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Angola

Angola is sub-Saharan Africa 's second largest oil producer, and its production is expected to reach 2 million barrels per day by 2008. Major offshore oil finds have also made Angola a key focus of hydrocarbon exploration in sub-Saharan Africa .

Information contained in this report is the best available as of December 2004 and is subject to change.

GENERAL BACKGROUND

Angola is beginning its recovery from a 27-year civil war that began shortly before the nation achieved its independence in 1975. The war destroyed much of Angola 's economy and infrastructure, displacing an estimated four million people. After several unsuccessful efforts at securing peace, the Angolan government and the National Union for the Total Independence of Angola (UNITA) signed an agreement in April 2002 following the violent death of UNITA's founding leader, Jonas Savimbi. Despite the agreement, disarmament and demobilization provisions have not yet been fully implemented. Elections are scheduled for September 2006.

Angola is a member of the African Union (AU), the Southern African Development Community (SADC), and the Common Market for Eastern and Southern Africa (COMESA). The Angolan economy is highly dependent on its oil sector, which accounts for over 40% of gross domestic product (GDP) and almost 90% of government revenues. A sharp increase in oil production caused Angola 's real GDP to grow by 15.3% in 2002, followed by a 2003 growth rate of 4.9%. Angola is expected to see growth of 13.6% in 2003. In spite of its expanding economy, however, Angola 's external debt reached $9.3 billion in 2003, and approximately 75% of Angola 's 11 million people live in poverty. Although Angola saw 98% inflation in 2003, it was a considerable improvement over the 141% inflation rate in 2001 and the 325% inflation rate in 2000. Inflation is further expected to drop to 50% in 2004 and 45% in 2005.

In 2002, Angola agreed to an International Monetary Fund (IMF) Staff Monitored Program (SMP) to enact economic reforms, with the hope of eventually obtaining additional lending from the IMF and World Bank. Under the SMP, the international auditing and accounting firm KPMG began an Oil Sector Diagnostic Analysis on the Angolan government's oil sector earnings and expenditures.

Results of the analysis, made public by the government in May 2004, indicated that oil revenues were often diverted from the Angolan National Bank into Angola 's national oil company, Sonangol, and the Presidency. A Human Rights Watch Report alleged in January 2004 that between 1997 and 2002, nearly $4.22 billion of Angola 's oil revenues was "unaccounted" for by the Angolan government. Questions about transparency and Angola 's receipt of oil-backed loans, most recently in April 2004, may prevent the country from its goal of securing a new IMF loan in early 2005.

Attempts at transparency by BP and Shell resulted in government threats to withdraw their Angolan concessions. In May 2004, however, Angola elected to participate in the IMF's General Data Dissemination System (GDDS), created to improve the release of official statistics. Angola is also considering signing the UK 's Extractive Industries Transparency Initiative (EITI), a program created to increase transparency by encouraging energy companies to voluntarily provide details of contracts. Despite its commitment to transparency initiatives, Angola announced earnings of only $250 million for the first half of 2004, failing to indicate whether the figure was representative of tax income or the country's production share.

In September 2004, the Angolan government announced its intention to create a reserve fund to hold unanticipated oil income accumulated from higher tax revenue on the increased price of crude. In the same month, the Angolan Central Bank proposed enacting draft legislation that would require oil companies to channel payments through the domestic banking center rather than international banks. Such a measure would boost transaction revenues for the Angolan banking sector and its ability to make domestic loans. Although the legislation has yet to be submitted to parliament, oil companies are opposed to its passage.

OIL

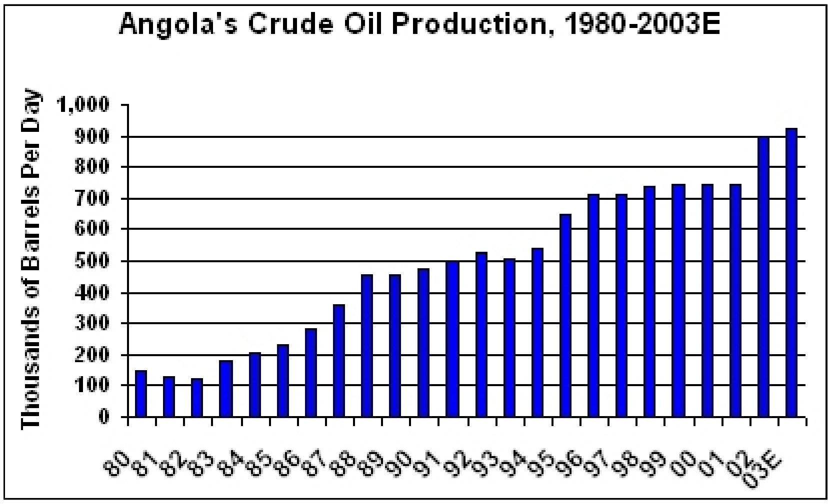
Angola is sub-Saharan Africa 's second largest oil producer behind Nigeria. The majority of its crude oil is produced offshore in Block Zero, located in the northern Cabinda province. Crude reserves also are located onshore around the city of Soyo , offshore in the Kwanza Basin north of Luanda , and offshore of the northern coast. The majority of Angolan oil is medium to light crude (30°-40°API) with a low sulphur content (0.12%-0.14%). Considerable potential for growth exists in both the oil and gas sectors, with nearly $23 billion in foreign direct investment (FDI) expected between 2003-2008.

Angola 's national oil company, Sonangol, was established in 1976 and made the sole concessionaire for exploration and production in 1978. Sonangol works with foreign companies through both joint ventures (JVs) and production sharing agreements (PSAs), funding its share of production through oil-backed borrowing. The top foreign oil companies operating in Angola are US-based ChevronTexaco and ExxonMobil , France 's Total , UK 's BP , UK /Dutch Shell, and Italian Agip/Eni Oil Company.

Although Angola 's oil production has increased recently and will continue to increase in the future, *Global Insight* has highlighted the importance of a government commitment to using oil revenues specifically for social and economic improvements.

Production

Angola 's crude oil production has quadrupled over the past two decades, and its known oil reserves have tripled in the last seven years. Crude oil production averaged 902,000 barrels per day (bbl/d) in 2003, and production is predicted to reach two million bbl/d by 2008 when new deep-water production sites are expected to operate at higher levels. Block Zero (Area A, Area B, and Area C), located offshore of Cabinda , accounts for more than half of Angola 's crude oil production (approximately 550,000 bbl/d). Cabinda Gulf Oil Company (CABGOC), a ChevronTexaco subsidiary and the operator of the Block Zero fields since 1955, has a 39.2% share in the JV. In May 2004, Sonangol and the Angolan government extended CABGOC's current contract, set to expire in 2010, to 2030. Other partners include Sonangol (41%), Total (10%) and Agip/ENI (9.8%). Cabinda 's largest producing oil fields are Takula (Area A), Numbi (Area A), and Kokongo (Area B).



Although Cabinda accounts for nearly all of Angolan foreign exchange earnings, the province receives only 10% of taxes paid by ChevronTexaco and its partners operating offshore Cabinda . Many separatist groups, including the Frente para a Libertação do Enclave de Cabinda-Renovata (FLEC-R; Front for the Liberation of the Enclave of Cabinda), have demanded that a greater share of oil revenue remain in the poverty-stricken province, often kidnapping foreign nationals to draw attention to their cause. Although UNITA announced plans to declare independence of the Cabinda region in February 2004, the Angolan government has categorically ruled out this option. In June 2004, the Angolan government announced a $370 million cash injection into Cabinda to be used for improving infrastructure and social services.

ChevronTexaco plans to invest $4 billion in Angolan development projects until 2008. Its Sanha oil field in Block Zero is expected to begin production in 2005, peaking at 100,000 bbl/d in 2007. A gas condensate facility to produce liquefied petroleum gas (LPG) is also slated to start production in 2005, reducing the flaring of gas in the region by 50%. In January 2005, ChevronTexaco announced its first oil from Block Zero's Bomboco field. The company expects Bomboco to reach an average production of 30,000 bbl/d within the year.

ExxonMobil estimates that Block 15 contains 4.5 billion barrels of recoverable hydrocarbon oil equivalent. The $3.4 billion Kizomba-A project to develop the Hungo and Chocalho discoveries using an FPSO came online in August 2004 and is expected to have a peak production of 250,000 bbl/d. First oil from the Kizomba-B project, which will develop the Kissanje, Marimba, and Dikanza discoveries, is not expected before late 2005. Production for the fields is targeted to eventually reach 250,000 bbl/d each. Still in its planning stages, the Kizomba-C project will encompass the Batuque, Saxi, and Mondo fields, and may begin producing oil as early as 2007. ExxonMobil's 80,000 bbl/d Xikomba deepwater field, also located in Block 15, is estimated to have recoverable reserves of 100 million barrels of oil. ExxonMobil announced initial production from the Xikomba field in December 2003. Sonangol is concessionaire of the block, while ExxonMobil holds a 40% interest, BP Exploration Angola Ltd has a 26.67% share, Italy 's Agip Angola Exploration B.V. holds a 20% interest, and Norway 's Den Norske Stats Oljeselskap holds the remaining 13.33%.

In December 2003, Sonangol and Total announced the first production from the offshore Block 17 Jasmin Oil Field. Jasmin became the second oil field on Block 17 to announce production after oil began to flow from the Girassol oil field in December 2001. Total operates on Block 17 with a 40% share, while Sonangol is its franchise holder. Other shareholders include ExxonMobil (20%), BP

Exploration Limited (16.67%), Statoil Angola Block 17 AS (13.33%), and Norway 's Norsk Hydro (10%).

In January 2000, CABGOC announced full production (80,000 bbl/d) at its Kuito field in Block 14. Production leveled to 61,000 bbl/d by 2001. Other discoveries on the Block 14 include Landana (1997), Benguela and Belize (1998), Tomboco and Lobito (2000), Tombua (2001), and Gabela and Negage (2002). Belize , Benguela, Tomboco, and Tombua (BBLT) are being jointly developed. Production will commence in 2007 and is expected to reach 245,000 bbl/d by 2009. In August 2004, CABGOC awarded Vetco Gray (US) a $125 million contract for subsea equipment at Block 14's Lobito-Tomboco project, set to begin production in 2007. In October 2004, ChevronTexaco announced that it would spend $7 billion in Angola 's Block 14: $4 billion for Angola LNG; $2 billion for the Sanha gas and condensate program; and $1 billion to develop the Belize , Lobito , and Tomboco fields. The announcement follows a September 2004 statement in which ChevronTexaco pledged to invest $11 billion in Angola until 2008.

In May 2003, Total announced approval for development of Block 17's offshore Dalia field. Development of Dalia will include an FPSO with a 240,000 bbl/d processing capacity and a 2 million barrel storage capacity. Dalia's reserves are estimated at 1 billion barrels, and it is due onstream in late 2006 at an estimated cost of $3.4 billion.

In February 2004, Sonangol approved BP's plans to develop the Greater Plutonio project on Block 18. Five fields (Colbalto, Cromio, Galio, Paladio, Platina, and Plutonio) will be developed using a single FPSO. Scheduled to come online in 2007, the Greater Plutonio project is expected to produce over 200,000 bbl/d. Total cost of the project is estimated at between $2 and $3 billion. In June 2004, FMC Technologies (US) was awarded a $27 million contract for the provision of services at the Plutonio project. Three months later, BP announced an additional $80 million contract with FMC for the supply of subsea systems. BP maintains a 50% interest as the operator of Block 18. Although India 's ONGC Videsh signed an agreement with Shell to buy a 50% stake in Block 18 in April 2004, Sonangol refused to approve the purchase. Instead, Sonangol accepted a bid coupled with a $2 billion aid offer from China in October 2004.

In October 2004, Roc Oil and Sonangol announced the creation of a PSA for the onshore Cabina South Block. Roc maintains an 80% stake in the venture, while Sonangol holds the remaining 20%. Production is expected to commence in 2005.

In November 2004, Total confirmed that Sonangol would allow its production license for sub block 3/80 to expire. The Angolan government made threats in the past that it would not renew the license due to the French arrest of Pierre Falcone for his participation in an alleged arms deal with Angola .

Exports
In 2003, the United States imported more than 350,000 bbl/d of Angolan crude, nearly 5% of its total petroleum imports. In a January 2004 move that highlights Angola 's importance to US oil imports, the United States made Angola eligible for tariff preference under the African Growth and Opportunity Act (AGOA). Angola also exports crude oil to Asia , Europe , and Latin America .

Exploration
Success in offshore discoveries in Angola has led to increased interest in Angola 's exploration blocks. Angola and the Republic of the Congo announced the creation of the Zone d'Interet Commun (ZIC, Common Interest Zone) in March 2003. Each country will receive half of all revenues generated from the ZIC, a joint development area containing portions of Block 14

(Angola), operated by ChevronTexaco, and the Haute Mer Block (Congo) operated by Total.

In addition to the Girassol and Jasmin finds, several other significant discoveries have been made on deepwater offshore Block 17. In the eastern section of the block, Total's Acacia find tested at a combined 13,712 bbl/d of oil from two separate zones, and Hortensia tested at 5,092 bbl/d of oil. Coupled with the Perpetua (2000) and Zinia (2002) discoveries, Block 17 may become a new development hub. Additional discoveries on Block 17 include Dalia (1997), Rosa (1998), Lirio (1998), Tulipa (1999), Orquidea (1999), Cravo (1999), Camelia (1999), Violetta (2001), and Anturio (2001).

In August 2004, Sonagol approved Total's request to award contracts to develop the Rosa Field on Block 17. Development will include the construction of 25 subsea wells tied back to the Girassol FPSO. Production at Rosa is expected to begin in early 2007 at an initial rate of 70,000 bbl/d. Proposed modifications to the FPSO are expected to increase production to 250,000 bbl/d. In October 2004, Italian firm Saipem SpA was awarded a $440 million contract to build a subsea pipeline connecting offshore Rosa with onshore facilities near Luanda .

Total's first exploration well on Block 32 was a success. Gindungo, which lies 40 miles from Block 17's Girassol find, tested at rates of 7,400 bbl/d and 5,700 bbl/d in two zones. In April 2004, Total announced a new Block 32 discovery, Canela-1, from which a test reservoir produced 6,800 bbl/d. Sonangol and Total announced an additional oil discovery at OECanela-1 in June 2004. The find produced a test flow of 6,800 barrels from a lone reservoir. Total's (operator with a 30% interest) partners on Block 32 are Marathon Oil (30%), Sonangol (20%), ExxonMobil (15%), and Petrogal (5%).

ExxonMobil estimates that Block 15 contains 4.5 billion barrels of oil. In October 2003, the company announced that its Kakocha well tested at flowrates of 4,500 bbl/d of oil, while Tchihumba tested at flowrates of 7,470 bbl/d of oil. In March 2004, ExxonMobil announced an oil find at the Bavuca-1 well in Block 15. Other discoveries on Block 15 include: Kissanje (1998), Marimba (1998), Hungo (1998), Dikanza (1998), Chocalho (1999), Xikomba (1999), Mondo (2000), Saxi (2000), Botuque (2000), Mbulumbumba (2001) Vicango (2001), Mavacola (2001), Reco Reco (2002), and Clochas (2003).

In February 2003, Devon Energy acquired a 25% stake in Block 24 from ExxonMobil, bringing its share to 40%, and assumed the role of operator on the block. ExxonMobil retains a 20% share, Other Block 24 partners are Sonangol (25%) and Malaysia 's Petronas (15%). ExxonMobil reported the first oil discovery on the block in June 2001, but later declared the Semba-1 well, which flowed in excess of 3,000 bbl/d, to be noncommercial.

In December 2003, BP announced that its Marte discovery, located 118 miles off the coast, tested at 5,200 bbl/d. Marte is the third successful BP well drilled on Block 31, following Plutao and Saturno. In June 2004, Marathon announced the Venus-1 discovery, suggesting that a commercial development of Block 31 is likely. BP is still exploring development options for the block, but Marte's proximity to Plutao and Saturno makes joint development likely. BP has a 26.7% stake in the block, followed by ExxonMobil (25%), Sonangol (20%), Statoil (13.3%), Marathon (10%), and Total (5%).

In September 2002, Canadian Natural Resources (CNR) signed a four-year PSA with Sonangol to explore for oil in the deep waters of Block 16, 72 miles off the Angolan coast. CNR retains a 50% working interest in the block and serves as operator, while Brazil 's Odebrecht (30%) and Sonangol

(20%) also own shares. In December 2003, CNR announced that its Zenza-1 well encountered shows of hydrocarbons, but they were not of sufficient amounts to be commercial.

Several other exploration blocks have resulted in recent discoveries as well. BP announced an oil find at its Block 18 Chumbo-1 well in March 2004. Initial tests resulted in a flow of 1,080 bbl/d. Another BP find, Cesio-1, is also located in Block 18. In November 2004, Sonangol announced a possible commercial oil discovery in Block 4 in its first successful drilling without foreign partners.

Refining and Downstream

The Fina Petroleos de Angola refinery in Luanda , a JV between Sonangol (36%), Total (61%) and private investors (3%), has a crude oil processing capacity of 39,000 bbl/d. The refinery produces almost all of Angola 's domestic requirements of gasoline, kerosene and jet fuel, as well as a small amount of products for export. The refinery is required to meet product specifications and deadlines set by SADC, including phasing out lead and increasing the octane content in gasoline, by 2005.

Angola is developing plans for a new 200,000-bbl/d refinery in the coastal city of Lobito . The majority of products refined at the new facility (80%) would be exported regionally. Following several years of delay, the refinery is anticipated to come onstream in 2007.

Since the cessation of armed hostilities in Angola , the domestic demand for oil products is rising. Sonangalp estimates that Angolan demand for oil products will grow by 500% within 10-20 years. In early 2004, Sonangol imported oil from abroad to ease domestic shortages when the Luanda refinery was unable to meet increasing demand due to ongoing problems. In arch 2004, Angola committed itself to ending fuel subsidies by the end of the year to encourage downstream investment.

Angola 's retail sector, which once boasted over 450 filling stations, has shrunk to 100 outlets. Construction of 120 additional stations is planned over the next several years. Potential stumbling blocks to new construction include the more than $300 million expected cost and the lack of foreign investment from both Sonangol and foreign firms. In July 2004, Portugal 's Galp Energia announced intentions to build several stations in Angola . Sonangol, Total, and Sonangalp, a joint venture between Sonangol (51%) and Galp Energia (49%), currently provide product distribution and marketing in Angola .

NATURAL GAS

Angola has estimated natural gas reserves of 1.6 trillion cubic feet (Tcf). New discoveries could push Angola 's proven gas reserves to 9.5 Tcf, and possibly as high as 25 Tcf. The majority (approximately 85%) of natural gas produced in Angola is flared; the remainder is reinjected to aid in oil recovery and processed in the production of liquefied petroleum gas (LPG). The government's Gas Master Plan to reduce natural gas flaring focuses on ending flaring at fields north of the Congo River mouth in Cabinda by 2005. CABGOC has initiated two zero-flare fields, Nemba and Lomba, and plans to make Kuito the third. Future plans include converting flared gas to liquefied natural gas (LNG), natural gas liquids (NGLs), and LPG.

ChevronTexaco and Sonangol are developing a project to convert natural gas from offshore oil fields to LNG for export. The facility will use flared gas from Blocks 1, 2, 3, 4, 15, 16, 17, and 18. Originally planned for Luanda , the facility will now be located at Soyo. Angola 's proposed LNG plant will be the only one in the world to use associated gas as its primary feedstock. Although the first gas was originally scheduled to come online in 2005, commencement has been pushed back to 2007. Contracts for a front-end engineering design (FEED) on the Angola LNG program are expected by the end of 2004. The FEED process will take approximately a year, and a final investment decision is expected in 2006. Although the project is owned by ChevronTexaco (32%), Sonangol (20%), Norsk Hydro (12%), BP (12%), Total (12%), and ExxonMobil (12%), it was not until September 2004 that ChevronTexaco and Total fully committed to the Angola LNG project. Both companies previously refused to commit to the costly project until Sonangol found a buyer for Angolan LNG. ChevronTexaco and Total were rewarded with extensions of oil production contracts for their support of the LNG project.

In October 2004, ChevronTexaco awarded a contract to Paragon Engineering Services to lessen natural gas flaring at its Tukula, Wamba, Numbi, and Malongo fields. Paragon plans to build several new gas processing platforms and modify existing platforms to recover gas that is currently flared.

ELECTRICITY

Information on Angola 's electricity sector is frequently dated and unreliable. Angola 's electricity generating capacity as of January 1, 2001 was estimated to be 0.6 million kilowatts. Only 15% of Angola 's population has access to electric power, and blackouts occur frequently for those who do have access to electricity. The Angolan Ministry of Energy and Waters has projected that $500 million is necessary to rebuild infrastructure destroyed in the war.

Angola 's electricity is supplied through three separate systems. The Northern System supplies the provinces of Luanda , Bengo, Kuanza-Norte, Malange and Kuanza-Sul through the Cuanza River , while the Central System provides for the provinces of Benguela, Huambo and parts of Bie using the Catumbela River . The Southern System supplies to Huila and Namibe using the Cunene River . The government aims to link the systems to create a national grid through the South Africa Power Pool (SAPP).

Hydroelectric facilities generate more than two-thirds of Angola 's electricity. The Matala dam, which began operations in 2001 on the Cunene River , is the main source of electricity in southwest Angola . The Cambambe dam (180 MW) on the Kwanza River , the Mabubas dam (17.8 MW) on the Dande River , and diesel generators are the main sources of electricity in the north of the country. A 24-MW dam is being built by a diamond company, Catoca, on the Tchicapa River in northeastern Angola , and Angola announced construction of a 600 KW dam in the Uije province in June 2004.

Angola intends to recover the productive capacity of the Empresa Nacional de Electricidade (ENE), the state-owned electric utility, by rehabilitating its hydropower stations. Gove, a nonfunctioning station, is expected to be rebuilt following a February 2003 agreement with Namibia to jointly rehabilitate the dam. Construction of a new Cunene River dam at Epupa Falls has also been proposed.

Two agreements of understanding are poised to be signed by members of the Western Corridor Project (Angola , the Democratic Republic of the Congo (DRC), Namibia , Botswana , and South Africa) to build an electricity transport line from the Inga Dam (DRC) to South Africa , running through each of the nations involved in the agreement. The project will also include the construction of a central station with a capacity of 3,500 megawatts (MW).

Odebrecht, a Brazilian construction company, has partially completed the construction of a hydroelectric facility at Capanda on the Kwanza River . Work on the 520-MW plant began in the mid-1980s, but was suspended due to the civil war. The first of four planned hydraulic turbines began generating electricity in January 2004; a second turbine is expected to be operational in April 2005. The completed Capanda project will nearly double Angola 's electricity generating capacity.

Sources for this report include: Africa Confidential; Africa Energy Intelligence; Africa Energy and Mining; Africa News; Africa Oil and Gas; Agence France Presse; AllAfrica.com; Angop; AP Worldstream; BBC World News; Central Intelligence Agency Country Reports; Economist Intelligence Unit (EIU) Viewswire; Energy Intelligence Group, Inc.; Factiva, Inc.; Global Insight; Global Witness; Petronas; Human Rights Watch; International Crisis Group; International Monetary Fund Country Reports; International Petroleum Finance; Oil and Gas Journal; Petroleum Economist Limited; Platts Oilgram News; Reuters News Corporation; Sonangol; United Nations Integrated Regional Information Networks - OCHA IRIN; U.S. Department of State Country Briefings; World Markets Analysis

COUNTRY OVERVIEW
President: Jose Eduardo dos Santos (since September 21, 1979)
Independence: November 11, 1975 (from Portugal)
Population (2004E): 10,978,552
Location/Size of the Country and the Border: Southern Africa, bordering the Atlantic Ocean (on the west), the Democratic Republic of the Congo for 1,560 miles, of which 140 miles is the boundary of discontiguous Cabinda Province (on the north and east); Republic of the Congo for 137 miles (on the north of Cabinda), Zambia for 690 miles (on the east); and Namibia for 855 miles (on the south). Total area of Angola is: 481,354 square miles, slightly less than twice the size of Texas
Major Cities: Luanda (capital), Huambo, Lobito, Benguela, Lubango, Namibe, Soyo, Cabinda City

Languages: Portuguese (official), over 60 local languages including Umbundu, Kimbundu, Kikongo, Tchokwe and Ovambo of the Bantu language group
Ethnic Groups: Ovimbundu 37%, Kimbundu 25%, Bakongo 13%, mestico (mixed European and Native African) 2%, European 1%, other 22%
Religions (1998E): Traditional beliefs 47%, Roman Catholic 38%, Protestant 15%

ECONOMIC OVERVIEW
Minister of Finance: Jose Pedro de Morais
Governor of Banco Nacional de Angola (BNA; the central bank): Amadeu Mauricio
Currency: Kwanza (AOA)
Exchange Rate (11/17/04): US$1 = 86.88 AOA
Gross Domestic Product (GDP) (2003E): $13.4 billion
GDP Growth Rate (2002E): 15.3%; **(2003E):** 4.9%; **(2004F):** 13.6%; **(2005F):** 14.4%
Inflation Rate (2003E): 98%; **(2004F):** 50%; **(2005F):** 45%
Current Account Balance (2003E): $-475 million
Major Trading Partners: United States, South Korea, Japan, Belgium-Luxembourg, Portugal, China, France, Taiwan, South Africa
Major Export Products: Crude oil, diamonds, refined petroleum products
Major Import Products: Consumer goods, military and capital goods, machinery, vehicles and spare parts
Total External Debt (2003E): $9.2 billion

ENERGY OVERVIEW
Minister of Petroleum: Desiderio da Costa
Minister of Energy and Water: Jose Botelho de Vasconcelos
Proven Oil Reserves (*Oil and Gas Journal*; 1/1/04E): 5.4 billion barrels
Oil Production (2003E): 902,000 barrels per day (bbl/d), all of which is crude oil

Oil Consumption (2003E): 50,000 bbl/d
Net Oil Exports (2003E): 852,100 bbl/d
Refining Capacity (*Oil and Gas Journal*; 1/1/04E): 39,000 bbl/d
Natural Gas Reserves (*Oil and Gas Journal*; 1/1/04E) : 1.6 trillion cubic feet
Natural Gas Production (2002E): 22 billion cubic feet (bcf)
Natural Gas Consumption (2002E): 22 bcf
Electric Generation Capacity (2002): 0.6 million kilowatts
Electricity Generation (2002E): 1.71 billion kilowatthours (64.3% hydroelectric, 35.7% thermal)

ENVIRONMENTAL OVERVIEW
Minister of Environment and Urban Development: Diakunpuna Sita Jose
Total Energy Consumption (2002E): 0.13 quadrillion Btu* (0.03% of world total energy consumption)
Energy-Related Carbon Dioxide Emissions (2002E): 15.6 million metric tons of carbon dioxide (0.1% of world carbon emissions)
Per Capita Energy Consumption (2002E): 9.6 million Btu (vs. U.S. value of 339.1 million Btu)
Per Capita Carbon Dioxide Emissions (2002E): 1.18 metric tons of carbon dioxide (vs. U.S. value of 5.5 metric tons of carbon dioxide)
Energy Intensity (2002E): 9,701 Btu/$1995 (vs. U.S. value of 10,619 Btu/$1995)**
Carbon Dioxide Intensity (2002E): 0.001 metric tons of carbon dioxide/thousand $1995 (vs. U.S. value of 0.63 metric tons of carbon dioxide/$1995)**
Fuel Share of Energy Consumption (Includes Natural Gas Flaring; 2002E): Oil (73.2%), Natural Gas (18.0%), Coal (0.0%), Hydroelectric (8.7%)
Fuel Share of Carbon Emissions (2002E): Natural Gas (58.2%), Oil (41.9%), Coal (0.0%)
Status in Climate Change Negotiations: Non-Annex I country under the United Nations Framework Convention on Climate Change (ratified May 17, 2000). Not a signatory to the Kyoto Protocol.
Major Environmental Issues: Overuse of pastures and subsequent soil erosion attributable to population pressures; desertification; deforestation of tropical rain forest (in response to both international demand for tropical timber and to domestic use as fuel), loss of biodiversity; soil erosion contributing to water pollution and siltation of rivers and dams; inadequate supplies of potable water.
Major International Environmental Agreements: A party to Conventions on Biodiversity, Desertification, Law of the Sea, Ozone Layer Protection, and Ship Pollution.

** The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, and wind 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.*
***GDP figures from OECD estimates based on purchasing power parity (PPP) exchange rates.*

OIL AND GAS INDUSTRIES
Organization: State-owned Sociedade Nacional de Combustiveis de Angola (*Sonangol*) oversees offshore and onshore oil operations in Angola .
Major Oil Fields: Takula (Block 0), Nemba (Block 0), Kokongo (Block 0), Pacassa (Block 3), Cobo/Pambi (Block 3)
Major Refineries (1/1/04E Capacity): Fina Petroleos De Angola - Luanda (39,000 bbl/d)
Major Oil Terminals: Luanda, Malango (Cabinda), Palanca, Quinfuquena
Foreign Oil Company Involvement: Ajoco, BHP, BP, Canadian Natural Resources, ChevronTexaco, Daewoo, Engen, ENI-Agip, ExxonMobil, Falcon Oil, Fortum, Gulf Energy

Resources, INA-Naftaplin, Lacula Oil, Marathon Oil, Mitsubishi, Naftgas, Naphta-Israel, Norsk Hydro/Saga, Occidental, Ocean Energy, Pedco, Petrobras, Petrofina, Petrogal, Petro-Inett, Petronas, Phillips, Prodev, Shell, Statoil, Teikoku, Total

LINKS

For more information on Angola , see these other sources on the EIA web site:
EIA - Country Information on Angola

Links to other sites:
CIA World Factbook - Angola
U.S. State Department's Consular Information Sheet - Angola
U.S. State Department: 2002 Human Rights Report: Angola
U.S. Agency for International Development: Angola
U.S. Department of Treasury Office of Foreign Assets Control: UNITA Sanctions (PDF file)
Library of Congress Country Study on Angola - 1989
U.S. Trade with Angola
U.S. Geological Survey - Africa and Middle East Mineral Information: Angola

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Official Angola Website
National Bank of Angola (in Portuguese)
U.S.-Angola Chamber of Commerce
International Monetary Fund (IMF): Angola
World Bank: Angola
MBendi Information Service - Angola's oil and gas industry
All Africa News Service: Angola
Washington Post World Reference: Angola
University of Pennsylvania African Studies: Angola
Stanford University African Studies: Angola
African Development Bank: Angola
Strategic Road: Angola
Human Rights Watch January 2004 Report on Angola
International Energy Agency (IEA): Key Energy Indicators for Angola
Common Market for Eastern and Southern Africa (COMESA)
Southern African Development Community (SADC) 2001
SADC Central Banks Website
Development Bank of Southern Africa
African Union (formerly Organization of African Unity)

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