



2019 Minerals Yearbook

GUYANA [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF GUYANA

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In 2019, Guyana produced bauxite, cement, common sand, crushed stone, diamond, gold, and loam. Although exploration for petroleum and natural gas was ongoing in 2019, Guyana did not produce crude petroleum and relied on imports of hydrocarbons to meet domestic demand. The country exported several mineral commodities, including bauxite, diamond, and gold. From 2016 to 2019, Guyana was the second-ranked supplier of bauxite to the United States, accounting for an annual average of 21% of United States bauxite imports. The Guyana Geology and Mines Commission (GGMC) reported that the country had also identified resources of minerals that were not yet being produced, such as amethyst, agate, chromite, copper, feldspar, hematite, iron ore, kaolin, kyanite, magnesite, manganese, mica, molybdenum, nickel, niobium, peat, phosphate rock, quartz, rare earths, rutile, talc, tantalum, tin, topaz, uranium, and others (table 1; Vieira, 2014a–c; Bray, 2021).

Minerals in the National Economy

In 2019, Guyana's real gross domestic product (GDP), as reported by the Bank of Guyana, increased by 4.7% compared with a 4.1% rate of growth in 2018. Economic performance was due in part to an increase in the production of gold and agricultural products and to an increase in activities in the construction and services sectors. The growth in the construction sector was mainly owing to an increase in the number of public infrastructure projects. The value of the mining and quarrying sector was estimated to be \$802 million (at constant prices) in 2019, which was an increase of approximately 11% from the \$725 million value (at constant prices) in 2018. The mining and quarrying sector represented 17% of Guyana's GDP compared with 16% in 2018 (World Bank, The, 2020; Bank of Guyana, 2020, p. 11, 13–14; 2021, p. 17, 160, 162).

The value of Guyana's total exports increased by about 14% to \$1.6 billion in 2019 from \$1.4 billion in 2018. The leading mineral commodity exports in 2019 were, in order of value, gold, which was valued at \$876.6 million compared with \$766.8 million in 2018; bauxite, which was valued at \$127 million compared with \$128.2 million in 2018; and diamond, which was valued at \$11.7 million compared with \$12.3 million in 2018. Guyana exported 19,795 kilograms (kg) of gold in 2019 compared with 19,012 kg in 2018. This 4% increase was driven by an increase in the price of gold in international markets. The country's total bauxite exports were 1.91 million metric tons (Mt) in 2019 compared with 1.94 Mt in 2018, which represented a decrease of about 2% (Bank of Guyana, 2020, p. 17–19).

In 2019, Guyana's total exports to the United States were valued at about \$132 million compared with \$253 million in 2018. Exports of nonmonetary gold to the United States decreased by 86%, to \$15.7 million in 2019 from \$116.1 million in 2018. Exports of bauxite and aluminum to the United States

were valued at \$30.2 million compared with \$35.8 million in 2018 (U.S. Census Bureau, 2021b).

Guyana's total imports were valued at \$3.0 billion in 2019, which was an increase of 25% from the \$2.4 billion imported in 2018. Imports of fuel and lubricants accounted for 16% of total imports in 2019 and were valued at about \$491 million, which was a decrease of about 5% from \$516 million imported in 2018. The value of mining equipment and machinery imports increased by 128%, to \$738 million in 2019 from \$323 million in 2018. The increase in the value of imports was attributed to higher demand for materials needed for the development of the emerging petroleum and natural gas sector in the country as well as to an increase in the demand for mining equipment. In 2019, total imports from the United States were valued at about \$672 million compared with about \$541 million in 2018. Guyana's imports of petroleum products (other) from the United States were valued at about \$18 million compared with \$23.2 million in 2018. Imports of iron and steel products and fuel oil were valued at \$5.3 million and \$4.8 million, respectively (Bank of Guyana, 2020, p. 19–20; U.S. Census Bureau, 2021a).

Government Policies and Programs

The Mining Act of 1989 is the regulatory authority for Guyana's mining sector. In January, the Government of Guyana enacted the Natural Resources Act 2019, which provides the legal framework for the establishment of the Natural Resources Fund Act No. 12 of 2019, a law that specifies how the country manages the wealth earned from its natural resources. It ensures accountability for and the proper management of income earned by Guyana from the use of its natural resources, while also helping to sustainably develop those resources. The Natural Resources Fund Act requires the establishment of a code of conduct for members of the oversight and investment committees and lays out the legal framework for the management and public oversight of the fund; the rules for withdrawals, including parliamentary approval and determination of amounts to be withdrawn; and the reporting and auditing procedures. The Act also lays out the types of assets into which funds can be invested, the level of investment that can be pursued, and the maximum and minimum amounts allowed for investments in the Natural Resources Fund for the purpose of long-term savings, such as bank deposits, commodities, corporate bonds, and treasury bills. Additionally, it outlines the procedures and considerations for the calculation of the fiscally sustainable amount of the fund (Amsterdam, 2019).

In March, Guyana signed a Declaration of Intent with South Africa, under which both countries agreed to collaborate in such areas as environmental protection and biodiversity; exploration, mining, and mineral processing; mineral policy development and legislation; and personnel skills development and training.

South Africa committed to assist Guyana in enhancing its capabilities to conduct geologic surveys, mapping of diamond and gold deposits, and other unspecified mining activities; as well as to help the Government of Guyana ensure that its legal system includes provisions that allow for the country to comply with minimum Kimberley Process Certification Scheme standards. The two countries expressed satisfaction upon the completion of the Declaration of Intent, as it solidified the good relations that already existed between them. Upon invitation, South Africa agreed to send technical teams to conduct preliminary studies for offshore exploration and extraction and to provide technical assistance to Guyana for the development of alternative methods to conduct mercury-free commercial gold mining. The two countries also agreed to facilitate and cooperate in commercial activities in mining and related industries, including research and development of value-added products, such as lapidary management and diamond cutting and design. Furthermore, the two countries committed to draft a memorandum of understanding (MOU) to further strengthen all bilateral agreements entered into, in addition to developing a joint strategy to achieve the goals established in the declaration of intent; however, no further details or timeframe was offered as to when the MOU would become effective (Valenzuela, 2019b).

In July, the Department of Energy reported that it continued to work on the plans to establish the Guyana Petroleum Commission. The Department of Energy focused on the development of best practices, the organizational structure and kind of units covered under the commission, and the skillsets of the personnel to operate it. The Petroleum Commission Bill was with the Special Select Committee of Parliament for evaluation. As described in the bill, the commission would have the responsibility to monitor and ensure compliance with the policies, laws, and agreements for petroleum operations, as well as for the health, safety, and environmental standards of the operations. The Petroleum Commission's role would also include the development of guidance documents and a methodology for the efficient management of exploration and mining activities and for conducting safe and environmentally responsible exploration, development, production, and use of petroleum and petroleum products in the country (Guyana Department of Public Information, 2019).

The GGMC is the Government agency in Guyana that is responsible for overseeing the activities of the mineral industry. The agency was created in 1979 and is composed of five technical divisions: environmental, geological services, land management, mines, and petroleum. The general functions of the GGMC are to enforce the provisions of mining licenses, permits, and concessions, prospecting licenses, prospecting permits, and quarry licenses; to collect rentals, fees, and charges that are payable under the law; and to act as a national repository for all information relating to geology and mineral resources. The Environmental Division coordinates, promotes, and oversees mineral processing and environmentally sound mining techniques. The Geological Services Division undertakes geologic fieldwork to investigate the country's geology and mineral resources and compiles geologic reports. The Land Management Division performs cartographic and GIS work

and mineral property management. It also processes and grants licenses and permits for the mineral sector and maintains an updated database of mineral licenses. The Mines Division regulates the mining sector in accordance with the Mining Act of 1989. The Petroleum Division regulates all activities of the hydrocarbon sector; provides economic, environmental, and technical advice; and supports competitiveness and efficiency in the sector. In Guyana, all mineral rights are owned by the state (Guyana Geology and Mines Commission, 2021a, b).

Production

In 2019, Guyana's production of construction materials is estimated to have decreased compared with that in 2018, including the production of common sand (which decreased by an estimated 77%), loam (an estimated 53%), and crushed stone (an estimated 9.6%). The decrease in the production of construction materials resulted in an increase in imports of these mineral commodities to support the country's infrastructure projects. A decrease in production was also reported for diamond (by 11.5%) owing mainly to weaker demand and a reduction in investments in the diamond sector (Bank of Guyana, 2020, p. 12–13). Data on mineral production are in table 1.

Structure of the Mineral Industry

Table 2 is a list of the major mineral industry facilities in Guyana.

Commodity Review

Metals

Bauxite and Alumina.—Bauxite production decreased by an estimated 1.2% in 2019. The Bauxite Company of Guyana Inc. (BCGI) was a leading bauxite producer in Guyana. It was owned by United Company RUSAL plc of Russia (RUSAL; 90%) and the Government (10%). RUSAL produced bauxite at the Kurubuka Mine in the Upper Demerara-Berbice Region. As of December 31, BCGI's total bauxite resources were estimated to be about 82.2 Mt, of which the indicated resources were 38 Mt and the inferred resources were 44.2 Mt. The company had the capacity to produce 2.3 million metric tons per year of bauxite and a capacity utilization rate of 83% in 2019. BCGI's production increased by 1.3% to 1,412 Mt in 2019 from 1,394 Mt in 2018 (table 2; United Company RUSAL plc, 2020, p. 25–26, 53).

The Bosai Minerals Group Co. Ltd. of China, through its subsidiary Bosai Minerals Group (Guyana) Inc., produced bauxite in Guyana at the Omai bauxite mine. The mine is located near Linden on the Demerara River. In March, Bosai Minerals announced its plans to invest \$23 million in new equipment and secondary facilities at its Linden operations. The investment would also allow the company to hire an additional 150 to 200 employees. The investment consisted of \$20 million for the construction of a rotary kiln that was expected to produce 170,000-metric-ton-per-year (t/yr) of refractory A-grade super calcined bauxite and \$3 million for the construction of a rotary dryer with the capacity to produce 150,000 t/yr of sized chemical-grade bauxite. Additionally, the company planned

to build another auxiliary facility. Bosai Minerals expected to complete the construction and installation of the new equipment by mid-2020 (table 2; Bosai Minerals Group Co. Ltd., 2019).

Gold.—In 2019, gold production is estimated to have increased by about 4%, which, according to the Bank of Guyana, was near target amounts for the year. Guyana Goldfields Inc. of Canada produced 4,395 kg of gold at its Aurora Gold Mine located in the Cuyuni-Mazaruni Region. In February, the Government approved final permits for the development of the Aurora underground mine, which had a projected construction cost of \$13.6 million; however, by the end of 2019, the company had implemented a temporary suspension of the underground development work, citing cashflow constraints (Guyana Goldfields Inc., 2019, p. 11, 48; Valenzuela, 2019a; International Trade Administration, 2021).

Troy Resources Ltd. of Australia had begun gold production in Guyana in January 2016 at its Karouni gold mine, which is located in the Essequibo Region. In 2019, the mine produced 1,808 kg of gold (reported as 58,118 troy ounces), which was a decrease of 17% compared with the 2,184 kg of gold (reported as 70,207 troy ounces) produced in 2018. The company stated that the Karouni Mine processed a total of 888,198 metric tons of ore in 2019, and that the decrease in production was due to lower ore grades, which averaged 2.11 grams per metric ton (g/t) gold compared with 2.64 g/t gold in 2018. As of June 30, the mine's total proven and probable gold reserves were estimated to be 1.2 Mt at an average grade of 1.9 g/t gold (Troy Resources Ltd., 2019, p. 1, 2, 7, 23, 33).

Mineral Fuels

Natural Gas and Petroleum.—Guyana did not produce crude petroleum or natural gas in 2019; however, Exxon Mobil Corp. of the United States continued to explore for these mineral commodities in Guyana. In 2019, ExxonMobil, through its majority-owned subsidiary in Guyana, Esso Exploration and Production Guyana Ltd., announced five discoveries in the offshore Stabroek Block in the Atlantic Ocean. These discoveries (numbered as the 11th through the 15th discoveries) were in addition to the company's portfolio of 10 previous discoveries (numbered as the 1st to the 10th discoveries). In February, the company announced its 11th discovery (Tilapia) at the Stabroek Block. The Tilapia-1 well was drilled to a depth of 5,726 meters (m) into the seafloor and encountered approximately 93 m of a high-quality oil-bearing sandstone reservoir. The 12th discovery was also announced in February and was called Haimara. The Haimara-1 well was drilled to a depth of 5,575 m into the seafloor and encountered approximately 63 m of a high-quality gas-condensate-bearing sandstone reservoir. In April, ExxonMobil announced the 13th discovery, called Yellowtail; the Yellowtail-1 well was drilled to a depth of 5,622 m into the seafloor and encountered approximately 89 m of a high-quality oil-bearing sandstone reservoir. In September, the company announced the Tripletail discovery, which was its 14th discovery in Guyana; the Tripletail-1 well was drilled to a depth of 2,003 m into the seafloor and encountered 33 m of a high-quality oil-bearing sandstone reservoir. In December, ExxonMobil announced its last discovery of the year, the Mako discovery (the 15th discovery);

the Mako-1 well was drilled to a depth of 1,620 m into the seafloor and encountered approximately 50 m of a high-quality oil-bearing sandstone reservoir (Exxon Mobil Corp., 2020).

The findings in 2019 added to the portfolio of previous discoveries made by ExxonMobil in the Stabroek Block. The first discovery had been announced in May 2015 and was named Liza. The Liza-1 well was the first significant oil find for Guyana and was drilled to a depth of 5,433 m into the seafloor and encountered about 90 m of a high-quality oil-bearing sandstone reservoir. The company continued working on the development of the Liza phase 1 project, which would have a nameplate production capacity of 120,000 barrels per day (bbl/d) of oil and was expected to commence in 2020. The Liza phase 2 project was designed to produce an additional 220,000 bbl/d and was expected to come online in mid-2022. Another project under development was the Payara project (discovered in 2017), which had a designed production capacity of 220,000 bbl/d and was expected to come online in 2024. The company also made discoveries in 2017 (the Liza Deep, the Snoek, and the Turbot discoveries) and in 2018 (the Hammerhead, the Longtail, the Pacora, the Pluma, and the Ranger discoveries). The estimated total gross recoverable resource for the Stabroek Block was more than 8 billion barrels of oil equivalent (Exxon Mobil Corp., 2020).

Outlook

In 2020, GDP growth was expected to contract by about 5% in the Latin America and the Caribbean region, mostly as a result of the coronavirus disease 2019 (COVID-19) pandemic. Growth in Guyana's economy is expected to be adversely affected by the uncertainty caused by the pandemic, although the bauxite and the petroleum and natural gas subsectors are still expected to grow during the year. The production of bauxite is expected to increase in the near future owing to new investments and mining projects that were under development in 2019. Recent discoveries by ExxonMobil from 2017 to 2019 highlight the country's potential to become a crude petroleum producer in the near future. Once the natural gas and petroleum projects become operational, the hydrocarbon sector is expected to become an important driver of economic growth in Guyana. Guyana projects that the revenue from the Natural Resource Fund could account for 11% of total Government revenue. Construction activities in Guyana are projected to continue to increase as the Government prioritizes infrastructure projects (Bank of Guyana, 2020, p. 10, 14–15, 23–24).

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TABLE 1
GUYANA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons, gross weight, unless otherwise specified)

Commodity		2015	2016	2017	2018	2019
METALS						
Bauxite, dry basis	thousand metric tons	1,498	1,480	1,482 ^r	1,924	1,900 ^e
Gold, mine, Au content	kilograms	14,029	22,168	20,334	19,069	19,800 ^e
INDUSTRIAL MINERALS						
Cement, hydraulic ^e		100,000	400,000	400,000	410,000	410,000
Diamond, gem, unspecified	carats	118,451	139,890	52,161	62,111	54,993
Stone, sand, and gravel, construction:						
Sand and gravel, common sand		1,669,379	1,687,602	1,674,490	6,473,844	1,487,000 ^e
Stone:						
Crushed, other, unspecified		425,577	517,770	538,937	661,646	598,000 ^e
Other, size and shape unspecified, loam		100,800	23,565	51,054	73,911	35,000 ^e

^eEstimated. ^rRevised.

¹Table includes data available through September 28, 2020. All data are reported unless otherwise noted. Estimated data are rounded to no more than three significant digits; may not add to totals shown.

Source: Guyana Geology and Mines Commission.

TABLE 2
GUYANA: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Bauxite		Bauxite Company of Guyana Inc. (BCGI) (United Company RUSAL plc, 90%, and Government, 10%)	Kurubuka Mine, Upper Demerara-Berbice Region	2,300.
Do.		Bosai Minerals Group (Guyana) Inc. (Bosai Minerals Group Co. Ltd., 70%, and Government, 30%)	Omai bauxite mine and processing plant located near Linden on the Demerara River about 100 kilometers south Georgetown	700, mine.
Cement		Caricom Cement Company Inc.	Everton cement plant, East Berbice	500.
Diamond	carats	Numerous domestic artisanal operations	Various locations	NA.
Gold	kilograms	do.	do.	NA.
Do.	do.	Ensurge Inc.	Mine located in Cuyuni-Mazaruni Region	NA.
Do.	do.	Goldsource Mines Inc.	Eagle Mountain Mine, 7 kilometers south of Mahdia Township	NA.
Do.	do.	AMG Inc. (Guyana Goldfields Inc.)	Aurora Mine, Cuyuni-Mazaruni Region	7,000.
Do.	do.	Mahdia Gold Corp.	Omai Mine, Cuyuni-Mazaruni Region	NA.
Do.	do.	Troy Resources Guyana Ltd.	Karouni Mine, Essequibo Region	2,000.
Gravel		Baracara Quarries Inc.	Quarry near Bartica, Mazaruni-Potaro District	100.
Silica sand		Minerals and Technology Ltd. (Minerals and Chemicals of Texas, 100%)	Sand Hills Mine, Demerara River, West Demerara District	300.
Do.		Various companies	Various sand pits: Bartica (1 sand pit), Berbice (2 sand pits), Essequibo Coast (3 sand pits), Essequibo River (1 sand pits), Linden-Soesdyke Highway (6 sand pits)	NA.
Stone		BK Quarries Inc (BK International Inc.)	Tiperu Quarry, Mazaruni River	3,650.
Do.		Toolsie Persaud Ltd.	St. Mary's Quarry, Essequibo River	NA.
Do.		Baracara Quarries Inc.	Big Hope Quarry, Mazaruni River	NA.
Do.		Durban Quarries Inc.	Quarry at Mazaruni River ¹	NA.

Do., do. Ditto. NA Not available.

¹On care-and-maintenance status since 2018.