2013 Minerals Yearbook

MALAWI

U.S. Department of the Interior
U.S. Geological Survey

February 2015
Revised February 2025

The Mineral Industry of Malawi

By Thomas R. Yager

Malawi was a producer of brick clay, cement, coal, crushed stone, lime, limestone, and sulfuric acid for domestic consumption in 2013; Malawi's consumption of minerals and mineral fuels, however, was not globally or regionally significant. The country also mined and exported uranium; such gemstones as amethyst, garnet, ruby, sapphire, and tourmaline; and such ornamental stones as agate and rose quartz. Malawi accounted for nearly 2% of world uranium mine production in 2013 (World Nuclear Association, 2014).

In 2013, the manufacturing sector accounted for a projected 9.4% of the gross domestic product (GDP), and the mining and quarrying sector, 5.2%. The value of output in the mining and quarrying sector was projected to increase by 8.5% in real terms in 2013 compared with 14.6% in 2012. Growth in the mining and quarrying sector was likely to be attributable to demand from the domestic agricultural, construction, and manufacturing sectors (Reserve Bank of Malawi, 2013, p. 22, 24, 60).

The mining sector accounted for only 0.8% of the GDP in 2009. In 2010, the value of output increased by 524.8% because of increased production from the Kayelekera uranium mine. The growth in the mining sector accounted for 45% of all GDP growth in Malawi in 2010 (Reserve Bank of Malawi, 2013, p. 60).

Production

In 2013, limestone production for use in cement increased by an estimated 362%; cement, by an estimated 86%; and lime, by an estimated 20%. Bentonite and dimension stone production shut down in 2012 (table 1).

Structure of the Mineral Industry

Most of the mining and mineral processing operations in Malawi were privately owned, including the cement plants, the coal mines, the Kayelekera uranium mine, and the Nyala ruby and sapphire mine. Malawi's mineral industry also included numerous artisanal and small-scale mining operations that produced aggregates, brick clay, gemstones, and lime. Partial data on capacity, location, and ownership were available for artisanal and small-scale gemstone and lime operations (table 2).

In 2010 (the latest year for which data were available), employment in the mineral industry amounted to 21,022 workers. The aggregates subsector employed 12,030 Malawians; lime, 1,640; terrazzo, 1,340; gemstones, 1,260; coal, 907; and uranium, 859 (Ministry of Development, Planning and Cooperation, 2011, p. 41).

Commodity Review

Metals

Gold.—In early 2013, South East African Mining Ltd. (SEAM) of the United Kingdom engaged in drilling at its South Dwangwa property. SEAM's initial focus was on the Kadyalumba Hill and the Kamwala-Mtenhela prospects (Murray, 2013).

Iron Ore.—Britannia Mining Inc. of the United States explored for iron ore at Mphwamphwa in northern Malawi and at Nthale and Ntechu in southern Malawi. The company hoped to identify 100 million metric tons (Mt) of iron ore resources at Nthale (Britannia Mining Inc., 2013).

Niobium (Columbium) and Tantalum.—Globe Metals & Mining Ltd. of Australia (East China Mineral Exploration and Development Bureau, 51%) revised its resource estimate at the Kanyika pyrochlore deposit in early 2013. Resources were estimated to be 68.3 Mt at grades of 0.28% niobium pentoxide (Nb_2O_5), 0.014% tantalum pentoxide (Ta_2O_5), and 0.008% U_3O_8 (uranium oxide). Globe also completed a feasibility study on a new mine at Kanyika in the second quarter of 2013 (Globe Metals & Mining Ltd., 2013; Jockel, 2013, p. 11).

Depending on results of the study, Globe planned to produce 5,000 metric tons per year (t/yr) of Nb_2O_5 and 200 t/yr of Ta_2O_5; uranium and zircon concentrate from the mine would be stockpiled for future sale. The company determined that an optimization program to increase concentrate grades and a study on a smelting process to produce ferroniobium were necessary (Globe Metals & Mining Ltd., 2013; Jockel, 2013, p. 11).

Titanium and Zirconium.—Tengani Titanium Minerals Ltd. (TTM), which was a consortium of Malawian and South African investors, held a mining license for the Tengani ilmenite, rutile, and zircon deposit. The company was engaged in a prefeasibility study on a new mine with an estimated life of more than 20 years. In 2013, TTM indicated that difficulties in separating ilmenite and rutile from each other and low recovery rates because of dilution by other minerals, such as garnet, would delay the project (Chimwala, 2013).

Industrial Minerals

Cement.—Malawi had three cement plants with a total production capacity of 740,000 t/yr. In 2013, national cement production increased to about 320,000 metric tons (t) from 172,000 t in 2012. Cement Products Ltd. opened a new plant at Njereza with a capacity of 460,000 t/yr in December 2012. Portland Cement Company Ltd. (LaFarge S.A., 75.17%) operated a plant with a capacity of 200,000 t/yr that produced cement from imported clinker. Shayona Cement Corp.'s plant had a capacity of 80,000 t/yr; the company planned to complete a new plant at Wimbe with a capacity of about 360,000 t/yr by 2015. National cement consumption was estimated to be 370,000 t in 2012 compared with 340,000 t in 2011 (International Cement Review, 2013).

Gemstones.—Mzimba Gemstone Mining Cooperative Society Ltd. mined amethyst and other quartz, aquamarine, carnelian, garnet, sodalite, and tourmaline from pegmatites in northern Malawi; the majority of production took place in

Mzimba District. Artisanal miners were producing rose quartz at the rate of 56 t/yr at Mzimba in 2013. Silver Hill Gems of South Africa mined amethyst and Aquismart (Pty) Ltd. of South Africa engaged in bulk sampling for aquamarine near Mzimba in November. Nyala Mines Ltd. operated the Nyala ruby and sapphire mine (Integrated Regional Information Networks, 2013).

Graphite.—In 2013, Sovereign Metals Ltd. of Australia engaged in rock-chip sampling and trenching at the Central Malawi graphite project near Lilongwe. Globe engaged in rock-chip and stream-sediment sampling at the Chiziro project, which is located east of Lilongwe. Globe planned to initiate trenching at Chiziro in the first quarter of 2014 (Globe Metals & Mining Ltd., 2013, 2014).

Rare Earths.—In 2013, Mkango Resources Ltd. of Canada was engaged in a prefeasibility study on a new mine at the Songwe Hill rare-earth project in southern Malawi; the company planned to complete the study in early 2014. Resources at Songwe were 31.8 Mt at a grade of 1.48% rare-earth oxides. In the fourth quarter of 2013, Globe engaged in soil sampling at the Machinga property near Kasupe, which was prospective for niobium, tantalum, and rare-earth minerals that include heavy rare earths. At yearend, Globe was awaiting Government approval for the renewal of its license at Machinga (Mkango Resources Ltd., 2013; Globe Metals and Mining Ltd., 2014).

Spring Stone Ltd. (Japan Oil, Gas, and Metals National Corp., 67%, and Gold Canyon Resources Inc. of Canada, 33%) deferred exploration at its Mulanje property in southern Malawi after determining that deposits at Chambe Basin would be subeconomic because of their small size. The company also decided not to renew its prospecting license for Mangochi (Gold Canyon Resources Inc., 2014).

Lynas Corp. Ltd. of Australia was engaged in a dispute with Rift Valley Resource Development of South Africa concerning the ownership of the Kangankunde deposit, which is located southwest of Balaka. As of mid-2013, the project was on hold pending resolution of the ownership dispute (Lynas Corp. Ltd., 2013).

Mineral Fuels and Related Materials

Coal.—Bituminous coal was mined by four companies in 2013. Eland Coal Mining Co. increased its production capacity by 150%. Intra Energy Corp. (IEC) of Australia purchased a 90% share in the Nkhachira Mine in early 2013. The company planned to mine at the initial rate of 60,000 t/yr of coal and to subsequently increase production to 150,000 t/yr (Murray, 2013; Saunders, 2013).

Coal output was consumed by Malawi's brewing, cement, ethanol, sugar, tea, textile, and tobacco industries. Domestic industrial demand for coal was estimated to be between 120,000 and 150,000 t/yr (Saunders, 2013).

Malawi's power stations had a combined capacity of 300 megawatts (MW), most of which was hydropower. Only 160 MW of capacity was functional in 2013 because of aquatic weeds and river siltation. In August 2012, China Gezhouba Group Corp. signed an agreement with the Government to build a new coal-fired power station with a capacity of 1,000 MW. The company planned to start construction in 2013 and to complete the plant by 2015 at an estimated cost of $500 million. Construction on the plant, however, had not started by yearend. IEC was engaged in a feasibility study on a new coal-fired power station with a capacity of 120 MW. Depending on the results of the study, IEC could open the new Pamodzi power station starting in 2017; coal would be provided by IEC's mines in Malawi and Tanzania (Africa Project Newsletter, 2013; Moodley, 2013; Saunders, 2013).

Uranium.—Paladin Energy Ltd. opened Malawi's first uranium mine at Kayelekera in the northern part of the country in January 2009. In 2013, production was 1,335 t of U_3O_8, which was an increase of about 3% from that of 2012. Paladin commissioned a new acid recovery plant in December. The Kayelekera Mine's capacity was 1,500 t/yr of U_3O_8; Paladin was considering an increase in capacity to more than 1,700 t/yr by 2015. The expansion depended on increased uranium prices (Northern Miner, 2013; Paladin Energy Ltd., 2014).

References Cited

Africa Project Newsletter, 2013, Projects—Malawi: Africa Project Newsletter, no. 214, March, p. 8–9.

Britannia Mining Inc., 2013, Investor fact sheet: New York, New York, Britannia Mining Inc., 4 p.

Chimwala, Marcel, 2013, SA firm probing 'most suitable' recovery method for Malawi rutile project: Mining Weekly, September 27. (Accessed January 22, 2014, at http://www.miningweekly.com/article/sa-firm-probing-most-suitable-recovery-method-for-malawi-rutile-project-2013-09-27.)

Globe Metals & Mining Ltd., 2013, June quarter 2013 activities report: West Perth, Western Australia, Australia, Globe Metals & Mining Ltd., 8 p.

Globe Metals & Mining Ltd., 2014, December quarter 2013 activities report: West Perth, Western Australia, Australia, Globe Metals & Mining Ltd., 10 p.

Gold Canyon Resources Inc., 2014, Form 51–102F1—Management discussion and analysis for the year ended November 30, 2013: Vancouver, British Columbia, Canada, Gold Canyon Resources Inc., 16 p.

Integrated Regional Information Networks, 2013, Malawi's small scale miners think big: Integrated Regional Information Networks, July 1. (Accessed June 23, 2014, at http://www.irinnews.org/report/98332/malawi-apos-s-small-scale-miners-think-big.)

International Cement Review, 2013, Malawi, *in* Global cement report, 10th ed.: Dorking, United Kingdom, International Cement Review, p. 222–223.

Jockel, Fergus, 2013, Investor update: Mines & Money Hong Kong, Hong Kong, China, March 18–22, 2013, Presentation, 15 p.

Lynas Corp. Ltd., 2013, Quarterly report for the period ending 30 June 2013: Sydney, New South Wales, Australia, Lynas Corp. Ltd., 11 p.

Ministry of Development, Planning and Cooperation, 2011, Annual economic report 2011: Lilongwe, Malawi, Ministry of Development, Planning and Cooperation, 152 p.

Mkango Resources Ltd., 2013, Mkango Resources announces completion of leach optimization test work and provides update on pre-feasibility study: Calgary, Alberta, Canada, Mkango Resources Ltd. press release, October 28, 4 p.

Moodley, Nelendrhe, 2013, Energising East Africa: SA Mining, March, p. 32–33.

Murray, Roger, 2013, Extractive industries in Malawi, *in* Investing in Malawi 2013: London, United Kingdom, Developing Markets Associates Ltd., p. 18–21.

Northern Miner, 2013, Paladin's production, cost-cutting impresses: Northern Miner, August 12–18, p. 20.

Paladin Energy Ltd., 2014, Quarterly activities report for period ending 31 December 2013: Subiaco, Western Australia, Australia, Paladin Energy Ltd., 5 p.

Reserve Bank of Malawi, 2013, 2nd quarter financial and economic review: Lilongwe, Malawi, Reserve Bank of Malawi, v. 45, no. 2, 67 p.

Saunders, Jack, 2013, IEC commits to power in Tanzania and Malawi: Australian Coal Report, no. 0505, July 10, p. 4–5.

World Nuclear Association, 2014, Uranium production figures, 2003–2013: World Nuclear Association, December 2014. (Accessed December 23, 2014, at http://www.world-nuclear.org/info/Facts-and-Figures/Uranium-production-figures/.)

TABLE 1

MALAWI: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity[2]		2009	2010	2011	2012	2013[e]
Bentonite		8,050	2,100	2,450	--	--
Brick clay		NA	960,405	1,015,200	1,400,000 [e]	1,500,000
Cement, hydraulic		232,000	187,500	203,200	172,000 [r]	320,000
Coal, bituminous		59,201	65,006	72,300	91,910	98,000
Gemstones	kilograms	306,700	190,340	215,000	285,000	310,000
Lime		25,900	45,851	93,549	95,543	115,000
Ornamental stone		241	5,300	4,434	7,200	7,800
Stone:						
Crushed for aggregate		970,550	965,600	1,039,237	1,338,600	1,450,000
Dimension:						
Crude and partly worked		NA	201	277	--	--
Worked		NA	116	167	--	--
Limestone, for cement		47,150	27,122	33,701 [r]	41,150	190,000
Sulfuric acid[e]		6,400 [r]	37,000 [r]	56,000 [r]	73,000 [r]	75,000
Uranium, U_3O_8 content		115	790	998	1,298	1,335 [3]

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

[1]Table includes data available through June 27, 2014.

[2]Malawi reportedly produced modest quantities of gypsum and salt, but information is inadequate to make reliable estimates of output.

[3]Reported data.

TABLE 2
MALAWI: STRUCTURE OF THE MINERAL INDUSTRY IN 2013

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement		Cement Products Ltd.	Plant at Njereza	460,000.
Do.		Portland Cement Company Ltd. (Lafarge S.A., 75.17%)	Plant at Blantyre	200,000.
Do.		Shayona Cement Corp.	Plant at Livwezi	80,000.
Coal, bituminous		Mchenga Coal Mines Ltd. (subsidiary of Coal Products Ltd.)	Mchenga Mine in Rumphi District	90,000.
Do.		Eland Coal Mining Co. (subsidiary of Allied Procurement Agency)	Mine at Lufira coalfield	72,000.[e]
Do.		Intra Energy Corp. (IEC)	Nkhachira Mine near Kayelekera	60,000.
Do.		Kaziwiziwi Mining Co.	Mine at Kaziwiziwi	5,000.[e]
Dimension stone		Ilomba Granite Company Ltd.	Mine at Ilomba Hill in Chitipa District[1]	NA.
Do.		Granite Ltd.	Mine in Mzimba District[1]	NA.
Fertilizer		Optichem Ltd.	Plant at Blantyre	120,000.
Gemstones:				
Amethyst, aquamarine, garnet, and tourmaline		Mzimba Gemstone Mining Cooperative Society Ltd.	Mines in Mzimba District	NA.
Aquamarine	kilograms	Silver Hill Gems	NA	7,000.[e]
Quartz, rose		Artisanal miners	Mine near Mzimba	56.[e]
Ruby and sapphire	kilograms	Nyala Mines Ltd.*	Nyala Mine at Chimwadzulu Hill	300 sapphire; 150 ruby.[2*, e]
Lime		Various producers, including the following: Zalewa Agricultural Lime Co. LimeCo Balaka Limeworks Supply Co. Ltd.	Various sites, including the following: Blantyre NA Balaka	42,000.
Do.		Lirangwe Lime Makers Assoc.	Lirangwe	NA.
Do.		Balaka Lime Makers Assoc.	Balaka	NA.
Limestone		Shayona Cement Corp.	Mine at Wimbe	100,000.[e]
Do.		Cement Products Ltd.	Mine at Njereza	45,000.
Do.		Artisanal miners	do.	NA.
Sulfuric acid		Paladin Energy Ltd.	Plant near Kayelekera	84,000.
Uranium, U_3O_8		do.	Mine near Kayelekera	1,500.

[e]Estimated. Do., do. Ditto. NA Not available.

[1]Not in operation at the end of 2013.

[2]Includes all qualities of ruby and sapphire. Gem-quality was estimated to be less than 10%.

*Correction posted on 2/26/2025. Nyala Mines Ltd. was erroneously reported to be a subsidiary of Columbia Gem House Inc., and a footnote was added.