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## Côte d'Ivoire

*Natural gas reserves and excess electricity generating capacity have allowed Côte d'Ivoire to become a significant regional energy supplier in coming years. Recent offshore discoveries in the Gulf of Guinea, including natural gas finds in its territorial waters, make Côte d'Ivoire a major area for hydrocarbon exploration in sub-Saharan Africa.*

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



### GENERAL BACKGROUND

Côte d'Ivoire remains in a state of political turmoil. Laurent Gbagbo, who came to power in a controversial 2000 election in which candidates from the two main parties - Côte d'Ivoire Democratic Party (PDCI) and Rally of the Republicans (RDR) - were excluded from the race, is president. Although peace returned to Côte d'Ivoire in the first two years of Gbagbo's presidency, political violence soon erupted. In September 2002 a failed coup attempt ignited a civil war that split the country with southern provinces controlled by the government and northern and most

western provinces in rebel hands. Although a peace accord was signed in January 2003 and reaffirmed in July 2004, the deadlines for reform and disarmament were not met, leading to political deadlock and a bombing campaign against rebel targets in November 2004. On November 6, an Ivoirian aircraft bombed a French military installation. French forces retaliated by destroying most of the Ivoirian air force, sparking renewed violence. On November 15, the U.N. Security Council issued an arms embargo and gave the government one month to restore the peace process or face sanctions. As of early 2005, U.N. sanctions have been delayed while Ivoirian leaders work with South African president Thabo Mbeki on a mediation effort, although little progress seems to have been made. Elections are scheduled for October 2005.

Côte d'Ivoire's economy is heavily reliant on agriculture. Revenues from the country's primary exports (cocoa, coffee and timber) make up about 40 percent of the gross domestic product (GDP), and approximately 70 percent of total export earnings. Overall, while real GDP grew by only 1.9 percent in 2004, it is expected to increase by 2.0 percent in 2005. Inflation was estimated at 1.4 percent in 2004. Despite the conflict's adverse affects on the overall Ivoirian economy, so far there is no sign that oil production has been affected by the turmoil.

In 1990, the government privatized the management of state electric utility, Compagnie Ivoirienne d'Electricité (CIE). Other enterprises scheduled for privatization include the state's portion of the Société Ivoirienne de Raffinage (SIR) oil refinery, and segments of the Société Nationale d'Operations Pétrolières de la Côte d'Ivoire (Petroci), the national oil company. The conflict, however, has stalled key structural reforms, including privatizations.

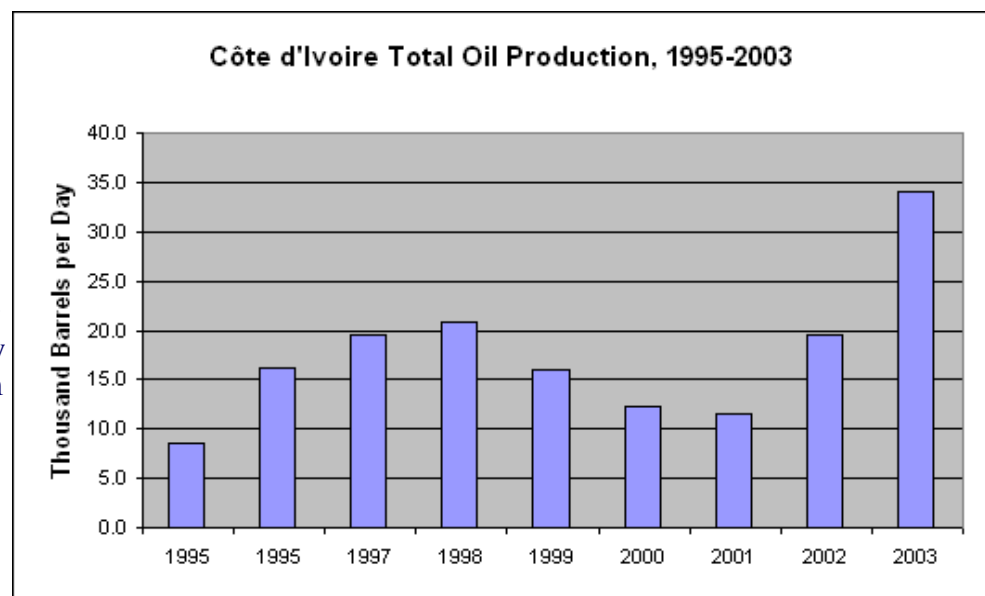
Between 1999 and 2002, the World Bank did not provide any financial assistance to Côte d'Ivoire, citing the country's poor progress in economic management and governance. The country's successful economic performance, prior to the outbreak of the latest round of political violence, led to a staff-monitored program (SMP) and later to the tentative approval of a Poverty Reduction and Growth Facility (PRGF) by the International Monetary Fund (IMF). The World Bank, the IMF and other key donors have planned for a Multi-donor Assessment Mission (MAM) to determine post-conflict reconstruction needs; however, it is on hold until the government provides a plan to settle its arrears to the Bank (\$135 million, as of March 29, 2005) and to improve security. Full-fledged resumption of Côte d'Ivoire's relationship with the IMF and the World Bank is not expected until after the end to hostilities in the country.

Côte d'Ivoire is the leading member of the West African Economic and Monetary Union (UEMOA), accounting for 41 percent of the group's combined GDP. UEMOA is composed of eight West African states (Benin, Burkina Faso, Côte d'Ivoire, Guinea Bissau, Mali, Niger, Senegal and Togo) that share the same currency (the CFA franc). Côte d'Ivoire is also a member of the 16-nation Economic Community of West African States (ECOWAS). In September 1998, the Abidjan Stock Exchange was replaced by the Bourse Régionale des Valeurs Mobilières (BRVM), which serves as the regional exchange for the member nations of the UEMOA.

## **OIL**

According to January 1, 2005 estimates of the *Oil and Gas Journal*, Côte d'Ivoire has proven oil reserves of 100 million barrels. The national oil company, Petroci, was established in 1975 and restructured in 1998, creating four new entities: Petroci Holding, a fully state-owned company that is responsible for the state's portfolio management in the oil sector and the three subsidiaries; Petroci Exploration-Production, responsible for upstream hydrocarbon activities; Petroci-Gaz, responsible for the gas sector; and Petroci Industries-Services, responsible for all other related services. Up to 49 percent interest in the three subsidiaries is available to private sector investors.

Only 7 percent of the country's oil and gas wells are located onshore, with 86 percent in shallow marine areas and 7 percent in the deep offshore. Production is currently just under 33,000 barrels per day (bbl/d) -- mainly from the Calgary-based Canadian Natural Resources' (CNR) wells. CNR holds interests in several other offshore blocks,



including deepwater Block CI-400 and Block CI-26, which contains the newly producing Espoir field. CNR's partners on CI-26 are Ireland's Tullow Oil and Petroci.

First production from the Espoir field occurred in early 2002. Espoir's recoverable reserves are estimated at 93 million barrels of oil and 180 billion cubic feet (bcf) of gas. Production at the field, which has a life expectancy of 20 to 25 years, is expected to peak at 28,000 bbl/d of oil and 35 Mmcf/d of natural gas. In September 2003, Tullow Oil announced that gross production from its East Espoir development has reached 26,700 bbl/d. CNR has announced that development of the West Espoir field will begin in mid-2005, with production starting in mid-2006. In 2003, Tullow Oil discovered oil in the Acajou prospect, also located on license CI-26.

CNR also operates Block CI-40 with Svenska Petroleum and Petroci. Block CI-40, Côte d'Ivoire's first deepwater oil find, lies 5 miles south of the Espoir field and is estimated to have 200 million barrels of recoverable oil reserves. The newly discovered Baobab oil field, situated off the coasts of Jacqueline, 62 miles south-west of Abidjan, is expected to come online by mid-2005 and begin pumping at a rate of 45,000 bbl/d, later peaking at 60,000 bbl/d.

In April 2003, US-based Ocean Energy (Ocean) announced a merger with Devon Energy Corporation. The new company operates the Lion (oil) and Panther (gas) fields on Block CI-11. Current production from the block is 20,000 bbl/d of oil and nearly 70 Mmcf/d of natural gas. Ocean's partners are Petroci, Pluspetrol of Argentina, and International Finance Corporation. Recoverable reserves on Block CI-11 are estimated to be 210 million barrels of oil and 495 bcf of natural gas. Ocean holds interests (ranging from 35 percent to 80 percent) in several other blocks in Côte d'Ivoire including offshore block CI-01, which contains the Kudu, Eland and Ibex fields; Block CI-02, which contains the Gazelle field and CI-105, Côte d'Ivoire's first deep-water offshore block.

U. K.-based Dana Petroleum has an exploration agreement with Côte d'Ivoire for Block CI-100, which is located directly west of acreage held by Dana in Ghana.

Vanco Energy Company has estimated 2.7 billion barrels of oil to be located in the San Pedro ridge and other deposits in Block CI-112 off the western coast of Côte d'Ivoire. India's Oil and Natural Gas Corporation (ONGC) (21.15 percent), Oil India (10.35 percent) and China's Sinopec (27 percent) signed on to the CI-112 project in December 2004, reducing Vanco's stake to 27 percent. This is the first African deepwater exploration venture for all three state-owned firms. In March 2005, Vanco drilled the San Pedro 1 well on Block CI-112. The company received a three month extension of its offshore contract and now has until July 20, 2005 to decide whether to proceed with the next phase of exploration. In addition, new wells reportedly have been drilled in blocks CI-12, CI-101 and CI-104, which has estimated reserves of 30 to 90 million barrels.

In December 2003 the government of the Côte d'Ivoire attempted to attract new investors to its petroleum sector. To bolster their case for new investments, the representatives of the government and Petroci emphasized the region's potential for petroleum production with newly available seismic data. Sixteen new petroleum blocks - both onshore and offshore - were made available to interested companies. No deadline was set for new bids.

### **Refining and Downstream Oil Activities**

Côte d'Ivoire's refining facilities consist of the 65,200-bbl/d SIR refinery and an adjacent 10,000-bbl/d asphalt plant (Société Multinationale de Bitumes-SMB) in Abidjan. An oil pipeline connects the SIR refinery to the Lion and Panther fields. The refinery also receives crude oil from Nigeria.

The state currently owns 47.27 percent of SIR, and expects to retain a 10 percent interest after privatization, due to take place when the political situation in the country improves. Burkina Faso owns a 5.39 percent stake in SIR, and Total, Shell, ExxonMobil and ChevronTexaco own the remainder.

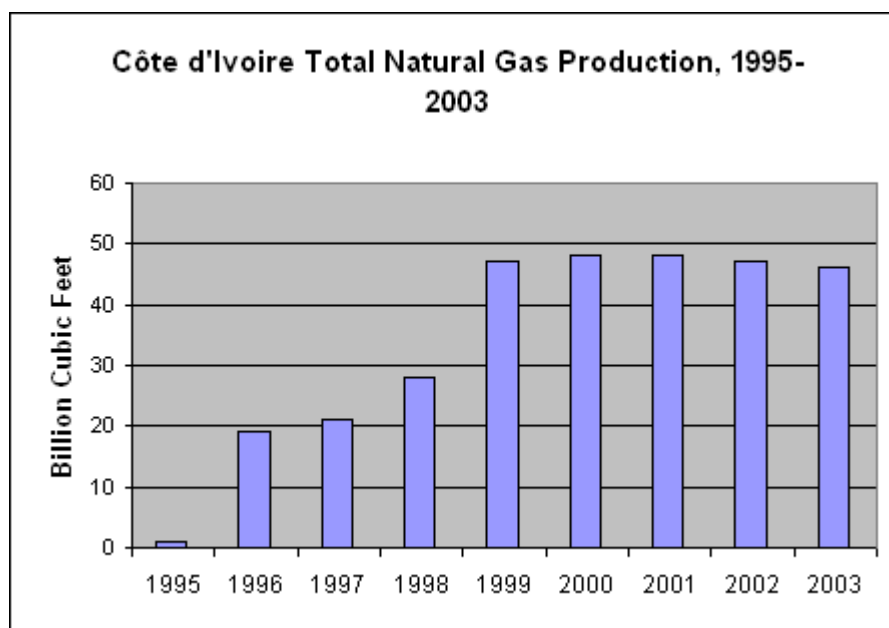
A petroleum products depot adjacent to SIR stores petroleum products for domestic use as well as for export to other countries in West Africa. The depot, owned by the Société de Gestion des Stocks Pétroliers de Côte d'Ivoire (Gestoci) supplies products to Mali, Burkina Faso, Niger and Chad. Gestoci also operates fuel depots in Bouake and Yamoussoukro.

Gestoci, currently owned by the government of the Côte d'Ivoire and the petroleum marketers, is set to be restructured, with the government's stake to be reduced to 34 percent. The government anticipates that refinery expansion coupled with upgrades to Gestoci's Abidjan storage facilities will transform the country into the "Rotterdam of Africa," making Côte d'Ivoire the main supplier of refined products on Africa's Atlantic seaboard. A products pipeline from Abidjan to Bouake and a separate line from Abidjan to Takoradi, Ghana, are being considered. The line, if constructed, may be extended to Burkina Faso, Guinea and Mali. Several foreign oil companies (and one local firm, PetroIvoire) are involved in the distribution and marketing of refined products in Côte d'Ivoire. ENI-Agip, ExxonMobil, ChevronTexaco, TotalFinaElf and Shell control over 90 percent of the downstream retail sector.

In late August 2003, Nigeria and Côte d'Ivoire reached an understanding to crack down on a crude oil theft and smuggling racket that is fueling unrest and piracy in the Niger-Delta. This followed an accord between the two countries, under which Nigeria agreed to supply Côte d'Ivoire with 30,000 bbl/d of crude oil.

### **NATURAL GAS & LPG**

Natural gas reserves in Côte d'Ivoire, first discovered in the 1980's, recently have begun to be developed. Current estimates of Côte d'Ivoire's recoverable natural gas reserves stand at 1.1 trillion cubic feet. Over the next four years, the government estimates that natural gas consumption will grow by 50 percent.



Ocean and its partners are currently producing natural gas from the Panther field on Block CI-11, primarily for electricity generation. In addition, Ocean signed in April 1997 a ten-year, take-or-pay agreement to supply 170 bcf of gas per year for electricity generation. Under a take-or-pay agreement the buyer agrees to pay a certain price for a specified amount of gas, whether the buyer actually uses (takes) the gas or not. The gas is supplied from fields operated by Ocean located offshore

eastern Côte d'Ivoire in Block CI-01 (Kudu, Eland and Ibex fields) and Block CI-02 (Gazelle

field). Initial deliveries began in early 1999.

In April 1997, U.S.-based Apache was granted a ten-year take-or-pay contract for Block CI-27. Apache's partners on the field are Electricité de France (EDF), Petroci and Saur - Bouygues (SAUR). The offshore block contains the Foxtrot natural gas field, which is now the country's largest natural gas deposit, with an estimated 650 bcf of recoverable gas. Production began in June 1999. In September 1999, Apache reduced and restructured its holdings on Block CI-27 by selling its stake in Foxtrot field to Mondoil, which assumed joint management of the operation with SAUR. Apache continues to provide technical services to the project, retaining an interest through its participation in Mondoil (Apache is a shareholder in Mondoil).

Côte d'Ivoire is poised to become a regional natural gas exporter. Negotiations between Côte d'Ivoire and Ghana to adopt a memorandum of understanding on the sale of gas began in 1997. In April 1999, an agreement was signed by the governments of Côte d'Ivoire and Ghana with the UK government and Penspen for a feasibility study to build a gas pipeline between Côte d'Ivoire and Ghana. The pipeline would run from Abidjan to Takoradi in Ghana, which is the location of a power plant currently fueled by light oil. Construction of the pipeline is estimated to take 15-18 months. The possibility of connecting the line to the proposed West Africa Gas Pipeline (WAGP) is being studied.

The government of Côte d'Ivoire estimates that domestic consumption of butane will more than double over the next five years. In 1998, Ocean began to operate a liquefied petroleum gas (LPG) extraction plant that it built near Abidjan. The facility produces 40,000 metric tons of LPG and gasoline annually. Also in 1998, Côte d'Ivoire and Morocco signed an agreement to establish an industrial plant in Côte d'Ivoire, Simgaz, to produce gas cylinders. Estimated production from the plant is 350,000 gas cylinders per year. A pilot LPG-fueled vehicle program also has been proposed.

## **ELECTRICITY**

As of January 1, 2002, Côte d'Ivoire has installed electric generation capacity of 911 megawatts. Gas-powered stations generate more than half of the country's annual production. The first gas-fired plant, Vridi II, was built in 1995 near Abidjan. The 288-MW Azito power station, located in Abidjan's suburbs, which came on-line in 1999, produces more than a third of the country's power. The phased construction of a third turbine in Azito has been delayed pending a satisfactory rise in domestic and regional demand for electricity, through the West African Power Pool (WAPP), an extension of the national grid. In May 2005, Alstom signed a 10 year service contract for the Azito plant. Although they no longer run at full capacity, hydroelectric plants (Ayame I and II, Kossou, Taabo, Buyo and Grah) continue to generate about 17 percent of the country's electricity. Fuel-powered individual generators are also widely used.

The use of gas-fired electricity plants has turned the country into a regional exporter of electricity. Countries connected to the Ivoirian power grid include Benin, Togo, Mali, Burkina Faso and Ghana. An additional connection to Guinea is being studied. The government has made rural electrification a main priority, aiming to connect 200 rural districts to the national grid every year. According to official estimates, less than 15 percent of the population living in rural areas has access to electricity, compared with 77 percent in urban areas and 88 percent in Abidjan. The Compagnie Ivoirienne d'Electricité (CIE), which is 51 percent owned by a subsidiary of France's Bouygues group, has a monopoly on electricity supply. CIE handles the management of the government-owned generation facilities as well as transmission and distribution of electricity.

Côte d'Ivoire is a leading proponent of the WAPP project, initiated by the ECOWAS Energy

Ministers in November 1999 to provide a reliable supply of energy to the region, increase trade in energy among the member states and promote foreign investment. Although the WAPP is still in its early years, the ECOWAS Energy Protocol, signed in December 2003, provides the necessary legal framework to move forward.

*Sources for this report include: African Energy; Agence France Press; AllAfrica.com; Associated Press; BBC News; CIA World Factbook; Economist Intelligence Unit ViewsWire; Factiva; Global Insight; MBendi Information Services; New York Times; Oil & Gas Journal; Reuters News Wire; UN Integrated Regional Information Networks (IRIN); U.S. Energy Information Administration; U.S. Department of State; Washington Post; World Markets Online; XE.com.*

## **COUNTRY OVERVIEW**

**President:** Laurent Gbagbo (since October 26th, 2000)

**Prime Minister:** Seydou Diarra (since January 25th, 2003)

**Independence:** August 7, 1960 (from France)

**Population (2005E):** 17.3 million

**Location/Size:** Western Africa, bordering the Atlantic Ocean, between Liberia and Guinea (on the west); Ghana (on the east); Burkina Faso and Mali (on the north)/124,500 square miles, slightly larger than New Mexico

**Major Cities:** Yamoussoukro (administrative capital), Abidjan (commercial capital), Bouake

**Languages:** French (official), over 60 native dialects

**Ethnic Groups:** Akan (the Baoule subgroup accounts for 23% of the population), Kru (the Bete subgroup accounts for 18%), Senoufo 15%, Malinke 11%, Agni, Mande. There are nearly 3 million foreign Africans (mainly from Burkina Faso and Mali), and an estimated 130,000-330,000 non-Africans (French 30,000 and Lebanese 100,000-300,000)

**Religion:** Muslim 60%, Christian 22% (predominantly Roman Catholic), traditional beliefs 18%

## **ECONOMIC OVERVIEW**

**Minister of the Economic Affairs and Finance:** Paul Bohoun Bouabré

**Currency:** Communauté Financière Africaine (CFA) franc

**Market Exchange Rate (06/21/05):** US\$1 = 540.5 CFA

**Nominal Gross Domestic Product (GDP at market exchange rate) (2004E):** \$15.5 billion

**Real GDP Growth Rate (2004E):** 1.8% **(2005F):** 2.0%

**Nominal GDP per Capita (2004E):** \$907

**Inflation Rate (2004E):** 1.4% **(2005F):** 3.0%

**Current Account Balance (2004E):** \$31 million

**Major Trading Partners:** European Union, United States, ECOWAS-member states

**Merchandise Exports (2004E):** \$6.01 billion

**Merchandise Imports (2004E):** \$3.12 billion

**Merchandise Trade Balance (2004E):** \$2.89 billion

**Major Export Products:** Cocoa, coffee, timber, petroleum products

**Major Import Products:** Food, consumer goods, industrial goods, machinery

**Total External Debt (2004E):** \$11.8 billion

## **ENERGY OVERVIEW**

**Minister of Mines and Energy:** Leon Emanuel Monnet

**Proven Oil Reserves (1/1/05E):** 100 million barrels

**Oil Production (2004E):** 35,541 barrels per day (bbl/d), of which 35,000 bbl/d is crude oil

**Oil Consumption (2004E):** 17,000 bbl/d

**Net Oil Imports (2004E):** 18,541 bbl/d

**Crude Refining Capacity (1/1/05E):** 65,200 bbl/d

**Natural Gas Reserves (1/1/05E):** 1.00 trillion cubic feet (tcf)  
**Natural Gas Production (2003E):** 46 billion cubic feet (bcf)  
**Natural Gas Consumption (2003E):** 46 bcf  
**Electric Generation Capacity (1/1/02E):** 0.90 million kilowatts  
**Electricity Generation (2002E):** 4.8 billion kilowatthours (of which 62% is thermal, 38% is hydroelectric)

### **ENVIRONMENTAL OVERVIEW**

**Minister of Environment:** Angèle Gnonsoa

**Total Energy Consumption (2002E):** 0.11 quadrillion Btu (0.03% of the world total)

**Energy-Related Carbon Dioxide Emissions (2002E):** 5.55 million metric tons of carbon dioxide (0.02% of world carbon dioxide emissions)

**Per Capita Energy Consumption (2002E):** 6.4 million Btu (vs. U.S. value of 339.1 million Btu)

**Per Capita Carbon Dioxide Emissions (2002E):** 0.34 metric tons of carbon dioxide (vs. U.S. value of 19.97 metric tons of carbon dioxide)

**Energy Intensity (2002E):** 4,509.8 Btu/ \$1995 (vs. U.S. value of 10,618.2 Btu/ \$1995)\*\*

**Carbon Dioxide Intensity (2002E):** 0.24 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 (40.0%), Natural Gas (47.4%), Hydro (17.4%)

**Fuel Share of Carbon Dioxide Emissions (2002E):** Oil (52.9%), Natural Gas (47.1%)

**Status in Climate Change Negotiations:** Non-Annex I country under the United Nations Framework Convention on Climate Change (ratified November 29th, 1994). Not a signatory to the Kyoto Protocol.

**Major Environmental Issues:** Deforestation (most of the country's forests, once the largest in West Africa, have been cleared by the timber industry); water pollution from sewage and industrial and agricultural effluents

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

*\* 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. Sectoral shares of energy consumption and carbon emissions are also based on IEA data*

\*\*GDP figures from OECD estimates based on purchasing power parity (PPP) exchange rates.

### **OIL AND GAS INDUSTRIES**

**Organization:** Petrolières de la Côte d'Ivoire (Petroci) has four operating subsidiaries (Petroci-Holding, Petroci-Exploration/Production, Petroci-Gaz, and Petroci-Industries/Services)

**Major Oil Fields:** Lion, Panther

**Major Gas Fields:** Foxtrot, Kudu, Panther

**Major Refineries (1/1/05E Capacity):** Société Ivoirienne de Raffinage (SIR) - Abidjan (65,200 bbl/d), Société Multinationale des Bitumes (SMB) - Abidjan (10,000-bbl/d)

**Foreign Oil Company Involvement:** Addax, Canadian Natural Resources, Dana Petroleum, Energy Africa, ENI-Agip, ExxonMobil, Gentry, Gulf Canada, Mondoil, Ocean/Devon Energy, PanCanadian Petroleum, Pluspetrol, Royal Dutch/Shell, Santa Fe Snyder, Stratic Energy, Texaco, TotalFinaElf, Tullow, Vanco Energy

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## LINKS

Links to other U.S. government sites:

[U.S. State Department Background Notes on Côte d'Ivoire](#)

[U.S. State Department's Consular Information Sheet on Côte d'Ivoire](#)

[U.S. Embassy in Côte d'Ivoire](#)

[U.S. Department of Energy's Office of Fossil Energy's International Section - Côte d'Ivoire](#)

[CIA World Factbook - 2005](#)

[Library of Congress - Côte d'Ivoire Country Study](#)

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[IMF - Côte d'Ivoire Information page](#)

[World Bank - Côte d'Ivoire Information page](#)

[Economic Community of West African States \(ECOWAS\)](#)

[University of Pennsylvania - Côte d'Ivoire Information page](#)

[Columbia University - Côte d'Ivoire information page](#)

[Mbendi - Côte d'Ivoire Profile](#)

[Washington Post Côte d'Ivoire page](#)

[allAfrica News - Côte d'Ivoire](#)

[Abidjan Post](#)

[Société Ivoirienne de Raffinage \(SIR\)](#)

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