



2014 Minerals Yearbook

RWANDA

THE MINERAL INDUSTRY OF RWANDA

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In 2014, Rwanda was the world's leading producer of tantalum, accounting for 50% of global output. Rwanda also accounted for more than 1% each of world tin and tungsten production. Domestic consumption of minerals was not globally significant. In 2014, the manufacturing sector accounted for 4.8% of Rwanda's gross domestic product, and the mineral sector, 1.8% (African Development Bank Group, 2015; Anderson, 2016; Papp, 2016; Shedd, 2016).

In July 2010, the U.S. Congress passed the Dodd-Frank Wall Street Reform and Consumer Protection Act, which contains provisions concerning the use of minerals to finance military conflict in the eastern part of the Democratic Republic of the Congo [Congo (Kinshasa)]. The U.S. Securities and Exchange Commission (SEC) issued regulations in final form in accordance with the Dodd-Frank Wall Street Reform and Consumer Protection Act in August 2012 (U.S. Securities and Exchange Commission, 2012, p. 56274–56275).

Under the regulations, all companies registered with the SEC that sell products containing gold, tantalum, tin, or tungsten are required to disclose whether these minerals originated from Congo (Kinshasa) or countries that border Congo (Kinshasa). Companies that sell products containing gold, tantalum, tin, or tungsten that originated in Congo (Kinshasa) or countries that border Congo (Kinshasa) are also required to submit annual reports to the SEC that describe the due diligence measures taken, the smelters that processed the minerals, and the companies' efforts to determine the mine of origin (U.S. Securities and Exchange Commission, 2012, p. 56274).

In April 2014, a panel of the Court of Appeals for the D.C. Circuit mostly upheld the SEC's authority to implement the regulations in Section 1502 of the Dodd-Frank Act. The panel ruled that the regulations requiring companies to describe certain products as having been "not found to be DRC conflict free" were unconstitutional on First Amendment grounds. Subsequently, the Circuit Court of Appeals, sitting en banc, overruled part of the panel's ruling that struck down the disputed Section 1502 regulations. On November 18, 2014, the panel agreed to rehear arguments regarding First Amendment issues in the case (Seitzinger and Ruane, 2015).

In December 2010, the Government of Rwanda and the International Tin Research Institute (ITRI) started the ITRI Tin Supply Chain Initiative (iTSCi) certification scheme for domestically produced tantalum, tin, and tungsten to meet the end user requirements of the Dodd-Frank Act. By the end of 2014, 283 mining companies and artisanal mining cooperatives that operated 801 mine sites were participating in the iTSCi. ITRI continued a mineral sampling program at numerous mine sites in the second half of 2014. In 2013, 324 samples were collected and an additional 89 samples were collected in the second half of 2014 from new mining operations or operations that were closed in 2013 (International Tin Research Institute, 2015b).

In 2014, the Government passed Law No. 13/2014 of May 20, 2014, on Mining and Quarrying Operations. The new law established large-scale mining, small-scale mining, and artisanal mining licenses. Large-scale mining licenses, which were valid for as much as 25 years, were applicable to companies that invested at least \$22 million and produced at least 180 metric tons per year (t/yr). Small-scale mining licenses, which were valid for as much as 15 years, were applicable to companies that invested at least \$1 million during a 5-year period and produced at least 36 t/yr. Artisanal mining licenses, which were valid for as much as 5 years, were applicable to companies that invested at least \$100,000 and produced at least 6 t/yr (International Tin Research Institute, 2015c).

In 2013, the Government passed the Upstream Petroleum Policy. The objectives of the Upstream Petroleum Policy included the promotion of petroleum exploration and the development of a legal framework for the petroleum sector. As of the end of 2014, the Government had not passed a law governing the petroleum sector.

Production

In 2014, production of natural gas and sandstone increased by an estimated 33% each; pozzolanic materials, by an estimated 32%; limestone, by an estimated 30%; cement, by an estimated 27%; and tin, by an estimated 23%. From 2010 to 2014, tungsten production increased by an estimated 206%; niobium, by an estimated 192%; and tantalum, by an estimated 190%. Increased niobium, tantalum, and tungsten output was partially attributable to new mining companies starting operations (table 1).

Structure of the Mineral Industry

Privately owned companies, cooperatives, and artisanal miners produced cassiterite, columbite-tantalite, crushed stone, gemstones, gold, peat, and wolframite. The cement and steel plants were privately owned. Kibuye Power 1 Ltd. (KP1), which produced natural gas, was a state-owned company. As of late 2014, the Government held shares in Gatumba Mining Concessions Ltd. and Rutongo Mines Ltd.

Cassiterite, columbite-tantalite, and wolframite were produced by at least 283 mining companies and artisanal mining cooperatives that operated at least 801 mine sites. About 350 of the mine sites operated by companies participating in iTSCi were inactive or suspended from mining for various reasons. In addition, about 30 sites for processing cassiterite, columbite-tantalite, and wolframite were operating near Kigali (International Tin Research Institute, 2015b).

Metals

Niobium (Columbium), Tantalum, and Tin.—Columbite-tantalite was mined by numerous companies and artisanal mining cooperatives. In 2014, reported columbite-tantalite concentrate exports decreased to 2,303 metric tons (t) from 2,466 t in 2013. Mines in Rutsiro District (Western Province) produced at the rate of 78 t/yr in the first half of 2014; Bugesera District, 55 t/yr (Eastern Province); Rwamagana District (Eastern Province), 48 t/yr; Rubavu District (Western Province), 38 t/yr; and Nyabihu District (Western Province), 24 t/yr (International Tin Research Institute, 2015a; National Bank of Rwanda, 2015).

Rutongo Mines Ltd. (a subsidiary of Tinco Investments Ltd. of the United Kingdom) was Rwanda's leading cassiterite producer; cassiterite was mined by numerous companies and artisanal mining cooperatives. In 2014, reported cassiterite exports increased to 5,954 t from 4,895 t in 2013. Mines in the Rulindo District (Northern Province) produced at the rate of about 740 t/yr in the first half of 2014; the Muhanga District, 290 t/yr (Southern Province); Gakenke District (Northern Province), 260 t/yr; Kayonza District (Southern Province), 240 t/yr; and Gatsibo District (Eastern Province), 230 t/yr (International Tin Research Institute, 2015a; National Bank of Rwanda, 2015).

Substantial amounts of mixed cassiterite and columbite-tantalite were produced in Rwanda. Mines in the Nyamasheke District (Western Province) produced at the rate of about 1,000 t/yr in the first half of 2014; Rutsiro District, 900 t/yr; Muhanga District, 890 t/yr; Gakenke District, 590 t/yr; and Rubavu District, 490 t/yr. Mixed cassiterite and columbite-tantalite were separated into cassiterite and columbite-tantalite before export (International Tin Research Institute, 2015a).

In December 2014, Piran Resources Ltd. of the United Kingdom started the reprocessing of tailings at the Musha and Ntungwa Mines in eastern Rwanda. Piran planned to produce between 60 and 120 t/yr of tin in concentrate in the pilot production phase. The company planned to increase production to 1,800 t/yr of tin in concentrate by the end of 2015 (Mining Journal, 2014).

Phoenix Metal Ltd. planned to restart production at its smelter in Karuruma by early 2015; operations were shut down for nearly 10 years because of power supply interruptions and insufficient cassiterite supplies. The company planned to produce about 2,200 t/yr of tin metal (Esiara, 2014).

Tungsten.—Eurotrade International S.A. (a subsidiary of Tinco Investments) was Rwanda's leading wolframite producer; wolframite was mined by numerous companies and artisanal mining cooperatives. In 2014, reported wolframite exports were nearly unchanged at 2,214 t. Mines in the Rwamagana District were producing at the rate of about 300 t/yr of wolframite in the first half of 2014; Burera District, 290 t/yr; Rulindo District, 250 t/yr; Rutsiro District, 230 t/yr; and Ngororero District, 190 t/yr (International Tin Research Institute, 2015a; National Bank of Rwanda, 2015).

Cement.—Rwanda's cement consumption was estimated to be about 500,000 t in 2014 compared with 450,000 t in 2013; the majority of cement demand was met through imports from Kenya, Tanzania, Uganda, and other countries. Cimenterie du Rwanda Ltd. (PPC Ltd. of South Africa, 51%) operated a cement plant at Cyangugu. The company planned to complete the expansion of its plant to 600,000 t/yr from 100,000 t/yr by mid-2015. At the start of 2014, ARM Cement Ltd. of Kenya held a 35% share in Kigali Cement Co.; the company purchased the remaining 65% in April. ARM Cement planned to increase the plant's capacity, which was 100,000 t/yr at yearend (International Cement Review, 2015).

Gemstones.—Green and black tourmaline were produced by artisanal miners in central Rwanda. By the end of 2013, Sapphire Miners Cyangugu Ltd. (SMC) was expected to start mining in Rusizi District (Western Province). SMC planned to produce between 1 and 3 kilograms per day of sapphire. At the end of 2014, the company had not started mining operations because of an ownership dispute (Ministry of Natural Resources of Rwanda, 2013).

Mineral Fuels and Related Materials

Natural Gas.—KP1 extracted natural gas from Lake Kivu for use at its 4.5-megawatt (MW)-capacity gas-fired power station. Kivu Watt Ltd. (a subsidiary of ContourGlobal LLC of the United States) planned to extract natural gas from Lake Kivu and to start a new gas-fired power station by early 2015. The station's initial capacity was likely to be 25 MW, with an increase to 100 MW by 2017. Symbion Power LLC of the United States planned to complete a new gas-fired power station in Rubavu District with a capacity of 50 MW by 2017 or 2018 (Kagera, 2014).

Peat.—Peat Energy Co. (a subsidiary of Rwanda Investment Group S.A.) mined peat for use as fuel in cement production. Rwanda Auto Services supplied peat to prisons for cooking fuel. The Government planned to complete new peat-fired power stations with a total capacity of 200 MW by 2017. Hakan Mining and Generation Industry and Trade Inc. of Turkey's plant would account for 80 MW, and the Gishoma Peat Plant, 15 MW. Peat resources at Hakan's project were estimated to be sufficient to support mining 720,000 t/yr of peat for 30 years (Kagera, 2014; Musabi, 2014).

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TABLE 1
RWANDA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2010	2011	2012	2013	2014	
Cement	95,101	94,150 ^r	105,760 ^r	110,000 ^e	140,000 ^e	
Gold, mine output, Au content ³	kilograms	3	--	--	-- ^e	
Natural gas, dry ^c	million cubic meters	3	2	2	3	
Niobium (columbium) and tantalum: ³						
Columbite-tantalite concentrate:						
Gross weight	kilograms	560,000	890,076	1,144,684	2,466,025	2,302,519
Nb content ^c	do.	70,000	110,000	140,000	310,000	290,000
Ta content ^c	do.	120,000	190,000	240,000	530,000	490,000
Cassiterite concentrate:						
Gross weight		5,293	6,952	4,637	4,895	5,954
Nb content ^c	kilograms	50,000	70,000	50,000	50,000	60,000
Ta content ^c	do.	80,000	100,000	70,000	70,000	90,000
Peat ^e		29,000	46,000	46,000	46,000	46,000
Steel, crude ^e		15,000	15,000	15,000	15,000	15,000
Stone: ^{e, 4}						
Limestone		91,000	90,000	100,000 ^r	100,000 ^r	130,000
Pozzolanic materials		29,000	28,000	31,000 ^r	31,000 ^r	41,000
Sandstone		11,000	11,000	12,000	12,000	16,000
Tin, mine output, cassiterite concentrate: ³						
Gross weight		5,293	6,952	4,637	4,895	5,954
Sn content ^c		3,300	4,400	2,900	3,100	3,800
Tungsten, mine output, concentrate: ³						
Gross weight		764	1,006	1,751	2,218	2,214
W content ^c		360	480	830	1,100	1,100

^eEstimated; estimated data are rounded to no more than three significant digits. ^rRevised. do. Ditto. -- Zero.

¹Table includes data available through January 8, 2016.

²In addition to the commodities listed, brick clay, gemstones, such as sapphire and tourmaline, and lime were known to be produced, but available information was inadequate to make reliable estimates of output.

³Reported exports.

⁴For use in cement production only.

TABLE 2
RWANDA: STRUCTURE OF THE MINERAL INDUSTRY IN 2014

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement	Cimenterie du Rwanda Ltd. (Cimerwa) (PPC Ltd., 51%)	Plant at Cyangugu	100,000
Do.	Kigali Cement Co. (ARM Cement Ltd., 100%)	Plant at Gitkinyami	100,000
Natural gas million cubic meters	Kibuye Power 1 Ltd.	Plant at Lake Kivu	11 ^e
Niobium (columbium) and tantalum, columbite-tantalite ore and concentrate ¹	Various companies and cooperatives	Mines in Rutsiro District	480 ^e
Do.	do.	Mines in Nyamasheke District	460 ^e
Do.	do.	Mines in Muhanga District	390 ^e
Do.	do.	Mines in Gakene District	270 ^e
Do.	do.	Mines in Rubavu District	260 ^e
Do.	do.	Mines in Nyaraguru District	150 ^e
Do.	do.	Mines in Bugesera District	130 ^e
Do.	do.	Mines in Ngororero District	120 ^e
Do.	do.	Mines in Ruhango District	75 ^e
Do.	do.	Mines in Kamonyi District	65 ^e
Do.	do.	Mines in Gatsibo District	55 ^e
Peat	Peat Energy Co. [subsidiary of Rwanda Investment Group S.A. (RIG)]	Mine at Gishoma in Rusizi District	26,000
Do.	Rwanda Auto Services	Mines in Northern and Eastern Provinces	22,000 ^e
Sapphire kilograms	Sapphire Miners Cyangugu Ltd. (SMC)	Mines in Rusizi District ²	1,100 ^e
Steel, crude	SteelRwa Industries Ltd.	Plant in Rwamagana District	36,000
Stone, crushed:			
Limestone	Cimenterie du Rwanda Ltd. (Cimerwa) (PPC Ltd., 51%)	Mine at Nyakabuye	110,000 ^e
Pozzolanic materials	do.	do.	34,000 ^e
Sandstone	do.	Mine at Nengo	13,000 ^e
Tin:			
Cassiterite, ore and concentrate ¹	Rutongo Mines Ltd. (subsidiary of Tinco Investments Ltd.)	Gasambya, Gisanze, Karambo, Mahaza, Masoro, and Nyamyumba Mines in Rulindo District	1,200
Do.	Various companies and cooperatives	Mines in Muhanga District	790 ^e
Do.	do.	Mines in Nyamasheke District	690 ^e
Do.	do.	Mines in Rutsiro District	640 ^e
Do.	do.	Mines in Gakene District	590 ^e
Do.	do.	Mines in Rubavu District	320 ^e
Do.	do.	Mines in Kayonza District	290 ^e
Do.	do.	Mines in Gatsibo District	270 ^e
Do.	do.	Mines in Bugesera District	230 ^e
Do.	do.	Mines in Nyaraguru District	210 ^e
Do.	do.	Mines in Gasabo District	200 ^e
Refined	Phoenix Metal Ltd.	Smelter at Karuruma ²	2,200
Tungsten, wolframite ore and concentrate ¹	Eurotrade International S.A. (subsidiary of Tinco Investments Ltd.)	Nyakabingo Mine in Rulindo District	480
Do.	Various companies and cooperatives	Mines in Rwamagana District	300 ^e
Do.	do.	Mines in Burera District	290 ^e
Do.	Rwanda Allied Partners (RAP)	Kilimbari Mine in Kayonza District	270 ^e
Do.	Various companies and cooperatives	Mines in Rutsiro District	230 ^e
Do.	do.	Mines in Ngororero District	190 ^e
Do.	do.	Mines in Nyaraguru District	160 ^e
Do.	do.	Mines in Muhanga District	150 ^e
Do.	do.	Mines in Kirehe District	140 ^e
Do.	do.	Mines in Rubavu District	130 ^e

^eEstimated. Do., do. Ditto.

¹Gross weight of concentrate.

²Not operating in 2014.