



2017–2018 Minerals Yearbook

NAMIBIA [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF NAMIBIA

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Note: In this chapter, information for 2017 is followed by information for 2018.

In 2017, the diamond sector continued to be a significant contributor to Namibia's economy. In terms of the total value of its rough diamond production (\$1 billion), the country ranked sixth after Angola. Namibia was ranked ninth in the world in terms of rough diamond production by weight (carats). Namibia's total diamond exports were valued at about \$979 million (about 1.9 million carats of diamond) in 2017 (Kimberley Process Certification Scheme, 2018).

According to the World Nuclear Association, Namibia's Rössing Mine and Langer Heinrich Mine had a combined production capacity equivalent to 10% of the world's uranium output; the Langer Heinrich Mine was one of the top-ranked producing uranium mines in the world. The country was the third-ranked producer of arsenic trioxide, after China and Morocco, accounting for 5% of world production. Metals and metallic minerals produced in the country included copper, gold, lead, manganese, silver, and zinc. In addition to diamond, industrial minerals produced included arsenic trioxide, cement, fluorspar, graphite, lithium, salt, and sulfuric acid (table 1; George, 2019; World Nuclear Association, 2019).

Minerals in the National Economy

In 2017, Namibia's nominal gross domestic product (GDP) was \$13.3 billion,¹ and real GDP decreased by 0.9% compared with that of 2016. Mining and quarrying contributed 12.1% to the country's GDP. The mining sector (including refined metals and cut and polished diamond) accounted for 59% of Namibia's total exports, by value. In 2017, diamond and metallic ores, including uranium, were among the top export commodities (Namibia Statistics Agency, 2018, p. 6, 22–23, 33; World Bank, The, 2019).

Mining in Namibia is regulated by the Minerals (Prospecting and Mining) Act 33 of 1992. Petroleum exploration and production are regulated by the Petroleum Laws Amendment Act (1998). The total number of people employed in the mineral sector in 2017, including temporary employees and full-time contractors, was about 16,900 compared with about 15,700 in 2016. About 17% of the 9,390 people permanently employed (nontemporary and noncontractor) in the sector worked for Namdeb Diamond Corp. (Pty) Ltd. (Namdeb); 17%, for Swakop Uranium; about 10% each, for Rössing Uranium Ltd. and De Beers Marine Namibia (Pty) (Debmarmine); 9%, for B2Gold Namibia (Pty) Ltd., and 8%, for Skorpion Zinc and Namzinc (Pty) Ltd. (Chamber of Mines of Namibia, 2018, p. 18, 71–72, African Mining Legislation Atlas, 2019).

¹Because of fluctuating exchange rates, a meaningful conversion to U.S. currency is impractical. At yearend, however, the 2017 annual average exchange rate was 13.3054 (NAD)=US\$1.00.

Production

In 2017, manganese mine production increased by an estimated 67% (gross weight) and 65% (Mn content); uranium, by 16%; sulfur, by 15%; diamond, by 13%; copper (smelter), by 11%; and gold, by 10%. Notable decreases included arsenic trioxide, by 63%, and silver mine production, by 20%. Data on mineral production are in table 1.

Structure of the Mineral Industry

Most mining operations in Namibia were privately owned. The diamond-mining company Namdeb Holdings Pty. Ltd. was owned by De Beers Group of the United Kingdom (50%) and the Government (50%). Additionally, the Government held minority interests in Sakawe Mining Corp. (8%) and Rössing Uranium Ltd. (3%). Table 2 is a list of major mineral industry facilities.

Commodity Review

Metals

Arsenic and Copper.—In 2017 the Tschudi open pit mine, operated by Weatherly International plc of the United Kingdom, produced 14,759 metric tons (t) of copper cathode. Production was 13% below the nameplate target of 17,000 t owing to slower leaching rates. As of 2017, the Matchless and the Otjijase underground mines, also owned by Weatherly, continued to be on care-and-maintenance status (Financial Times, 2017).

Dundee Precious Metals owned and operated the Tsumeb smelter, which produced blister copper from imported copper concentrates. In 2017, the smelter processed 219,252 t of concentrate compared with 200,272 t in 2016. In 2017, production of arsenic trioxide (a byproduct of the Tsumeb smelter process) ceased owing to high production costs (Dundee Precious Metals Inc., 2018, p. 5, 108).

Gold.—In 2017, the Otjikoto Mine, owned by B2Gold Corp. of Canada, produced 5,957 kilograms (kg) of gold, which was a 15% increase compared with the 5,172 kg produced in 2016. The increased production was attributed to higher grade ore from the Wolfshag Phase 1 Pit and to high mill throughput (B2Gold Corp., 2018).

Lead and Zinc.—Skorpion Zinc (Pty) Ltd., which was wholly owned by Vedanta Resources plc of the United Kingdom, operated the Skorpion open pit mine and the Namzinc refinery through its subsidiaries Skorpion Mining Co. and Namzinc (Pty.) Ltd. The company produced high-grade zinc from the Skorpion Mine, which was then refined into metal at Namzinc. The mine and refinery are located 25 kilometers (km) north of Rosh Pinah in southern Namibia. In 2017,

Vedanta Resources continued the Pit 112 expansion project, which was expected to increase the mine life of the Skorpion Mine to 3 years from 0.5 years and to increase the current reserves to 4.2 million metric tons at an average grade of 9.9% from 0.9 million tons at an average grade of 6.5% (Vedanta Resources plc, 2017, p. 83).

Rosh Pinah Zinc Corp. (Pty) Ltd. (a subsidiary of Switzerland-based Glencore plc) operated the Rosh Pinah Mine. In 2017, the mine produced a total of 97,364 t of zinc concentrate and 13,915 t of lead concentrate compared with 80,560 t and 14,862 t of zinc and lead concentrates, respectively, in 2016. The decrease in production of lead was attributed to lower ore grades (Chamber of Mines of Namibia, 2018, p. 17).

Industrial Minerals

Diamond.—According to the Kimberley Process Certification Scheme, production of diamond increased by 13% to 1,948,412 carats from 1,718,000 in 2016. In 2017, Namdeb Holdings had operations that produced a total of 1,804,000 carats of diamond compared with 1,573,000 in 2016. In June 2017, Debmarine Namibia (Debmarine), which was part of Namdeb Holdings officially inaugurated the mining vessel *SS Nujoma*, a deepwater diamond exploration and sampling vessel. The new vessel's technology will allow larger deep-sea sample collection at improved rates (Chamber of Mines of Namibia, 2018, p. 5, 12, 70; Kimberley Process Certification Scheme, 2018).

Mineral Fuels and Related Materials

Uranium.—Rössing Uranium, which was owned by Rio Tinto plc of the United Kingdom, produced 2,110 t of uranium oxide (U_3O_8)—an increase of 14% from the 1,850 t produced in 2016. In its first full year of operation, the Husab uranium mine [owned by Taurus Minerals Ltd. of Hong Kong and Epangelo Mining Company (Proprietary) Ltd.] produced 1,345 t of U_3O_8 . The mine was expected to reach full capacity of 5,500 metric tons per year (t/yr) of U_3O_8 by 2019 (table 2; Chamber of Mines of Namibia, 2018, p. 17, 70).

MINERAL INDUSTRY HIGHLIGHTS IN 2018

In 2018, Namibia's nominal GDP was \$14.5 billion² and its real GDP decreased by 0.1%. Mining and quarrying accounted for 14% of real GDP and increased by 22% in real value. In 2018, the mining industry directly employed 16,224 people (Chamber of Mines of Namibia, 2018, p. 24; Namibia Statistics Agency, 2019, p. 23–25).

Notable increases in mineral commodity production in 2018 included graphite, 56%; uranium, 31%; diamond and salt, 23% each; cement, 19%; and lead (Pb content), 15%. Notable production decreases included that of silver, by 33%; primary zinc smelter production, 20%; manganese (Mn content), 17%; gold, 15%; and zinc mine, 11%.

²Because of fluctuating exchange rates, a meaningful conversion to U.S. currency is impractical. At yearend, however, the 2018 annual average exchange rate was 13.2311 (NAD)=US\$1.00.

In 2018, Desert Lion Energy Inc. of Canada sold 30,321 t of lithium carbonate concentrate from the Rubicon and Helikon lithium mines. The concentrate was recovered from existing stockpiles. Additional production and shipments came to a halt in the second half of 2018 owing to a sudden downturn in the price of lithium. In November, the company completed a preliminary economic assessment (PEA) of the Rubicon and Helikon Mine sites. The results of the PEA included a mine, concentrator with an estimated capacity of 227,000 t/yr of lepidolite concentrate, and a conversion plant near Walvis Bay with estimated production of about 20,000 t/yr of battery-grade lithium carbonate (Desert Lion Energy Inc. 2019, p. 2, 9).

The Namib Lead and Zinc Project, operated by North River Resources plc of London, was an effort to redevelop the Namib lead mine. The project was located about 75 km from Walvis Bay. Joint Ore Reserves Committee (JORC)-compliant ore reserves for the project included 611,000 t with a 2.3% lead grade, a 6.6% zinc grade, and 49 grams per metric ton silver. Construction began on the project in April, and the company expected to reach full production in the first half of 2019 (North River Resources plc, 2018a, b).

Outlook

The mining sector in Namibia is likely to continue growing. Contributing to the sector's growth is the redevelopment of the Uis tin mine, where a bankable feasibility study is expected to be completed in 2019 and production is projected to begin in 2021. Resumption of Desert Lion Energy's lithium-mining operations will also benefit the sector. Price fluctuations will continue to affect uranium production, however, as has already happened with the suspension of operations at the Langer Heinrich Mine (Chamber of Mines of Namibia, 2018, p. 25, 57, 58).

References Cited

- African Mining Legislation Atlas, 2019, Summary—Namibia: African Mining Legislation Atlas May 5. (Accessed April 21, 2020, at <https://www.a-mla.org/countries/35?name=Namibiaundefined>.)
- B2Gold Corp., 2018, B2Gold reports record fourth quarter and full-year gold production in 2017; New Fekola Mine produces 111,450 ounces in 2017 during ramp-up, 123% above budget: Vancouver, British Columbia, Canada, B2Gold Corp., March 31, 93 p. (Accessed August 13, 2019, at https://www.b2gold.com/news/2018/index.php?content_id=570.)
- Chamber of Mines of Namibia, 2018, Annual review 2017: Windhoek, Namibia, Chamber of Mines of Namibia, 88 p. (Accessed August 13, 2019, at <http://www.chamberofmines.org.na/index.php/publications/annual-reviews/>.)
- Desert Lion Energy Inc., 2019, Management's discussion and analysis for the year ended December 31, 2018: Toronto, Ontario, Canada, Desert Lion Energy Inc., March 18, 25 p. (Accessed November 1, 2019, at <https://www.sedar.com/DisplayCompanyDocuments.do?lang=EN&issuerNo=00008403>.)
- Dundee Precious Metals Inc., 2018, 2017 Annual report—Delivering on our strategy: Toronto, Ontario, Canada, Dundee Precious Metals Inc., February 15, 138 p. (Accessed August 13, 2019, at https://s21.q4cdn.com/589145389/files/doc_financials/English/2017/Dundee-AR-2017.pdf.)
- Financial Times, 2017, Weatherly International PLC—Final results for the year ended 30 June 2017: Financial Times, December 11. (Accessed August 13, 2019, at <https://markets.ft.com/data/announce/full?dockey=1323-13459956-6BKDHN0LQ8CKMPS4F17QJB2LAQ>.)
- George, M.W., 2019, Arsenic: U.S. Geological Survey Mineral Commodity Summaries 2019, p. 24–25.

Kimberley Process Certification Scheme, 2018, Annual global summary—2017 production, imports, exports, and KPC counts: Kimberley Process Certification Scheme, 1 p. (Accessed August 13, 2019, at https://kimberleyprocessstatistics.org/static/pdfs/public_statistics/2017/2017GlobalSummary.pdf.)

Namibia Statistics Agency, 2018, Annual national accounts 2017: Windhoek, Namibia, Namibia Statistics Agency, 46 p. (Accessed August 13, 2019, at https://cms.my.na/assets/documents/Annual_National_Accounts_2017.pdf.)

Namibia Statistics Agency, 2019, Preliminary annual national accounts 2018: Windhoek, Namibia, Namibia Statistics Agency, 49 p. (Accessed November 1, 2019, at https://d3rp5jatom3eyn.cloudfront.net/cms/assets/documents/Preliminary_National_Accounts_20181.pdf.)

North River Resources plc, 2018a, Namib Project proceeds into construction: London, United Kingdom, North River Resources plc, April 11, 2 p. (Accessed November 1, 2019, at <http://www.northriverresources.com/documents/NamibProjectproceedsintoconstruction.pdf>.)

North River Resources plc, 2018b, Operations—Namibia—Namib Lead-Zinc Project: London, United Kingdom, North River Resources plc. (Accessed November 1, 2019, at <http://www.northriverresources.com/project-namib.aspx>.)

Vedanta Resources plc, 2017, Annual report FY2017: London, United Kingdom, Vedanta Resources plc, May 24, 268 p. (Accessed August 13, 2019, at http://www.vedantaresources.com/media/213717/vedanta_resources_ar_fy2017.pdf.)

World Bank, The, 2019, Namibia: Washington, DC, The World Bank. (Accessed August 13, 2019, at <https://data.worldbank.org/country/namibia>.)

World Nuclear Association, 2019 Uranium in Namibia: London, United Kingdom, World Nuclear Association, May. (Accessed August 13, 2019, at <http://www.world-nuclear.org/information-library/country-profiles/countries-g-n/namibia.aspx>.)

TABLE 1
NAMIBIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons, gross weight, unless otherwise specified)

Commodity ²	2014	2015	2016	2017	2018	
METALS						
Copper:						
Mine, concentrates:						
Gross weight	21,720	21,839	19,503	--	--	
Cu content	5,249	3,351 ^r	262 ^r	68	--	
Leaching, electrowon	--	10,659	16,391	15,466	15,177	
Smelter, primary, blister	36,877 ^r	45,220 ^r	40,869 ^r	45,523	48,970	
Gold, mine, Au content ³	kilograms	2,140 ^r	6,009 ^r	6,604 ^r	7,272	6,171
Lead, mine, including lead-zinc concentrates:						
Gross weight	22,317	18,521	14,862	13,915	14,068	
Pb content ^c	11,200	9,300	7,500	7,100	8,200	
Manganese, mine, concentrate, 44% Mn:						
Gross weight	104,527 ^r	110,000 ^{r,e}	48,000 ^{r,e}	80,000 ^e	65,800 ^e	
Mn content	36,584 ^r	38,360 ^r	16,896 ^r	27,915	23,045	
Silver, mine, Ag content	kilograms	1,129 ^r	11,555 ^r	8,771 ^r	7,014	4,666
Zinc:						
Mine, ore and concentrate, Zn content	173,665 ^r	123,529 ^r	124,749 ^r	132,584	118,435	
Smelter, primary	118,665 ^r	71,818 ^r	88,650 ^r	83,768	67,122	
INDUSTRIAL MINERALS						
Arsenic trioxide	1,520 ^r	1,960	1,900 ^e	700 ^e	700 ^e	
Cement, hydraulic	thousand metric tons	731	796	778	780 ^e	930 ^e
Diamond, gem, unspecified	thousand carats	1,918	2,053	1,718	1,948	2,397
Fluorspar, acid grade, 97% CaF ₂	65,485	--	1,495 ^r	--	--	
Graphite, crystalline flake	--	--	--	2,216	3,456	
Lithium, lepidolite	--	--	--	--	30,000	
Salt	797,405	732,980	835,539	879,555	1,085,855	
Sulfur, compounds, sulfuric acid:						
Gross weight	thousand metric tons	--	--	192	221	240
S content	do.	--	--	63	72	79
MINERAL FUELS AND RELATED MATERIALS						
Uranium, mine, uranium oxide, U content	3,255	2,993	3,654	4,224	5,525	

^eEstimated. ^rRevised. do. Ditto. -- Zero.

¹Table includes data available through October 7, 2019. All data are reported unless otherwise noted. Estimated data are rounded to no more than three significant digits.

²In addition to the commodities listed, agate, aquamarine, amethyst, basalt, blue chalcedony, lead dusts, picture stone, pietersite, rose quartz, sand and gravel, sepiolite, smokey quartz, topaz, tourmaline, and wollastonite may have been produced, but available information was inadequate to make reliable estimates of output.

³Does not include gold recovered as a byproduct of copper mining.

TABLE 2
NAMIBIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2018

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners		Location of main facilities	Annual capacity
Cement	Ohorongo Cement (Pty) Ltd. (Ohorongo) (Schwenk Zement KG, 60%; Industrial Development Corp., 20%; Development Bank of Namibia, 11.72%; Development Bank of South Africa, 7.3%)		Cement plant, Otjozondjupa region, near Otavi	800,000
Do.	Whale Rock Cement		Otjiwarongo	1,200,000
Copper:				
Mine, concentrates	Ongopolo Mining Ltd. (Weatherly Mining Namibia Ltd., 97.5%, and Labour Investment Holdings, 2.5%)		Central operations, includes the Otjihase Mine ¹ and concentrator, about 18 kilometers northeast of Windhoek; and the Matchless Mine, 30 kilometers southwest of the Otjihase Mine	8,000
Do.	do.		Northern operations, includes the Tschudi and the Tsumeb West Mines, and the Tsumeb concentrator	17,000
Metal, blister copper	Dundee Precious Metals Tsumeb (Proprietary) Ltd. (Dundee Precious Metals Inc., 100%)		Smelter at Tsumeb, 430 kilometers north of Windhoek	60,000
Diamond	carats	De Beers Marine Namibia (Pty) Ltd. (Debmarine) [Namdeb Holdings Pty. Ltd. (De Beers Group, 50%, and Government, 50%), 100%]	Atlantic 1, mining license area 47, offshore Sperrgebiet	1,300,000
Do.	do.	Namdeb Diamond Corp. (Pty) Ltd. (Namdeb) [Namdeb Holdings Pty. Ltd. (De Beers Group, 50%, and Government, 50%), 100%]	Orange River Mines, mining license area 42, onshore, from mouth of Orange River east to Sendelingsdrif; includes the Auchas and the Daberas Mines	120,000
Do.	do.	do.	Mining Area 1, mining license area 43, Orange River at Oranjemund to 145 kilometers north of Oranjemund	1,000,000
Do.	do.	do.	Elizabeth Bay Mine, mining license area 45, onshore and offshore Sperrgebiet 24 kilometers south of Luderitz	210,000
Do.	do.	do.	Sendelingsdrif Mine, 80 kilometers from Oranjemund and 20 kilometers south of the town of Rosh Pinah	45,000
Do.	do.	do.	Red Area Complex diamond sorting plant 2, Oranjemund	NA
Do.	do.	Sakawe Mining Corp. (Samicor) (Leviev Group, 76%; Longlife Mining Corp., 10%; Government, 8%; Sakawe Mining Corp. employees, 4%; Namibia Youth Service, 2%)	Offshore mining licenses, near Luderitz Bay	260,000
Do.	do.	Shallow marine and coastal area contractors		68,000
Fluorspar, acid grade	Okorusu Fluorspar (Pty.) Ltd. (Solvay SA, 100%)		Okorusu Mine and processing plant at Otjiwarongo	120,000
Gold:				
Concentrate, Au content	kilograms	Guinea Fowl Investments Twenty Six (QKR Corp. Ltd., 92.5%, and Epangelo Mining Company (Pty) Ltd., 7.5%)	Navachab Mine, 170 kilometers northwest of Windhoek	2,700
Do.	do.	B2Gold Corp., 90%, and EVI Mining (Pty) Ltd., 10%	Otijkoto Mine, 300 kilometers north of Windhoek	6,200
Metal	do.	Namibia Custom Smelters (Pty.) Ltd. (Dundee Precious Metals Inc., 100%)	Coproduct contained in blister copper produced at the Tsumeb smelter	400
Graphite	Imerys Gecko Holdings (Pty) Ltd. (Imerys S.A., 51%, and Gecko Namibia, 49%)		Okanjande Mine, 14 kilometers south of Otjiwarongo	20,000
Lead, Pb content of concentrate	Rosh Pinah Zinc Corp. (Pty.) Ltd. (Glencore plc., 80.1%)		Rosh Pinah Mine, 800 kilometers south of Windhoek ¹	20,000

See footnotes at end of table.

TABLE 2—Continued
NAMIBIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2018

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Lithium, Li ₂ O content of concentrate	Desert Lion Energy, Inc., 80%, and Huni/-Urib Holdings (Pty) Ltd., 20%	Rubicon and Helikon mines near Karibib ¹	65,000
Manganese	Purity Manganese (Pty) Ltd.	Otjonzundu Mine, about 145 kilometers east of Okahandja near Hochfeld in the Otjonzondjupa region	80,000
Pyrite, concentrate	Weatherly Mining Namibia Ltd. (Weatherly International plc, 100%)	Otjihase Mine and concentrator, near Tsumeb	32,000
Salt	Cape Cross Salt (Pty.) Ltd.	North of Henties Bay	40,000
Do.	Salt & Chemicals (Pty.) Ltd. [Walvis Bay Salt Holdings (Pty.) Ltd., 100%]	Salt pan at Walvis Bay	690,000
Do.	Salt Company (Pty.) Ltd.	Salt pan, Swakopmund	120,000
Do.	Walvis Bay Salt Refiners (Pty.) Ltd. [Walvis Bay Salt Holdings (Pty.) Ltd., 100%]	Salt refinery at Walvis Bay	650,000
Silver:			
Concentrate, Ag content	Rosh Pinah Zinc Corp. (Pty.) Ltd. (Glencore plc., 80.1%)	Rosh Pinah Mine, 800 kilometers south of Windhoek	25
Metal	Namibia Custom Smelters (Pty.) Ltd. (Dundee Precious Metals Inc., 100%)	Coprocess contained in blister copper produced at the Tsumeb smelter	25
Sulfuric acid	Dundee Precious Metals Tsumeb (Proprietary) Ltd. (Dundee Precious Metals Inc., 100%)	Smelter at Tsumeb, 430 kilometers north of Windhoek	280,000
Uranium, uranium oxide	Langer Heinrich Uranium (Pty.) Ltd. (Paladin Energy Ltd., 75%, and CNNC Overseas Uranium Holdings Ltd., 25%)	Langer Heinrich Mine, Namib Desert, 80 kilometers east of Walvis Bay ¹	1,500
Do.	Rössing Uranium Ltd. (Rio Tinto Group, 69%; Iranian Foreign Investment Company, 15%; Industrial Development Corp. of South Africa Ltd., 10%; Government of Namibia, 3%; other minority shareholders, 3%)	Rössing Mine, 65 kilometers northeast of Swakopmund	4,800
Do.	Swakop Uranium (Pty) Ltd. [Taurus Minerals Ltd., 90%, and Epangelo Mining Company (Proprietary) Ltd., 10%]	Husab Mine, 45 kilometers northeast of Walvis Bay Port	5,500
Wollastonite	Namibia Mineral Development Co. (Pty.) Ltd.	Usakos Mine, Karibib District, Erongo region	800
Zinc:			
Mine:			
Concentrate, Zn content	Rosh Pinah Zinc Corp. (Pty.) Ltd. (Glencore plc., 80.1%)	Rosh Pinah Mine, 800 kilometers south of Windhoek	110,000
Ore	Skorpion Zinc (Pty) Ltd. [Skorpion Mining Co. (Pty.) Ltd. (Vedanta Resources plc, 100%)]	Skorpion Mine, 25 kilometers north of Rosh Pinah	1,500,000
Metal	Skorpion Zinc (Pty) Ltd. [Namzinc (Pty.) Ltd. (Vedanta Resources plc, 100%)]	Namzinc solvent extraction facilities and electrowinning refinery, 25 kilometers north of Rosh Pinah	150,000

Do., do. Ditto. NA Not available.

¹On care-and-maintenance status.