



# 2007 Minerals Yearbook

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**EQUATORIAL GUINEA [ADVANCE RELEASE]**

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# THE MINERAL INDUSTRY OF EQUATORIAL GUINEA

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Offshore oil and natural gas production dominated Equatorial Guinea's mineral industry. In 2006, which was the latest year for which data were available, hydrocarbons (crude oil and derivatives, such as liquefied petroleum gas) accounted for about 88% of the country's nominal gross domestic product. In 2007, Equatorial Guinea ranked seventh (based on production volume) of all African crude oil producers (BP p.l.c., 2008, p. 8; Stotsky and others, 2008, p. 2).

Mineral resources are the property of the Government. Mineral production activity is governed by law No. 9/2006, which is the Mining Law, and law No. 8/2006, which is the Hydrocarbon Law. Law No. 7/2003 and amendments form the Environmental Law. Contracts for hydrocarbon exploration and production are administered by the Ministerio de Minas, Industria y Energia.

Condensate and crude oil, which was produced from offshore fields, was exported. Produced methanol was exported, as was the liquefied natural gas (LNG) and some of the liquefied petroleum gas (LPG) output. Clay, gravel, sand, and volcanic rock output was used by the domestic construction sector.

In the past two decades, improved deepwater production technology, increased petroleum exploration, and the international demand for crude oil and natural gas have transformed the area around Equatorial Guinea into a notable hydrocarbon region. The new LNG plant and the production and export of commodities associated with natural gas, such as LPG and methanol, have provided the impetus for the development of the infrastructure necessary to capture natural gas, despite the very limited local market.

## Production

The country's mineral sector was based on the production of mineral fuels, such as condensate, crude oil, and natural gas. Natural gas production from the Alba Field was processed at the Alba plant (which was a facility located at Punta Europa on Bioko Island) where the condensate and LPG were stripped from the wet gas stream; the remaining dry gas was piped to the adjacent methanol and LNG facilities. Some artisanally produced gold and crude construction materials also were produced.

The commissioning of the LNG plant resulted in a significant increase in natural gas production. Methanol output rebounded in 2007. In 2006, production operations at the methanol plant were suspended during a scheduled round of maintenance and subsequent repairs of the compressor.

## Structure of the Mineral Industry

Compañia Nacional de Petr leos de Guinea Ecuatorial, which was the national oil company, managed the state's

interest in crude oil production operations and promoted other investment opportunities in the nation's petroleum sector. Sociedad Nacional de Gas de Guinea Ecuatorial managed the Government's interest in products derived from natural gas output, such as LNG, LPG, and methanol. Hydrocarbon exploration and production activity was governed by production-sharing contracts held by joint ventures of international oil companies and the Government (table 2).

## Commodity Review

### *Mineral Fuels*

**Natural Gas and Petroleum.**—Construction of a 3.7-million-metric-ton-per-year (Mt/yr)-capacity LNG plant at Punta Europa was completed in May 2007. The LNG plant's ownership, which comprised Marathon Equatorial Guinea Production Ltd. of the Cayman Islands (60%), Government-owned Sociedad Nacional de Gas de Guinea Ecuatorial (25%), Mitsui & Co. Ltd. of Japan (8.5%), and Marubeni Corp. of Japan (6.5%), also completed the initial engineering and design studies of an additional 4.4-Mt/yr-capacity LNG train at Punta Europa (Marathon Oil Corp., 2008, p. 16).

## Outlook

Since Zafiro Field's Southern Expansion project came onstream in 2004, crude oil production from the oilfield has declined by about 9% per year. The decline in crude oil production from the Zafiro Field has been offset by new crude oil output from the Okume Field, the production from which is expected to reach design capacity in 2008, and increased condensate output from the Alba Field, which began to level off in 2007. The decline in total crude oil production is expected to become more noticeable in coming years.

Construction material production is expected to increase to meet the demand for oilfield and transportation infrastructure projects. While numerous cement projects are underway in the region, Equatorial Guinea's proposed construction projects may be able to support a small cement plant.

## References Cited

- BP p.l.c., 2008, Statistical review of world energy: London, United Kingdom, BP p.l.c., June, 45 p.
- Marathon Oil Corp., 2008, Form 10-K—2007: U.S. Securities and Exchange Commission, 65 p.
- Stotsky, J., Franken, H., Iossifov, P., and Rivas, L., 2008, Selected issues and statistical appendix: Washington DC, International Monetary Fund Country Report no. 08/157, May, 25 p.

TABLE 1  
EQUATORIAL GUINEA: ESTIMATED PRODUCTION OF MINERAL COMMODITIES<sup>1,2</sup>

(Thousand 42-gallon barrels unless otherwise specified)

Commodity <sup>3</sup>		2003	2004	2005	2006	2007
Gold	kilograms	100	150	200	200	200
Liquefied petroleum gas		800	875	3,035 <sup>r,4</sup>	7,562 <sup>r,4</sup>	8,022 <sup>4</sup>
Methanol	metric tons	825,000	913,000	1,110,000 <sup>r</sup>	752,000 <sup>r</sup>	1,098,000 <sup>4</sup>
Natural gas <sup>5</sup>	million cubic meters	412 <sup>r,4</sup>	473 <sup>r,4</sup>	678 <sup>r,4</sup>	438 <sup>r,4</sup>	1,369 <sup>4</sup>
Petroleum, crude and condensate		102,000	128,000 <sup>r</sup>	131,000 <sup>r</sup>	125,000 <sup>r</sup>	127,000

<sup>r</sup>Revised.

<sup>1</sup>Estimated data are rounded to no more than three significant digits.

<sup>2</sup>Table includes data available through October 21, 2008.

<sup>3</sup>In addition to the commodities listed, Equatorial Guinea presumably produced a variety of crude construction materials (clay, gravel, and sand), but available information is inadequate to make reliable estimates of output.

<sup>4</sup>Reported figure.

<sup>5</sup>Produced natural gas not used to produce methanol by Atlantic Methanol Production Co. L.L.C., as rig or processing plant fuel, or compressed to liquefied natural gas was reinjected. Estimated total natural gas production in million cubic meters: 2003—1,220; 2004—1,390; 2005—2,300; 2006—2,000; and 2007—2,300.

TABLE 2  
EQUATORIAL GUINEA: STRUCTURE OF THE MINERAL INDUSTRY IN 2007

(42-gallon barrels unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Gold	kilograms	Artisanal placer operations	Aconibe, Coro, and Mongomo	500
Liquefied natural gas	metric tons	Equatorial Guinea LNG Holdings Ltd. (Marathon Equatorial Guinea Production Ltd., 60%; Sociedad Nacional de Gas de Guinea Ecuatorial, 25%; Mitsui & Co. Ltd., 8.5%; Marubeni Corp., 6.5%)	Punta Europa	3,700,000 <sup>1</sup>
Liquefied petroleum gas		Alba Plant LLC (Marathon Oil Co., 52%; Noble Energy Equatorial Guinea Ltd., 28%; Sociedad Nacional de Gas de Guinea Ecuatorial, 20%)	do.	6,000,000
Methanol	metric tons	Atlantic Methanol Production Co. L.L.C. (Marathon Equatorial Guinea Methanol Ltd., 45%; Samedan Methanol, 45%; Sociedad Nacional de Gas de Guinea Ecuatorial, 10%)	do.	1,100,000
Natural gas	million cubic meters	Joint venture of Marathon Oil Co., 63%; Noble Energy Equatorial Guinea Ltd., 34%; Compañía Nacional de Petróleos de Guinea Ecuatorial, 3%	Alba Field, Alba Block	2,300
<b>Petroleum:</b>				
Crude		Joint venture of Mobil Equatorial Guinea Inc., 71.25%; Devon O.E.I. Operating Inc., 23.75%; Compañía Nacional de Petróleos de Guinea Ecuatorial, 5%	Zafiro Field, Block B	102,000,000
Do.		Joint venture of Hess Equatorial Guinea, Inc., 80.75%; Energy Africa Equatorial Guinea Ltd., 14.25%; Compañía Nacional de Petróleos de Guinea Ecuatorial, 5%	Ceiba Field, Block G	12,500,000
Do.		do.	Okume Field (includes the Ebano, the Elon, the Okume, and the Oveng reservoirs), Block G	12,000,000
Crude and condensate		Joint venture of Marathon Oil Co., 63%; Samedan of North Africa Inc., 34%; Compañía Nacional de Petróleos de Guinea Ecuatorial, 3%	Alba Field, Alba Block	16,800,000

<sup>1</sup>Construction of processing train 1 was completed in May 2007.