d), of which 594,000 bbl/d is crude oil

**Oil Consumption (2004E):** 564,000 bbl/d

**Net Oil Exports (2004E):** 134,000 bbl/d

**Crude Refining Capacity (1/1/05E):** 726,250 bbl/d

**Natural Gas Reserves (1/1/05E):** 66.0 trillion cubic feet (Tcf) (based on data released by Egypt's Ministry of Petroleum)

**Natural Gas Production (2002E):** 941 Bcf

**Natural Gas Consumption (2002E):** 941 Bcf

**Recoverable Coal Reserves (12/31/99E):** 24 million short tons (Mmst)

**Coal Production (2002E):** None.

**Coal Consumption (2002E):** 1.7 Mmst

**Electric Generation Capacity (1/1/02E):** 17.6 gigawatts (84% thermal, 16% hydroelectric)

**Electricity Generation (2002E):** 81.3 billion kilowatthours

## ENVIRONMENTAL OVERVIEW

**Minister of Environment Affairs:** Mamdouh Riad Tadros

**Total Energy Consumption (2002E):** 2.3 quadrillion Btu (0.57% of world total energy consumption)

**Energy-Related Carbon Dioxide Emissions (2002E):** 137.9 million metric tons of carbon dioxide (0.56% of world carbon dioxide emissions)

**Per Capita Energy Consumption (2002E):** 33.3 million Btu (vs. U.S. value of 339.1 million Btu)

**Per Capita Carbon Dioxide Emissions (2002E):** 1.9 metric tons of carbon dioxide (vs. U.S. value of 20.0 metric tons of carbon dioxide)

**Energy Intensity (2002E):** 10,555 Btu/ \$1995 (vs. U.S. value of 10,618 Btu/ \$1995)\*\*

**Carbon Dioxide Intensity (2002E):** 0.62 metric tons of carbon dioxide/thousand \$1995 (vs. U.S. value of 0.63 metric tons/thousand \$1995)\*\*

**Fuel Share of Energy Consumption (2002E):** Oil (50.1%), Natural Gas (41.9%), Coal (1.8%)

**Fuel Share of Carbon Dioxide Emissions (2002E):** Oil (58.2%), Natural Gas (38.8%), Coal (3.0%)

**Status in Climate Change Negotiations:** Non-Annex I country under the United Nations Framework Convention on Climate Change (ratified December 5th, 1994). Signatory to the Kyoto Protocol (signed March 3, 1999-ratified January 2005).

**Major Environmental Issues:** Agricultural land being lost to urbanization and windblown sands; increasing soil salinization below Aswan High Dam; desertification; oil pollution threatening coral reefs, beaches, and marine habitats; other water pollution from agricultural pesticides, raw sewage, and industrial effluents; very limited natural fresh water resources away from the Nile which is the only perennial water source; rapid growth in population overstraining natural resources.

**Major International Environmental Agreements:** A party to Conventions on Biodiversity, Climate Change, Desertification, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Marine Dumping, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Tropical Timber 83, Tropical Timber 94, Wetlands and Whaling.

\* 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 for non-OECD countries

## **OIL and GAS INDUSTRIES**

**State Oil Company:** Egyptian General Petroleum Corporation (EGPC) plus 11 smaller state oil companies

State Pipeline Companies: Sumed-Arab Petroleum Pipeline Company (APP), Domestic pipelines-Petroleum Pipelines Company (PPC), Export gas pipelines-Egypt Trans-Gas Company (EGTC)

**Major Foreign Oil Company Involvement:** Apache, British Gas, BP-Amoco, Deminex, TotalFina-Elf, ENI-Agip, Exxon-Mobil, Marathon, Norsk Hydro, Novus, Repsol, Royal Dutch Shell, Samsung, Texaco

**Major Ports:** Alexandria, Port Said, Sidi Kerir, Ras Shukheir, Suez, Ain Sukhna

**Major Oil Fields:** Belayim Marine, October, Morgan, Belayim, Badri, Ras Budran

**Major Gas Fields:** Abu Madi, Abu Qir/North Abu Qir, Shukheir, Badreddin

**Major Pipelines (capacity):** Sumed pipeline (2.5 million bbl/d)

**Major Oil Refineries (crude oil capacity):** Cairo Petroleum Refining Company -- Mostorod (145,000 bbl/d), Tanta (35,000 bbl/d); El-Nasr Petroleum Company - Suez (146,300 bbl/d), Wadi Feran (8,550 bbl/d); Alexandria Petroleum Company - El Mex (100,000 bbl/d); Ameriya Petroleum Refining Co. (78,000 bbl/d); Suez Oil Processing Company - Suez (66,400 bbl/d); Assiut Petroleum Refining Co. (47,000 bbl/d); Middle East Oil Refinery (MIDOR) (100,000 bbl/d).

## **LINKS**

For more information from EIA on Egypt, please see:

[EIA - Country Information on Egypt](#)

[EIA - Energy in Africa Special Report](#)

Links to other U.S. government sites:

[CIA World Factbook - Egypt](#)

[U.S. Department of Energy - Office of Fossil Energy - Egypt](#)

[U.S. State Department Background Notes](#)

[U.S. State Department Consular Information Sheet - Egypt](#)

[U.S. State Department Country Report on Economic Policy and Trade Practices](#)  
[U.S. State Department Country Commercial Guide](#)  
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[Egypt Economic Bulletin](#) by The Egyptian Cabinet, Information and Decision Support Center (includes monthly Petroleum, Gas, and Electricity data)  
[Egyptian Geological Survey](#)  
[Ministry of Economy](#)  
[Egyptian Atomic Energy Authority](#)  
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