



# 2020–2021 Minerals Yearbook

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**VENEZUELA [ADVANCE RELEASE]**

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# THE MINERAL INDUSTRY OF VENEZUELA

By Yolanda Fong-Sam

**Note: In this chapter, information for 2020 is followed by information for 2021.**

Within the region that encompasses Latin America and the Caribbean, Venezuela was the third-ranked petroleum-producing country after Brazil and Colombia, accounting for about 11% of the total output for the region. Proven petroleum reserves in Venezuela represented nearly 18% of the world's total proven petroleum reserves, which was the largest percentage of proven petroleum reserves in the world, followed by Saudi Arabia (17%), Canada (10%), Iran (9%), and Iraq (8%). Venezuela's natural gas production accounted for about 14% of the Latin America and the Caribbean region's output, which ranked Venezuela fourth among the leading producers of natural gas in the region after Argentina, Brazil, and Trinidad and Tobago. Venezuela also accounted for 3% of the world's total proven natural gas reserves and 79% of the proven natural gas reserves in the Latin America and the Caribbean region. Venezuela's natural gas liquids production in 2020 accounted for about 15% of the production in the Latin America and the Caribbean region. The country was the third-ranked producer of natural gas liquids after Argentina and Brazil. According to the World Steel Association, among the countries in the region of Latin America and the Caribbean, Venezuela was the third-ranked producer of direct-reduced iron after Argentina and Trinidad and Tobago, accounting for about 13% of the region's total output. Other nonfuel mineral and mineral-based commodities produced in Venezuela in 2020 were aluminum, cement, diamond, iron and steel, feldspar, nitrogen (ammonia), phosphate rock, refined lead, and sulfur (table 1; World Steel Association, 2021, p. 19; BP p.l.c., 2022a, p. 16, 18, 29; 2022b; 2022c).

## Minerals in the National Economy

The Economic Commission for Latin America and the Caribbean (ECLAC) reported that Venezuela's nominal gross domestic product (GDP) decreased in 2020 to \$58.2 billion from \$97.1 billion in 2019. The decrease in the GDP was attributed to several factors, including the decrease in crude petroleum (also called Merey crude petroleum) production and crude petroleum exports; operational problems such as prolonged power outages in the petroleum products refinery (diesel and gasoline); the safety measures established by the Government owing to the coronavirus disease 2019 (COVID-19) pandemic, which halted most mining and petroleum-refinery operations; and the tightening of sanctions imposed by the United States. Venezuela's crude petroleum production had steadily decreased during the past 10 years (with the exception of modest increases in output in 2014 and 2015). In 2020, crude petroleum production decreased by 37% compared with that in 2019. Exports of crude petroleum decreased by 36% in the number of barrels exported; this decrease was owing to reduced global demand due to COVID-19 travel restrictions, which led to lower petroleum tax revenues in 2020 compared with those in 2019

(Economic Commission for Latin America and the Caribbean, 2021, p. 1–4; 2022b; BP p.l.c., 2022a, p. 16).

## Government Policies and Programs

In 2020, the Government of Venezuela faced economic challenges by being excluded from external financial support owing to the sanctions imposed by the United States Government in 2019. These circumstances were mainly caused by the Government's decision in 2017 to cease payments of the country's foreign debt and thus, the tightening of economic sanctions imposed by the United States (Economic Commission for Latin America and the Caribbean, 2021, p. 2).

In January 2019, the U.S. Department of the Treasury announced new sanctions against Venezuela's majority-state-owned petroleum company Petróleos de Venezuela S.A. (PDVSA), in which all the company's assets under United States jurisdiction were blocked and all United States citizens and companies were banned from engaging in transactions with PDVSA; however, the United States Government continued to accept crude petroleum transactions from Venezuela as long as the proceeds went into blocked accounts, which limited the Government of Venezuela access to financial support from assets abroad. At the time that these sanctions were implemented, CITGO Petroleum Corp. of the United States, which was wholly owned by PDVSA, was allowed to continue operations in the United States, provided that its profits were deposited in a blocked account (U.S. Department of the Treasury, 2019a; Vaz, 2019a).

In March 2019, the U.S. Department of the Treasury imposed two additional sanctions on Venezuela. The first sanction was to the Corporación Venezolana de Guayana (CVG) Compañía General de Minería de Venezuela C.A. (Minerven) and its president. The sanctions blocked the company's and its associates' U.S. assets (those in which the company and its associates held a 50% or more share) and prohibited all U.S. persons and companies from conducting business with Minerven. Minerven operated in the State of Bolívar and was part of the state-owned CVG conglomerate. Minerven owned the gold-processing plants in the country and produced gold dore from state-run and small-scale independent mining operations. Venezuela started looking for other partners in other countries to refine gold after sanctions were imposed by the United States, Canada, and the European Union (EU). The multiple financial sanctions imposed on Venezuela have hampered the country's international transactions and blocked Venezuela's financial accounts abroad; therefore, the country turned to gold as a source of hard currency to fund all imported commodities. The second set of sanctions was imposed on three major Venezuelan public banks, one of which was the Venezuelan Economic and Social Development

Bank (BANDES), which was created to support the country's infrastructure and technology development projects. The other two banks that had sanctions imposed were the Bicentenario Bank and the Bank of Venezuela, S.A. The sanctions imposed on these banks were on all assets owned by entities in the United States that held more than 50% of the shares. Additionally, any U.S. person and (or) company was banned from doing business with these banks (U.S. Department of the Treasury, 2019b; Vaz, 2019b, c).

In April 2019, the United States imposed additional sanctions on Venezuela that ultimately resulted in an economic embargo. The U.S. Department of the Treasury sanctioned Venezuela's banking, mining, and fuel sectors. Venezuela's assets in the United States, such as CITGO and more than \$1.2 billion worth of gold held in the vaults of the Bank of England, were frozen. Other measures included marking petroleum vessels as sanctioned property, which made petroleum shipments more difficult. These sanctions have contributed to the sharp decline in Venezuela's petroleum output (Vaz, 2019d).

Also, in April 2019, sanctions were placed against the Central Bank of Venezuela (BCV). The sanctions called for the restriction of U.S. transactions with BCV and for the prohibition of BCV's access to U.S. currency. In August, the United States introduced even stricter measures on Venezuela owing to political tensions between the two countries through the establishment of an Executive order that prohibited the exportation, payment, transfer, withdrawal of, or dealings with all Venezuelan state-owned assets in the United States (unless otherwise exempted by the U.S. Department of the Treasury). All business transactions with any Venezuela state entities were strictly forbidden. The U.S. Department of the Treasury was also authorized to issue secondary sanctions against non-U.S. third parties that were considered to have assisted, sponsored, or provided financial aid, material, technological support, or goods or services to the Government of Venezuela. Whereas previous Executive orders sanctioned foreign entities from dealing with Venezuela's state banks, the mining sector, and the fuel sector, the embargo imposed in 2019 sanctioned all businesses in all sectors from doing business with Venezuela. Exemptions to the embargo were clothing, food, and medicine intended to be used as humanitarian assistance (Koerner and Vaz, 2019; Seelke, 2019; U.S. Department of the Treasury, 2019c; Vaz, 2019d).

The Ministerio del Poder Popular de Petróleo y Minería [Ministry of Petroleum and Mining] is the Government entity responsible for all legal matters related to mining and petroleum-extraction activities. In 2016, the Ministry was split into two (by Decree No. 2,413) with the creation of the Ministerio del Poder Popular de Desarrollo Minero Ecológico [Ministry of Ecological Mining Development] (MPPDME) and the Ministerio de Poder Popular de Petróleo [Ministry of Petroleum] (MinPetróleo). The Ministerio del Poder Popular para Industrias y Producción Nacional [Ministry of Industries and Production], established by Decree No. 8,609 in 2011, was the Government entity responsible for all legal matters related to all the country's industries. In December 2015, Decree No. 6,210 was passed; the law requires that the Government hold a 55% share in all mining projects, sets a

period of no more than 20 years for mining operations, and entitles the Government to a minimum share of 3% and a maximum share of 13% as a royalty on the value of gold production and "other strategic minerals" (not specified). According to the Venezuelan Constitution, all mineral and hydrocarbon resources belong to the State (Ministerio del Poder Popular de Petróleo y Minería, 2016, p. 48; Ministerio del Poder Popular para Industria y Comercio, 2016, p. 58–61, 67–68).

The Instituto Nacional de Geología y Minería [National Institute of Geology and Mining] (INGEOMIN), established by Decree No. 5,382 of 1999, is the Government entity responsible for research and other matters related to geology, minerals, geophysics, geochemistry, geotechnics, and other resource-related areas. The INGEOMIN advises both Government agencies and the private sector regarding the optimal utilization of mineral resources and water, prevention and mitigation of the effects of natural hazards, and environmentally sustainable development (Ministerio del Poder Popular de Petróleo y Minería, 2016, p. 572).

## Production

In 2020, increases in production were reported for primary aluminum (by 150%) and cement (by 28%). The production of most mineral commodities in Venezuela decreased owing to the safety measures established by the Government during the COVID-19 pandemic and the financial strain caused by the country's political instability. Production of the following mineral commodities notably decreased in 2020: raw steel (by 42%), crude petroleum (by 37%), natural gas liquids (by 35%), iron ore (by 29%), direct-reduced iron (by 26%), natural gas (by 16%), refined lead (by 13%), and lime (by 11%). Production of bauxite, alumina, and diamond resumed in 2020. Data on mineral production are in table 1.

## Structure of the Mineral Industry

The Government-owned PDVSA had majority control of Venezuela's petroleum sector. The Government-owned Corporación Socialista del Cemento S.A. controlled the cement sector through its subsidiaries, which included C.A. Fabrica Nacional de Cementos S.A.C.A. (FNC), Corporación de Cemento Andino C.A. (Cemento Andino), Corporación de Cemento Catatumbo C.A., Empresa de Cemento Cerro Azul C.A. (Cemento Cerro Azul), Industria Venezolana de Cementos S.A. (INVECEM), and Venezolana de Cementos S.A.C.A. (VENCEMOS). Table 2 is a list of major mineral industry facilities.

The Government-owned CVG conglomerate was made up of 21 companies and was based in the city of Guayana, Bolívar State. The conglomerate was part of the Empresas Básicas de Guayana, which produced raw materials for other companies to use to produce finished products. The companies that made up CVG were focused on three sectors: the aluminum sector, the iron and steel sector, and the mineral-related services sector. Companies in the aluminum sector were as follows: CVG Aluminio del Caroní S.A. (CVG Alcasa); CVG Aluminio de Carabobo S.A. (Alucasa); CVG Bauxilum C.A. (Bauxilum); CVG Carbones del Orinoco, C.A. (Carbonorca); CVG Rines de

Aluminio, C.A. (Rialca); CVG Venezolana de Aluminio C.A. (Venalum); and CVG Empresa Conductores de Aluminio del Caroní, C.A. (Cabelum). CVG companies in the iron and steel sector were as follows: Briquetera del Caroní C.A. (Briqcar); Briquetera del Orinoco C.A. (Orinoco Iron); Briquetera de Venezuela C.A. (Briqven); Complejo Siderúrgico de Guayana C.A. (Comsigua, C.A.); CVG Ferrominera Orinoco C.A. (CVG FMO); CVG Refractorio Socialista de Venezuela, C.A. (CVG Refractorios C.A.), and Siderúrgica del Orinoco “Alfredo Maneiro” (CVG Sidor C.A.) (Heredia Terán, 2019).

The state-owned Corporación Venezolana de Minería S.A. (CVM) operated the Mina Norte and Paso Diablo coal mines, both of which are located in the State of Zulia. The two mines had a combined production capacity of about 8.3 million metric tons per year (Mt/yr) of coal. Before sanctions were imposed on Venezuela, several transnational companies operated in the petroleum sector in partnership with state-owned PDVSA. These companies included Chevron Corp. (headquartered in the United States), Repsol S.A. of Spain, China National Petroleum Corp. (CNPC) of China, and Eni S.p.A. of Italy (table 2).

### Mineral Trade

In 2020, domestic revenues from the trade of commodities decreased sharply owing to the rapid decrease in economic activities caused by the COVID-19 pandemic. According to the ECLAC, the value of Venezuela’s exports of goods and services decreased by about 69% to \$5.3 billion from \$17 billion in 2019. The decrease in the value of exports was likely attributable to the sharp decline in the average price of Venezuelan crude petroleum and the decrease in the number of barrels of crude petroleum exported. Imports of goods and services increased by about 12% in 2020 to \$6.5 billion compared with \$5.8 billion in 2019 (Economic Commission for Latin America and the Caribbean, 2021, p. 3; 2022a, p. 6).

### Commodity Review

#### Metals

**Aluminum.**—In 2020, the estimated production of primary aluminum increased by 150% to an estimated 20,000 metric tons (t) from an estimated 8,000 t in 2019. The increase in production was attributed to the restart of the CVG Venezolana de Aluminio C.A. (Venalum) smelter in January 2020 and the restart of alumina production at the Bauxilum refinery. The smelter was shut down in March 2019 after a power failure at the Guri Dam hydroelectric powerplant (tables 1, 2; Rodriguez and Jesús, 2020).

#### Mineral Fuels

**Natural Gas and Petroleum.**— In September 2020, PDVSA and its foreign joint-venture partners, which included Petromonagas S.A. (Carabobo area), Petropiar S.A. (Hamaca oilfield), and Petrolera Sinovensa S.A. (Sinovensa plant), restarted production of extra-heavy crude petroleum in Venezuela’s Orinoco Belt. All three joint-venture partners had stopped production in their facilities in August. Petropiar, which had stopped operations in August for repairs to the crude upgrader, produced 50,000 barrels per day (bbl/d)

of crude petroleum. Petromonagas produced an average of 37,000 bbl/d of crude petroleum, and Petrolera Sinovensa S.A. produced 15,000 bbl/d of crude petroleum. Most of PDVSA’s facilities had reported decreases in crude petroleum production because of the need for more storage tank space and recurring electrical failures, which affected the pumping, processing, and transportation of crude petroleum. In addition to the saturation of onshore and offshore storage tanks and the exportation restrictions to PDVSA (established by the economic sanctions imposed by the United States), the Orinoco Belt output was also affected by the decrease in the domestic production of light-crude petroleum used for the mixing of extra-heavy crude petroleum (table 2; Mogollon, 2020).

### MINERAL INDUSTRY HIGHLIGHTS IN 2021

In 2021, Venezuela was the third-ranked petroleum-producing country in the Latin America and the Caribbean region after Argentina and Brazil, accounting for about 11% of the total output of the region. Venezuela’s natural gas production accounted for about 16% of the Latin America and the Caribbean region’s output, which ranked Venezuela fourth among the leading producers of natural gas in the region after Argentina, Brazil, and Trinidad and Tobago. In 2021, Venezuela’s natural gas liquids production accounted for about 15% of output in the Latin America and the Caribbean region (table 1; BP p.l.c., 2022a, p. 16, 18, 29).

The ECLAC reported that Venezuela’s real GDP decreased in 2021 by 3.0% to \$66.3 billion (at constant 2010 prices) from \$68.4 billion in 2020. In 2021, crude petroleum production increased by 2% compared with that in 2020 (table 1; BP p.l.c., 2022a, p. 16; Economic Commission for Latin America and the Caribbean, 2022a, p. 1, 4; 2022b).

In 2021, the production of mineral commodities increased notably for iron ore (by about 190%), followed by cement (by 70%), refined petroleum products (by 37%), and marketable natural gas (by 11%); however, mineral production decreases were estimated for diamond (by 37%) and alumina (by 27%), and no production of coal was reported for 2021. Data on mineral production are in table 1.

In 2021, higher taxes on imports and high inflation in Venezuela contributed to a decrease in the collection of revenues from the trading of goods. Tax revenues from crude petroleum increased in 2021 owing to the rise in the price of Venezuela’s crude petroleum. The increase in crude petroleum revenues also reflected the increase in Venezuela’s crude petroleum production. According to the ECLAC, the export of goods and services increased by 60% compared with a decrease of about 69% in 2020. Imports of goods and services increased by 18% in 2021 compared with an increase of about 12% in 2020 (Economic Commission for Latin America and the Caribbean, 2022a, p. 2, 6).

In July 2021, TotalEnergies of France, through its affiliate Total Venezuela, announced the decision to transfer 30.32% of its minority share in the Petrocedeno S.A. project to Corporación Venezolana de Petróleos (CVP), an affiliate of PDVSA. Equinor ASA of Norway also decided to transfer its 9.67% share in the project. With the transfer of shares, PDVSA became the sole owner of Petrocedeno, which was a company



that produced extra-heavy crude petroleum from the Orinoco Belt (table 2; TotalEnergies, 2021).

## Outlook

The ECLAC projected an increase in Venezuela's GDP of 5% for 2022, given the increase in the performance of the mineral fuels sector in 2021. According to the ECLAC, Venezuela's economy would also benefit from an easing of sanctions imposed on the country's crude petroleum exports. Should this happen, these factors could contribute to the recovery of Venezuela's petroleum industry, including reactivation of the country's petroleum refineries (Economic Commission for Latin America and the Caribbean, 2022a, p. 4; 2022c).

## References Cited

- BP p.l.c., 2022a, BP statistical review of world energy 2022 (71st edition): London, United Kingdom, BP p.l.c., 57 p. (Accessed November 22, 2022, at <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2022-full-report.pdf>.)
- BP p.l.c., 2022b, Gas proved reserves history table at BP statistical review of world energy 2022, all data 1965-2021: London, United Kingdom, BP p.l.c. (Accessed November 22, 2022, at <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/xlsx/energy-economics/statistical-review/bp-stats-review-2022-all-data.xlsx>.)
- BP p.l.c., 2022c, Oil proved reserves history table at BP statistical review of world energy 2022 [workbook], all data 1965-2021: London, United Kingdom, BP p.l.c. (Accessed November 22, 2022, at <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/xlsx/energy-economics/statistical-review/bp-stats-review-2022-all-data.xlsx>.)
- Economic Commission for Latin America and the Caribbean, 2021, Economic survey of Latin America and the Caribbean—Bolivarian Republic of Venezuela: Economic Commission for Latin America and the Caribbean, 7 p. (Accessed October 12, 2022, at [https://repositorio.cepal.org/bitstream/handle/11362/47193/90/EI2021\\_Venezuela\\_en.pdf](https://repositorio.cepal.org/bitstream/handle/11362/47193/90/EI2021_Venezuela_en.pdf).)
- Economic Commission for Latin America and the Caribbean, 2022a, Economic survey of Latin America and the Caribbean, 2021—Bolivarian Republic of Venezuela: Economic Commission for Latin America and the Caribbean, 7 p. (Accessed October 12, 2022, at [https://repositorio.cepal.org/bitstream/handle/11362/48077/25/EE2022\\_Venezuela\\_es.pdf](https://repositorio.cepal.org/bitstream/handle/11362/48077/25/EE2022_Venezuela_es.pdf).)
- Economic Commission for Latin America and the Caribbean, 2022b, Producto interno bruto (PIB) total anual a precios corrientes en dólares [Total annual gross domestic product (GDP) at current prices in dollars]: United Nations Economic Commission for Latin America and the Caribbean. (Accessed October 12, 2022, at <https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=2&lang=es>.) [In Spanish.]
- Economic Commission for Latin America and the Caribbean, 2022c, Latin America and the Caribbean—Growth projections for 2022: United Nations Economic Commission for Latin America and the Caribbean, April 27. (Accessed June 25, 2023, at [https://www.cepal.org/sites/default/files/pr/files/table\\_press\\_gdp\\_newprojections-2022\\_27april-eng.pdf](https://www.cepal.org/sites/default/files/pr/files/table_press_gdp_newprojections-2022_27april-eng.pdf).)
- Heredia Terán, César, 2019, Las industrias básicas de Guayana son recuperables [The basic industries of Guyana are recoverable]: Barquisimeto, Venezuela, Cotejo, October 25. (Accessed May 2, 2022, at <https://cotejo.info/2019/10/industrias-basicas-guayana-2020/>.) [In Spanish.]
- Koerner, Lucas, and Vaz, Ricardo, 2019, Washington escalates Venezuela sanctions into full-fledged embargo: *Venezuelanalysis.com*, August 7. (Accessed May 7, 2022, at <https://venezuelanalysis.com/news/14615>.)
- Ministerio del Poder Popular de Petróleo y Minería, 2016, Memoria 2015 [Report 2015]: Caracas, Venezuela, Ministerio del Poder Popular de Petróleo y Minería, 852 p. (Accessed November 22, 2017, at <https://drive.google.com/file/d/0B65M4qe0vsR1NVVDeGtkeWVBLTQ/view>.) [In Spanish.]
- Ministerio del Poder Popular para Industria y Comercio, 2016, Memoria y cuenta 2015 [Report and accounts 2015]: Caracas, Venezuela, Ministerio del Poder Popular para Industrias, 925 p. (Accessed November 22, 2017, at <https://transparenciave.org/wp-content/uploads/2016/07/industria-y-comercio-Memoria-2015.pdf>.) [In Spanish.]
- Mogollon, Mery, 2020, Venezuela Sinovensa, Petromonagas, and Petropiar JV's restart production, PDVSA: New York, New York, S&P Global. (Accessed November 22, 2022, at <https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/oil/091520-venezuela-sinovensa-petromonagas-and-petropiar-jvs-restart-production-pdvsa>.)
- Rodriguez, L., and Jesús M., 2020, Primary aluminum industry in Venezuela: *Aluminum Insider*, October 15. (Accessed May 2, 2021, at <https://www.spotlightmetal.com/primary-aluminum-industry-in-venezuela-a-970774/>.)
- Seelke, C.R., 2019, Venezuela—Overview of U.S. sanctions: Washington, DC, Congressional Research Service, August 22, no. IF10715, ver. 22, 3 p. (Accessed April 25, 2023, at <https://crsreports.congress.gov/product/pdf/IF/IF10715/22>.)
- TotalEnergies, 2021, Venezuela, TotalEnergies exits from Petrocedeno: Paris, France, TotalEnergies, July 29. (Accessed October 29, 2022, at <https://totalenergies.com/media/news/press-releases/venezuela-totalenergies-exits-petrocedeno>.)
- U.S. Department of the Treasury, 2019a, Treasury sanctions Venezuela's State-owned oil company Petróleos de Venezuela, S.A.: Washington, DC, U.S. Department of the Treasury, January 28. (Accessed June 22, 2023, at <https://home.treasury.gov/news/press-releases/sm594>.)
- U.S. Department of the Treasury, 2019b, Treasury sanctions Venezuela's State gold mining company and its president for propping up illegitimate Maduro regime: Washington, DC, U.S. Department of the Treasury, March 19. (Accessed June 22, 2023, at <https://home.treasury.gov/news/press-releases/sm631>.)
- U.S. Department of the Treasury, 2019c, Treasury Sanctions Central Bank of Venezuela and Director of the Central Bank of Venezuela: U.S. Department of the Treasury, April 17. (Accessed June 22, 2023, at <https://home.treasury.gov/news/press-releases/sm661>.)
- Vaz, Ricardo, 2019a, US hits PDVSA with more sanctions as UNSC fails to pass resolution on Venezuela: *Venezuelanalysis.com*, January 28. (Accessed May 7, 2022, at <https://venezuelanalysis.com/news/14268>.)
- Vaz, Ricardo, 2019b, US imposes new sanctions as Venezuelan Government denounces takeover of diplomatic offices: *Venezuelanalysis.com*, March 20. (Accessed May 7, 2022, at <https://venezuelanalysis.com/news/14396>.)
- Vaz, Ricardo, 2019c, US sanctions Venezuelan banks after Guaido aide accused of leading "terrorist cell": *Venezuelanalysis.com*, March 22. (Accessed May 7, 2022, at <https://venezuelanalysis.com/news/14398>.)
- Vaz, Ricardo, 2019d, US sanctions Venezuela's Central Bank: *Venezuelanalysis.com*, April 18. (Accessed May 7, 2022, at <https://venezuelanalysis.com/news/14434>.)
- World Steel Association, 2021, 2021—World steel in figures: Brussels, Belgium, World Steel Association, April 30, 31 p. (Accessed December 20, 2022, at <https://worldsteel.org/wp-content/uploads/2021-World-Steel-in-Figures.pdf>.)

TABLE 1  
VENEZUELA: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons, gross weight, unless otherwise specified)

Commodity <sup>2</sup>		2017	2018	2019	2020	2021
METALS						
Aluminum:						
Bauxite	thousand metric tons	550 <sup>e</sup>	--	--	250 <sup>e</sup>	250 <sup>e</sup>
Alumina	do.	240 <sup>e</sup>	--	--	110 <sup>e</sup>	80 <sup>e</sup>
Metal, primary	do.	144	86	8 <sup>e</sup>	20 <sup>e</sup>	20 <sup>e</sup>
Ferroalloys, silicomanganese		18,670	--	--	--	--
Gold	kilograms	480	480 <sup>e</sup>	480 <sup>e</sup>	480 <sup>e</sup>	480 <sup>e</sup>
Iron ore:						
Gross weight	thousand metric tons	4,005	2,474	1,096	780	2,257
Fe content	do.	2,500	1,550	685 <sup>e</sup>	487	1,410
Iron and steel:						
Direct-reduced iron	do.	1,680	990	385	285	289
Raw steel <sup>3</sup>	do.	444	129	50	29	29
Lead, refinery, secondary <sup>e</sup>	do.	16	9	8	7	7
INDUSTRIAL MINERALS						
Cement, hydraulic	thousand metric tons	5,410	2,010 <sup>r</sup>	1,150 <sup>r</sup>	1,470 <sup>e</sup>	2,500 <sup>e</sup>
Diamond	carats	--	--	--	794	500 <sup>e</sup>
Feldspar <sup>e</sup>		30,300 <sup>r</sup>	30,000 <sup>r</sup>	30,000 <sup>r</sup>	30,000	30,000
Lime <sup>e</sup>		290,000	230,000	190,000	170,000	170,000
Nitrogen, ammonia, N content	thousand metric tons	820	370	190	190	180
Phosphate rock: <sup>e</sup>						
Gross weight		20,000	20,000	15,000	15,000	15,000
P <sub>2</sub> O <sub>5</sub> content		6,000	6,000	5,000	5,000	5,000
Sulfur, byproduct, S content <sup>e</sup>	thousand metric tons	620	430	320	320	320
MINERAL FUELS AND RELATED MATERIALS						
Coal, bituminous	thousand metric tons	4,780 <sup>r</sup>	4,780 <sup>r</sup>	2,390 <sup>r</sup>	2,390	--
Natural gas:						
Gross	million cubic meters	38,600 <sup>r</sup>	31,600 <sup>r</sup>	25,600 <sup>r</sup>	21,600	24,000
Marketable	do.	12,400 <sup>r</sup>	10,100 <sup>r</sup>	8,200 <sup>r</sup>	6,900	7,700
Petroleum:						
Crude	thousand metric tons	114,100 <sup>r</sup>	83,800 <sup>r</sup>	52,100 <sup>r</sup>	32,700	33,400
Natural gas liquids	thousand 42-gallon barrels	37,960 <sup>r</sup>	32,120 <sup>r</sup>	29,200 <sup>r</sup>	18,980	17,900
Refinery products	do.	198,560 <sup>r</sup>	111,690 <sup>r</sup>	49,275 <sup>r</sup>	44,895	61,700

<sup>e</sup>Estimated. <sup>r</sup>Revised. do. Ditto. -- Zero.

<sup>1</sup>Table includes data available through December 28, 2022. All data are reported unless otherwise noted. Estimated data are rounded to no more than three significant digits.

<sup>2</sup>In addition to the commodities listed, carbon black, common clay, ferromanganese, ferronickel, ferrosilicon, salt, and stone may have been produced, but available information was inadequate to make reliable estimates of output.

<sup>3</sup>Source: World Steel Association

TABLE 2  
VENEZUELA: STRUCTURE OF THE MINERAL INDUSTRY IN 2021

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Alumina	CVG Bauxilum C.A. (Bauxilum) [Corporación Venezolana de Guayana (CVG)]	Refinery, Puerto Ordaz, Bolivar State	2,000
Aluminum	CVG Aluminio de Carabobo S.A. (Alucasa) [Corporación Venezolana de Guayana (CVG)]	Aluminum laminate plant, Carabobo State	NA
Do.	CVG Aluminio del Caroní, S.A. (Alcasa) [Corporación Venezolana de Guayana (CVG)]	Smelter, Puerto Ordaz, Bolivar State	170
Do.	CVG Carbones del Orinoco, C.A. (Carbonorca) [Corporación Venezolana de Guayana (CVG)]	Plant in Bolivar State	NA
Do.	CVG Empresa Conductores de Aluminio del Caroní, C.A. (Cabelum) [Corporación Venezolana de Guayana (CVG)]	Aluminum conductors plant, Bolivar State	NA
Do.	CVG Rines de Aluminio, C.A. (Rialca) [Venalum, 90%, and Corporación Venezolana de Guayana (CVG), 10%]	Aluminum plant, Bolivar State	NA
Do.	CVG Venezolana de Aluminio C.A. (Venalum) [Corporación Venezolana de Guayana (CVG), 80%, and Showa Denko K.K., Kobe Steel Ltd., Sumitomo Chemical Co. Ltd., Mitsubishi Materials Corp., Mitsubishi Aluminum Co., and Marubeni Corp., 20%]	Smelter, Puerto Ordaz, Bolivar State	440
Bauxite	CVG Bauxilum C.A. [Corporación Venezolana de Guayana (CVG)]	Los Pijiguaos Mine, Cedeno, Bolivar State	6,000
Cement	C.A. Fabrica Nacional de Cementos S.A.C.A. (Corporación Socialista del Cemento, S.A.)	Ocumare plant, Ocumare del Tuy, Miranda State	1,210
Do.	do.	Tachira plant, Palmira, Tachira State	220
Do.	Corporación de Cemento Andino C.A. (Corporación Socialista del Cemento, S.A.)	Llanadas de Monay plant, Trujillo State	1,350
Do.	Corporación de Cemento Catatumbo C.A. (Corporación Socialista del Cemento, S.A.)	Villa Del Rosario plant, Zulia State	650
Do.	Empresa Cemento Cerro Azul C.A. (Corporación Socialista del Cemento, S.A.)	Cerro Azul plant, Monagas State	1,000
Do.	Industria Venezolana de Cementos S.A. (Corporación Socialista del Cemento, S.A.)	Cumarebo plant, Falcon State	1,590
Do.	do.	San Sebastian plant, San Sebastian de los Reyes, Aragua State	2,710
Do.	Venezolana de Cementos S.A.C.A. (Corporación Socialista del Cemento, S.A.)	Guyana plant, Bolivar State	330
Do.	do.	Lara plant, Lara State	490
Do.	do.	Mara plant, Zulia State	730
Do.	do.	Pertigalete plant, Anzoategui State	2,680
Coal	Carbones de la Guajira S.A., 100% operated by Corporación Venezolana de Minería S.A. (CVM)	Mina Norte, Guajira, Zulia State	1,500
Do.	Carbones del Guasare S.A., 51.63%	Paso Diablo Mine, Guasare, Guajira, Zulia State	6,800
Ferronickel	Corporacion Venezolana de Minería S.A. [Petróleos de Venezuela S.A. (PDVSA) (Government, 100%)]	CVM Loma de Niquel, Aragua and Miranda States	72
Do.	do.	CVM Loma de Niquel Plant (Planta Recuperadora de Niquel), Tiara, Miranda State	3
Ferrosilicon	FerroAtlantica de Venezuela, S.A. [Ferroglobe PLC, 80%, and Corporación Venezolana de Guayana (CVG), 20%]	Puerto Ordaz, Bolivar State <sup>1</sup>	96
Gold	CVG Compañía General de Minería C.A. [Corporación Venezolana de Guayana (CVG)]	Capitan Eduardo Vera Plant, Bolivar State	NA
Do.	do.	Caratal plant, Bolivar State	NA
Do. kilograms	do.	Colombia Mine, Bolivar State	2,000 <sup>e</sup>
Do.	do.	El Peru plant, Bolivar State	NA
Do.	do.	Hansa San Luis Mine, Bolivar State	NA

See footnotes at end of table.



TABLE 2—Continued  
VENEZUELA: STRUCTURE OF THE MINERAL INDUSTRY IN 2021

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Gold—Continued	kilograms	CVG Compañía General de Minería C.A. [Corporación Venezolana de Guayana (CVG)]	Isidora Mine, Bolivar State	2,500 <sup>c</sup>
Do.	do.	do.	San Rafael-El Placer Mine, Bolivar State	200 <sup>c</sup>
Do.	do.	do.	Sosa Mendez Mine, Bolivar State	1,700 <sup>c</sup>
Do.	do.	do.	Tomi Mine, El Callao, Bolivar State	2,000 <sup>c</sup>
Do.		do.	Union Mine, Bolivar State	NA
Do.	kilograms	Government	Manuel Carlos Piar Complex, Matanzas, Bolivar State	240
Do.		Promotora Minera de Venezuela (CVG Compañía General de Minería C.A.)	El Choco mines and plant, El Callao, Bolivar State	NA
Iron ore		CVG Ferrominera Orinoco C.A. [Corporación Venezolana de Guayana (CVG)]	Altamira, Cerro Bolivar, Las Pallas, Los Barrancos, and San Isidro Mines, Bolivar State	25,000
Iron and steel		Briquetera del Caroní C.A. (Briqcar) [Corporación Venezolana de Guayana (CVG)]	Briquetted iron plant, Guayana, Bolivar State	870
Do.		Briquetera del Orinoco C.A. (Orinoco Iron)	Hot-briquetted iron in Puerto Ordaz, Bolivar State	2,200
Do.		Briquetera de Venezuela C.A. (Briqven) [Corporación Venezolana de Guayana (CVG)]	Briquetted iron plant, Guayana, Bolivar State	440
Do.		Complejo Siderúrgico de Guayana C.A. (Comsigua C.A.) [Corporación Venezolana de Guayana (CVG)]	Hot-briquetted iron in Puerto Ordaz, Bolivar State	1,000
Do.		CVG Ferrominera Orinoco C.A. [Corporación Venezolana de Guayana (CVG)]	do.	1,000
Do.		do.	Iron ore pellets in Puerto Ordaz, Bolivar State	1,100
Do.		CVG Refractario Socialista de Venezuela, C.A. (Refractarios C.A.) [Corporación Venezolana de Guayana (CVG)]	Refractory plant, Caroni, Bolivar State	NA
Do.		Siderúrgica del Orinoco "Alfredo Maneiro" S.A. (SIDOR) [Corporación Venezolana de Guayana (CVG), 80%]- CVG Sidor C.A.	do.	4,250
Do.		Siderúrgica del Orinoco "Alfredo Maneiro" S.A. (SIDOR) [Corporación Venezolana de Guayana (CVG), 80%]- CVG Sidor C.A.	Steel plant in Puerto Ordaz, Bolivar State	4,300
Do.		Venezolana de Prereducidos de Caroní (International Briquettes Holding, 100%)	Hot-briquetted iron plant in Puerto Ordaz, Bolivar State	815
Lead, refined		Funmetal C.A.	Mariara, Carabobo State	NA
Natural gas	million cubic meters	Petroboscan S.A. (Petróleos de Venezuela S.A. (PDVSA), 60.8%, and Chevron Corp., 39.2%)	Boscan Field in Zulia State	70 <sup>c</sup>
Do.	do.	Petroindependiente S.A. (Petróleos de Venezuela S.A. (PDVSA), 74.8%, and Chevron Corp., 25.2%)	LL-652 Field in Lake Maracaibo	700 <sup>c</sup>
Do.	do.	Petropiar S.A. (Petróleos de Venezuela S.A. (PDVSA), 70%, and Chevron Corp., 30%)	Hamaca Field in Orinoco Belt	146 <sup>c</sup>
Nickel, Ni content		Corporacion Venezolana de Minería S.A. [Petróleos de Venezuela S.A. (PDVSA) (Government, 100%)]	CVM Loma de Niquel, Aragua and Miranda State	14
Nitrogen content of ammonia		Petroquímica de Venezuela S.A. (Government, 100%)	Jose Antonio Anzoategui Petrochemical complex, Anzoategui State	1,200
Do.		do.	Ana Maria Campos Petrochemical complex, Zulia State	300
Do.		do.	Moron Petrochemical complex, Carabobo State	200

See footnotes at end of table.

TABLE 2—Continued  
VENEZUELA: STRUCTURE OF THE MINERAL INDUSTRY IN 2021

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Petroleum:				
Crude		Petroanzoategui S.A. [Petróleos de Venezuela S.A. (PDVSA), 100%]	Junin oilfield in Orinoco Belt	NA
Do.	thousand 42-gallon barrels	Petroboscan S.A. [Petróleos de Venezuela S.A. (PDVSA), 60.8%, and Chevron Corp., 39.2%]	Boscan oilfield in Zulia State	10,000 <sup>c</sup>
Do.	do.	Petrocarabobo, S.A. [Petróleos de Venezuela S.A. (PDVSA), 60%; Repsol S.A. and PC Venezuela Ltd, 11%; Petrocarabobo Ganga B.V., 11%; Indoil Netherlands B.V., 7%]	Carabobo oilfield in Orinoco Belt	11,000 <sup>c</sup>
Do.	do.	Petrocedeno S.A. [Petróleos de Venezuela S.A. (PDVSA), 100%]	Junin oilfield in the Orinoco Belt, Zuata Region	73,000 <sup>c</sup>
Do.	do.	Petroindependiente S.A. [Petróleos de Venezuela S.A. (PDVSA), 74.8%, and Chevron Corp., 25.2%]	LL-652 oilfield in Lake Maracaibo	370 <sup>c</sup>
Do.		Petrojunin S.A. [Petróleos de Venezuela S.A., 60%, and Eni S.p.A., 40%]	Block 5, Junin area in Orinoco Belt	NA
Do.	thousand 42-gallon barrels	Petrolera Sinovensa, S.A. [Petróleos de Venezuela S.A. (PDVSA), 60%, and China National Petroleum Corp. (CNPC), 40%]	Sinovensa plant, Carabobo in Orinoco Belt	5,500
Do.		Petromacareo S.A. [Petróleos de Venezuela S.A. (PDVSA), 60%, and PetroVietnam (Vietnam Oil and Gas Group, 40%)]	Block 2 North, Junin area in Orinoco Belt	NA
Do.		Petromiranda, S.A. [Petróleos de Venezuela S.A. (PDVSA), 60%, and Consorcio Nacional Petroleo SRL, 40%]	Block 6, Junin area in Orinoco Belt	NA
Do.	thousand 42-gallon barrels	Petromonagas S.A. [Petróleos de Venezuela S.A. (PDVSA), 60%, and unnamed company from Russia, 40%]	Carabobo area in Orinoco Belt	13,505
Do.	do.	Petropiar S.A. [Petróleos de Venezuela S.A. (PDVSA), 70%, and Chevron Corp., 30%]	Hamaca oilfield in Orinoco Belt	18,250
Do.		Petrourica S.A. [Petróleos de Venezuela S.A. (PDVSA), 60%, and China National Petroleum Corp. (CNPC), 40%]	Block 4, Junin area in Orinoco Belt	NA
Refinery products	do.	Petróleos de Venezuela S.A. (PDVSA) (Government, 100%)	Bajo Grande Refinery, Zulia State	5,800 <sup>c</sup>
Do.	do.	do.	El Palito Refinery, Carabobo State	51,100 <sup>c</sup>
Do.	do.	do.	Paraguana Refinery, Falcon State	350,000 <sup>c</sup>
Do.	do.	do.	Puerto de la Cruz Refinery, Anzoategui State	68,300 <sup>c</sup>
Do.	do.	do.	San Roque Refinery, Anzoategui State	1,800 <sup>c</sup>
Phosphate rock		Petroquímica de Venezuela S.A. (PDVSA) (Government, 100%)	Riecito Mine, Cerro Riecito, Falcon State	400

<sup>c</sup>Estimated. Do., do. Ditto. NA Not available.

<sup>1</sup>On care-and-maintenance status since 2017.