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2005 Minerals Yearbook

ZAMBIA

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The Mineral Industry of Zambia

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Zambia is a leading producer of cobalt, copper, and gem-quality emerald. Coal, a variety of mineral commodities for the construction industry, other gemstones (primarily amethyst, beryl, and tourmaline), gold, silver, sulfur, and refined petroleum also are produced in Zambia. Zambia has no natural gas or crude oil production and is dependent primarily on hydroelectric power for most of the country's power needs, although there was some coal-fueled electricity power generation.

As a landlocked southern African country, Zambia is dependent on truck and rail transport to sustain most of its international trade; cobalt and copper accounted for more than 60% of merchandise exports. The principal rail routes were northeast to the Port of Dar es Salaam, Tanzania, and south through Zimbabwe to the Port of Beira, Mozambique, or to South African ports. Major highways generally paralleled the rail lines. Crude oil was imported via a pipeline that runs to the Ideni refinery in Ndola from Dar es Salaam.

In 2005, the real gross domestic product (GDP) grew by 5.1% and inflation remained about 18%. The GDP based on purchasing power parity was estimated to be about $10.8 billion, and the GDP per capita based on purchasing power parity was estimated to be about $931. Mining and quarrying accounted for about 8% of the real GDP (Akatu and others, 2006, p. 45; International Monetary Fund, 2006§[1]).

In 2005, extensive exploration for cobalt ores, copper ores, gold ores, nickel ores, uranium ores, and gemstones continued in Zambia. New copper ore production was started by First Quantum Minerals Ltd. of Canada at the Kansanshi open pit and by Konkola Copper Mines at the Fitwaola open pit. Metorex Ltd. of South Africa closed the Chibuluma West Mine after the economic reserves were exhausted and subsequently completed the ramp access to the underground Chibuluma South Mine, which previously had been accessed via a ventilation shaft.

Outlook

Despite some setbacks in the program to privatize the cobalt and copper mining sector, the Government has attracted new private investment to revitalize the formerly declining industry. New copper mine production expected to come online in the near future includes the Lumwana project, of which Equinox Resources Ltd. of Australia acquired the remaining 49% (formerly held by Phelps Dodge Corp. of the United States) in January 2005.

The country faces several internal and external hurdles to mineral resource development; these include cyclical world commodity prices; high transportation costs; limited national infrastructure, particularly west of the Copperbelt; and the threat that high HIV/AIDS rates in the region pose to maintaining a skilled labor force. The nationwide fuel shortages of late 2005, which resulted in the severe cutback in Zambian copper smelter operations, are not expected to adversely affect new mineral processing projects, such as the Sable copper solvent extraction-electrowinning plant.

Reference Cited

Akatu, Patrick, Dunn, David, Arnason, Birgir, and Baldina, Alfredo, 2006, Zambia—Selected issues and statistical appendix: Washington, DC, International Monetary Fund Country Report no. 06/118, March, 72 p.

Internet Reference Cited

International Monetary Fund, 2006 (September), Zambia, World Economic Outlook Database, accessed September 15, 2006, via URL http://www.imf.org/external/pubs/ft/weo/2006/02/data/index.aspx.

Major Sources of Information

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[1]A reference that includes a section mark (§) is found in the Internet Reference Cited section.

TABLE 1
ZAMBIA: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity		2001	2002	2003	2004[e]	2005[e]
METALS						
Cobalt:						
Mine output, Co content		8,000 [e]	10,000 [e]	11,300	10,000 [r]	9,300
Metal, Co content		4,657	6,144	6,620 [r]	5,791 [r]	5,422 [2]
Copper:[3]						
Mine output, Cu content:						
By concentration or cementation		233,000	258,000	269,000	344,300 [2]	341,000
Leaching, electrowon		79,000	83,000	79,000	82,600 [2]	106,000
Total		312,000	341,000	348,000	426,900 [2]	447,000
Metal:						
Smelter, primary:						
Electrowon, low grade		25,100	NA	NA	NA	NA
Other		215,000	NA	NA	NA	NA
Total		240,100	253,500	268,000	280,100 [2]	270,000
Refinery, primary:						
Electrowon		79,000	83,700	109,000 [r, e]	124,000 [r]	155,000
Other		217,000	253,100	241,000 [r, e]	286,000 [r]	244,000
Total		296,000	336,800	350,000 [r, e]	410,000 [r]	399,000
Gold	kilograms	--	--	--	--	440
Silver	do.	--	--	--	--	2,000
INDUSTRIAL MINERALS						
Cement		215,470	230,379	350,000 [r, e]	390,000 [r]	435,000
Clays:[e]						
Brick		3,000	3,000	3,000	3,300	3,300
Building, not further specified		30,000	30,000	30,000	33,000	33,000
China and ball		200	200	200	200	200
Gemstones:[e]						
Amethyst	kilograms	1,145,029 [2]	1,064,606 [2]	1,000,000	1,100,000	1,100,000
Beryl	do.	1,567 [2]	8,551 [2]	8,000	8,000	10,000
Emerald	do.	764 [2]	1,860 [2]	2,000	2,100	2,500
Garnet	do.	NA [2]	NA [2]	NA	NA	NA
Tourmaline	do.	25,619 [2]	25,755 [2]	25,000	26,000	26,000
Lime, calcined	thousand metric tons	117	151	145 [e]	150	150
Limestone, for cement and lime	do.	61	330	690 [e]	750	750
Limestone, crushed aggregate	do.	450	450	600 [e]	650	650
Sand and gravel, construction[e]	do.	200	200	200	220	220
Sulfur:						
Gross weight:						
Pyrite concentrate		199,400	225,870	226,000	280,000	285,000
Sulfuric acid[4]		63,000	10,000 [e]	10,000	12,000	12,000
Sulfur content:						
Pyrite concentrate (42% S)		83,752 [2]	94,900 [e]	95,000 [e]	118,000	120,000
Sulfuric acid (32.6% S)		20,500	32,600 [r, e]	33,000 [r, e]	39,000 [r]	40,000
Total, S content		102,252	127,500 [r, e]	128,000 [r, e]	157,000 [r]	160,000
MINERAL FUELS AND RELATED MATERIALS						
Coal, bituminous		104,600 [2]	71,700	71,800	240,000	240,000
Petroleum, refinery products[e]	thousand 42-gallon barrels	--	--	5,000	6,200	5,000

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised. NA Not available. -- Zero.

[1]Table includes data available through November 29, 2006.

[2]Reported figure.

[3]Terms used are as defined by the International Copper Study Group.

[4]From the Chambishi and the Nkana acid recovery plants.

Sources: Zambia Government data and company reports. Data estimated by the U.S. Geological Survey.