



2010 Minerals Yearbook

NIGERIA [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF NIGERIA

By Philip M. Mobbs

As Africa's leading crude oil producer, Nigeria accounted for about 24% of African and about 2.9% of total world crude oil production in 2010. The state-owned Nigerian National Petroleum Corp. (NNPC) reported that crude oil output increased by about 15% compared with that of 2009 (BP p.l.c., 2011, p. 8; Nigerian National Petroleum Corp., 2011, p. 21).

The Federal Government holds all mineral rights and is responsible for issuing exploration and development licenses. The Minerals and Mining Act, 2007, and the Petroleum Act of 1969 form the legal basis for exploration and production activity in the mineral sector. New legislation included the Nigerian Oil and Gas Industry Content Development Bill; legislation still under consideration in 2010 included the Gas Flaring (Prohibition and Punishment) Bill and the Petroleum Industries Bill.

Minerals in the National Economy

The hydrocarbon sector, which included crude oil and natural gas production, accounted for about 16% of Nigeria's real gross domestic product. To diversify the oil-based economy, Government policy continued to promote investment in the exploration for and the development of solid minerals (Central Bank of Nigeria, 2010, p. 26; 2011, p. 26).

In 2010, an outbreak of lead poisoning was reported in Zamfara State. In several villages, the processing of artisanal-mined gold ore reportedly resulted in elevated lead and mercury levels in the soil and the water supply (Ibrahim, 2010; Nebehay, 2010).

Production

NNPC's refineries at Kaduna, Port Harcourt, and Warri again operated at less than 50% of capacity. Output of processed petroleum products, however, increased by 79%. An increase in the volume of aluminum and crude oil produced in Nigeria also was reported (table 1; Nigerian National Petroleum Corp., 2011, p. 44; United Company RUSAL, 2011, p. 32).

Structure of the Mineral Industry

The Ministry of Mines and Steel Development manages much of the solid minerals sector. The Federal Ministry of Commerce and Industry manages the cement sector. The Federal Ministry of Energy is responsible for the oversight of the natural gas, petroleum, and power sectors. NNPC was the major partner in natural gas and petroleum production joint ventures with subsidiaries of large international oil companies, such as Chevron Corp. and Exxon Mobil Corp. of the United States, Eni S.p.A. of Italy, Royal Dutch Shell plc of the United Kingdom (Shell), and Total S.A. of France. Crude oil also was produced under production-sharing contracts, service contracts, and by sole risk operators (primarily independent domestic companies).

Most Nigerian natural gas output was associated with crude oil production.

Commodity Review

Metals

Aluminum.—United Company RUSAL of Russia continued the rehabilitation of the facilities of the Aluminum Smelter Co. of Nigeria, Ltd. (ALSCON). The two-potline plant was originally scheduled to reach full production capacity of 193,000 metric tons per year (t/yr) by 2010, but the global economic crisis in 2008 and 2009 temporarily had diminished RUSAL's interest in the addition of production capacity. In 2010, work on one potline resulted in the increase in output to about 21,200 metric tons (t) from about 13,000 t in 2009 (Mukumbira, 2008; United Company RUSAL, 2011, p. 16, 32).

GZ Industries Ltd. of Nigeria proposed to double its aluminum consumption. The company planned to increase production capacity to 1.2 billion aluminum beverage cans per year by 2011 (Adeyemi and Fodeke, 2010).

Iron and Steel.—The Ministry of Mines and Steel Development proposed to restart operations at selected sections of the Ajaokuta Steel Company Ltd. (ASCL) and requested funding of \$4.2 million. The funds were to be used to pay past due salaries of workers at ASCL and National Iron Ore Mining Co. (NIOMCO) and to partially restart the powerplant and other ancillary facilities at Ajaokuta, such as a light section rolling mill and a wire rod mill. The Government restated its plans to privatize ASCL and NIOMCO once some of the facilities became functional. Initial construction of the unfinished Ajaokuta iron and steel complex had begun about 30 years ago (Olaitan, 2010).

Industrial Minerals

Cement.—Dangote Cement, which was a division of Dangote Industries Ltd. of Nigeria, proposed to merge with Benue Cement Company Plc (BCC) of Nigeria in which Dangote Industries held 75% equity interest.

In 2010, the Government proposed to update its policy on imported bulk cement. Planned action included starting an annual review process to validate the need for imported cement, reinstating a 20% duty on imported bulk cement, and canceling unused cement import licenses that had been issued between 2002 and 2008. The importation of bagged cement had been banned in 2009 (Ofikhenua, 2009; Nigerian Compass, 2010).

Mineral Fuels

Natural Gas.—Shell affiliated companies accounted for about 32% of Nigerian natural gas production; companies

affiliated with ExxonMobil, 24%; Eni's joint venture with NNPC (Nigerian Agip Oil Company Ltd.), 18%; and Chevron affiliates, 8%. In 2010, about 24% of Nigerian natural gas production was flared (Nigerian National Petroleum Corp., 2011, p. 28).

In July, Shell Petroleum Development Company of Nigeria Ltd. (SPDC) started crude oil and natural gas production from the Gbaran-Ubie project. Natural gas was delivered to powerplants and Nigeria Liquefied Natural Gas Co. facilities.

The phase 3A expansion of the Escravos Gas Plant was completed in 2009; initial natural gas deliveries to the new facilities started in mid-2010. The Chevron-operated plant increased its natural gas processing capacity to 6.9 billion cubic meters per year from 2.9 billion cubic meters. The facility's condensate and liquefied petroleum gas capacity increased to 21 million barrels per year from 5 million barrels per year (Chevron Nigeria Ltd., 2011, p. 2).

Petroleum.—In 2010, associated companies of Shell, which included Shell Nigeria Exploration and Production Co. and the SPDC joint venture with NNPC, accounted for about 26% of Nigerian crude oil production. Companies affiliated with ExxonMobil, which included Esso Exploration and Production Nigeria Ltd. and the Mobil Producing Nigeria Unlimited joint venture with NNPC, accounted for about 25% of crude oil production. Chevron-affiliated companies, which included the Chevron Nigeria Ltd. (CNL) and NNPC joint ventures [both the original CNL-NNPC joint venture and the joint venture that had been operated by Texaco Overseas Nigeria Petroleum Company Unlimited (TOPCON) for partners Chevron Oil Company Nigeria Ltd. (COCNL) and NNPC until 2004 when COCNL and TOPCON were merged into CNL] and Star Deep Water Petroleum Ltd., accounted for about 22% of crude oil production (ChevronTexaco Corp., 2005, p. 15; Nigerian National Petroleum Corp., 2011, p. 23).

Seplat Petroleum Company Ltd. acquired 45% interest in oil mining leases 4, 38, and 41 in the northwestern Niger River Delta from SPDC (which formerly had held 30% interest), Total E&P Nigeria Ltd. (formerly held 10% interest), and Nigeria Agip Oil Co. (formerly held 5% interest). Seplat was a joint venture of the Nigerian firms Platform Petroleum Ltd. and Shebah Petroleum Development Company Ltd. (55%) and Etablissements Maurel & Prom S.A. of France (45%). NNPC retained 55% interest in oil mining leases 4, 38, and 41 but subsequently transferred its interest in the joint venture to its subsidiary Nigerian Petroleum Development Co. The four oilfields on the leases had been temporarily shut since 2008 because of pipeline damage that restricted movement of the crude oil to market. Production was expected to resume at a rate of about 52,000 barrels per day (bbl/d), of which about 30,000 bbl/d would be crude oil (Royal Dutch Shell plc, 2010).

Reported incidents of crude oil and refined petroleum product pipeline sabotage increased to 1,937 incidents in 2010 compared with 1,435 incidents in 2009. Pipeline vandalization had peaked in 2006 at 3,674 incidents (Nigerian National Petroleum Corp., 2011, p. 58).

Outlook

The Government's ongoing promotion of the diversification of the mineral sector has included updating the Mining Law and making efforts to attract domestic and foreign investors to explore for and to exploit economic mineral deposits. The intermittent availability of electrical power and civil unrest, however, is expected to continue to dampen international investor interest in the Nigerian solid minerals sector.

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TABLE 1
NIGERIA: ESTIMATED PRODUCTION OF MINERAL COMMODITIES^{1,2}

(Metric tons unless otherwise specified)

Commodity ³	2006	2007	2008	2009	2010
METALS					
Aluminum	--	--	10,600 ^r	13,000	21,200
Gold kilograms	50	180	200	600 ^r	600 ^e
Iron ore, gross weight thousand metric tons	88 ⁴	58 ⁴	62 ⁴	61 ^{r,4}	50
Lead:					
Lead-zinc ore	492,000 ⁴	582,000 ⁴	644,000 ⁴	624,000 ^r	600,000
Metal, refined	5,000	5,000	5,000	5,000	5,000
Niobium (columbium) and tantalum concentrates:					
Gross weight	110	180	194 ⁴	190 ^r	190
Niobium (columbium) content	40	70	75	73	73
Steel	500,000	500,000	500,000	450,000	410,000 ^e
Tin:					
Mine output, cassiterite concentrate:					
Gross weight	1,818 ⁴	229 ⁴	240 ⁴	237 ^r	230
Sn content	1,400	180	185	180	180
Metal, smelter	--	--	--	--	--
INDUSTRIAL MINERALS					
Barite ⁵	6,300 ⁵	5,000 ⁵	5,000 ⁵	19,400 ^{r,4}	19,000
Cement, hydraulic thousand metric tons	3,300	4,700	5,000	5,000	5,400 ^e
Clays:					
Kaolin	100,000	100,000	100,000	100,000	100,000
Unspecified	160,000	234,000	251,000 ⁴	240,000	250,000
Feldspar	1,700	1,700	1,700	1,700	1,700 ^e
Gypsum	169,000	579,000 ⁴	300,000	300,000	320,000 ^e
Sand and stone:					
Granite thousand metric tons	--	--	--	--	--
Limestone do.	1,500 ^e	3,300	3,960	4,237 ^r	4,300 ^e
Marble do.	200	200	200	190	--
Sand do.	941	1,723 ⁴	1,960 ⁴	1,980 ^{r,4}	2,000
Stone, crushed (aggregate) do.	1,636 ⁴	2,924 ⁴	3,583 ⁴	3,762 ^{r,4}	4,000
Shale do.	1,300	83	91 ⁴	88 ^{r,4}	90 ^e
Topaz kilograms	10	10	625 ⁴	1,077 ⁴	1,000 ^e
MINERAL FUELS AND RELATED MATERIALS					
Coal, bituminous	530,000	530,000	500,000	450,000	450,000 ^e
Natural gas:					
Gross million cubic meters	82,064 ⁴	84,707 ⁴	80,604 ⁴	64,883 ⁴	60,150 ⁴
Dry do.	53,479 ⁴	57,400 ⁴	58,793 ⁴	46,895 ⁴	45,000 ^e
Petroleum:					
Crude thousand 42-gallon barrels	869,197 ⁴	803,000 ⁴	768,800 ⁴	780,348 ⁴	896,043 ⁴
Natural gas liquids do.	NA	NA	13,500 ^e	15,500 ^e	14,700 ^e
Refinery products:					
Liquefied petroleum gases do.	NA	16 ⁴	1,900 ^{r,e}	1,200 ^{r,e}	1,900 ^e
Gasoline do.	8,500	2,450 ⁴	5,958 ⁴	3,102 ⁴	6,400 ^e
Kerosene do.	6,100	2,550 ⁴	5,179 ⁴	2,530 ⁴	5,000 ^e
Distillate fuel oil do.	9,400	4,645 ⁴	8,698 ⁴	4,168 ⁴	7,000 ^e
Residual fuel oil do.	14,400	6,670 ⁴	9,629 ⁴	4,060 ⁴	6,600 ^e
Unspecified do.	1,000	1,681 ⁴	3,383 ⁴	1,617 ⁴	3,000 ^e
Total do.	39,400	18,012 ⁴	34,747 ⁴	16,677 ⁴	29,900 ^e

¹Revised. do. Ditto. NA Not available. -- Zero.

²Estimated data are rounded to no more than three significant digits; may not add to totals shown.

³Table includes data available through July 15, 2011.

⁴In addition to the commodities listed, amethyst, aquamarine, bitumen, copper (secondary), diamond, emerald, garnet, ilmenite, lime, manganese, monazite, phosphate rock, rolled-steel products, ruby, rutile, sapphire, soda ash, talc, tourmaline, tungsten, and zircon are produced, but available information is inadequate to estimate output.

⁵Reported figure.

⁶Considerably more barite is produced but it is considered to be commercially unusable.

TABLE 2
NIGERIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2010

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum		Aluminum Smelter Co. of Nigeria, Ltd. (ALSCON) (United Company RUSAL, 85%)	Smelter at Ikot Abasi	96,000 ¹
Cement		Obajana Cement Plc (Dangote Industries Ltd.)	Obajana	5,200,000
Do.		Benue Cement Company Plc (Dangote Industries Ltd.)	Gboko	2,800,000
Do.		United Cement Company of Nigeria Ltd. (Unicem) (Nigeria Cement Holdings BV and Flour Mills of Nigeria Ltd.)	Mfamosing	2,500,000
Do.		Lafarge Cement WAPCO Nigeria Ltd. (Lafarge S.A., 59.95%)	Ewekoro	1,320,000
Do.		Ashakacem Plc (Lafarge S.A., 50.11%)	Ashaka	900,000
Do.		Lafarge Cement WAPCO Nigeria Ltd. (Lafarge S.A., 59.95%)	Shagamu	600,000
Do.		Cement Co. of Northern Nigeria Plc (BUA International Ltd., 50.7%)	Sokoto	500,000
Do.		Edo Cement Co. Ltd. (BUA International Ltd., 87%)	Okpella	350,000
Do.		United Cement Company of Nigeria Ltd. (Unicem) (Nigeria Cement Holdings BV and Flour Mills of Nigeria Ltd.)	Clinker grinding plant, Calbar	350,000 ²
Coal		Kogi State government	Ogboyoga Mine	NA
Copper, secondary		Sun & Sand Industries Ltd.	Otta	NA
Fertilizer:				
Single superphosphate		Heikio Consortium Ltd.	Kaduna	100,000 ¹
Urea		Notore Chemical Industries Ltd.	Onne	500,000
Iron and steel:				
Iron ore		National Iron Ore Mining Co. Ltd. (Government, 100%)	Itakpe	NA
Steel:				
Steel, crude		Ajaokuta Steel Co. Ltd. (Government, 100%)	Blast furnace at Ajaokuta	1,350,000 ¹
Do.		Delta Steel Co. Ltd.	Electric arc furnaces at Aladja	1,000,000
Do.		African Steel Mills Ltd. (Liberty Group)	Electric arc furnace at Ikorodu	170,000
Do.		Federated Steel Mills Ltd.	Electric arc furnace at Ikeja	140,000
Do.		Nigerian Spanish Engineering Co.	Electric arc furnace at Kano	100,000
Do.		Sankyo Steel Mill Company Ltd.	Electric arc furnace at Ikeja	80,000
Do.		Continental Iron and Steel Co.	do.	60,000
Do.		Universal Steel Co.	do.	50,000
Rolling mills		Delta Steel Co. Ltd.	Aladja	300,000
Do.		Jos Steel Rolling Co. Ltd. (Zuma Steel West Africa Ltd.)	Jos	210,000
Do.		Katsina Steel Rolling Co. Ltd. (Dana Steel Ltd.)	Katsina	207,000
Do.		Oshogbo Steel Rolling Co. Ltd. (Kura Holdings Ltd.)	Oshogbo	210,000
Do.		Ajaokuta Steel Co. Ltd. (Government, 100%)	Ajaokuta	130,000
Do.		African Steel Mills Ltd. (Liberty Group)	Ikorodu	100,000
Do.		Sunflag Steel (Nigeria) Ltd.	Lagos	30,000
Natural gas, liquefied	million metric tons	Nigeria Liquefied Natural Gas Ltd. [Nigerian National Petroleum Corp. (NNPC), 49%; Shell Gas B.V., 25.6%; Total LNG Nigeria Ltd., 15%; ENI International (N.A.) S.a.r.l., 10.4%]	Trains 1 through 6 at Finima, Bonny Island	21
Niobium (columbium) and tantalum		Artisanal miners	Jos region	NA
Petroleum:				
Crude	million 42-gallon barrels	Produced under various joint ventures with Nigerian National Petroleum Corp. (NNPC), production-sharing contracts, service contracts, and sole risk operations	Niger Delta and offshore	980
Refined petroleum products	do.	Port Harcourt Refining Co. Ltd. (Government, 100%)	New Port Harcourt refinery	55
Do.	do.	do.	Old Port Harcourt refinery	22
Do.	do.	Warri Refinery and Petrochemicals Co. Ltd. (Government, 100%)	Warri refinery	43
Do.	do.	Kaduna Refinery and Petrochemicals Co. Ltd. (Government, 100%)	Kaduna refinery	38
Tin		Artisanal miners	Mines at Dutse Nkura	30
Do.		do.	Mines at Gurum, near Jos	30

Do., do. Ditto. NA Not available.

¹Under rehabilitation.

²Closed in 2009.