Graphite (C)

Base Year 2025

World Production

1.8 Mt of graphite

+12.5%

Brazil Production

53.9 thousand t of graphite (C)

+3.2%

National Highlight

MG (99.2%) and BA (0.8%)

Mineral Sector Trade Balance

Deficit of USD 38.55 million

Mineral Sector Exports

USD FOB 35.41 million

-16.3%

Mining Royalties (CFEM)

R$ 8.03 million

+6.3%

% Change 2025 vs 2024

What is Graphite?

Graphite is a naturally occurring crystalline form of carbon with a lamellar structure, high electrical and thermal conductivity, and strong chemical resistance. It occurs mainly in metamorphic rocks, in crystalline, amorphous or flake forms. It is considered a strategic mineral, especially for lithium-ion batteries, refractories and technological applications.

Occurrence

Graphite occurs mainly in:
• High-grade metamorphic rocks, formed from organic-rich sediments under high pressures and temperatures;
• Pegmatites;
• Hydrothermal veins.
Deposits are concentrated in ancient crystalline terrains, where tectonic and metamorphic processes formed and concentrated graphite in carbon-rich rocks.

Main Applications

Graphite has a range of uses, such as:
• Lithium-ion batteries: anode material in electric vehicles and energy storage systems;
• Refractories: steelmaking and metallurgical furnaces;
• Industrial lubricants: due to the mineral's lamellar structure;
• Metallurgical industry: production of electrodes and crucibles; and
• Advanced technologies: graphene, semiconductors and composite materials.



Brazil has important graphite deposits, notably in the states of Minas Gerais, Bahia and Ceará. Brazilian deposits are mainly associated with high-grade metamorphic terrains containing high-quality flake graphite. The country ranks among the world's leading producers of natural graphite and holds significant reserves, with potential for expansion geared towards the battery and advanced materials value chain.

1. World Supply

This section presents global graphite production data, indicating Brazil's share in the international landscape.

In 2025, world graphite production was approximately 1.8 million tonnes, an increase of +12.5% compared to 2024.



Brazil ranked 5th worldwide in graphite production in 2025.

Table 1 – Main graphite (C) producing countries – 2025

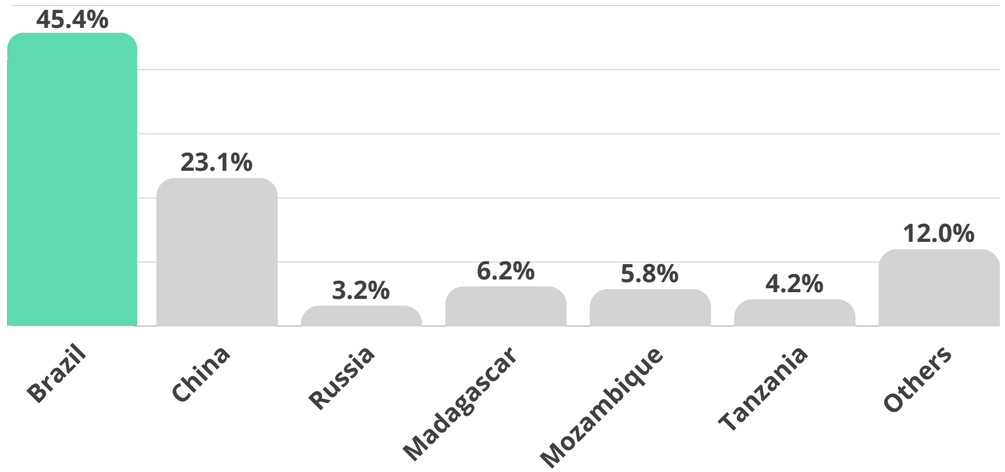
Country	Production (t)	Share (%)
Brazil	**53,871**	**3.0**
China	1,400,000	77.8
Madagascar	80,000	4.4
Tanzania	75,000	4.2
Mozambique	60,000	3.3
Russia	25,000	1.4
India	17,000	0.9
Other countries	89,129	5.0
Total	**1,800,000**	**100.0**

Source: ANM; USGS – Mineral Commodity Summaries 2026. Brazil's production adjusted relative to USGS data.

2. Reserves

According to the United States Geological Survey (USGS), in 2025 world graphite reserves (adjusted for Brazil's reserves) reached approximately 432.3 Mt, distributed mainly among:

Main World Graphite Reserves – 2025





Brazil's graphite reserves in 2025 totaled 196.3 million tonnes (proven and probable), with an average grade of 6.0% carbon (C).

Source: ANM/USGS – Mineral Commodity Summaries 2026; Brazil data: ANM.

3. Domestic Production

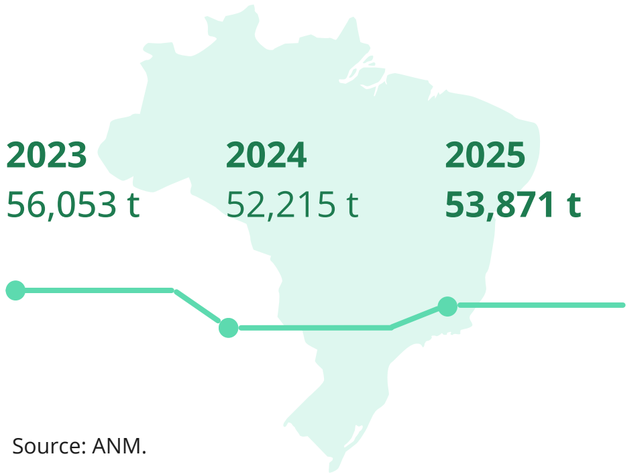
In 2025, domestic graphite production totaled 53.9 thousand tonnes, an increase of 3.2% over the previous year.

Graphite production comprises the mining, processing and industrialization stages: crushing, grinding, classification and flotation to concentrate the graphite and remove impurities, which may be followed by chemical or thermal purification. The result is high-purity concentrates for electrodes, lithium-ion batteries, solid lubricants, refractories and conductive materials.

Production was concentrated in:
Minas Gerais: 53.46 thousand t (99.2%)

Brazilian Graphite Production

Last 3 years



Source: ANM.

4. Foreign Trade

In 2025, the graphite foreign trade balance in the Mineral Sector (IEM + ITM) was **negative at USD 38.55 million, with the deficit narrowing by 3.1% compared to 2024.**



Mineral Sector Exports

Total: USD FOB 35.41 million
Decrease: -16.3%

Main destinations:

- United States (29.7%)
- Belgium (18.2%)
- Germany (9.0%)

Mineral Sector Imports

Total: USD FOB 73.96 million
Decrease: -9.9%

Main origins:

- Spain (26.4%)
- Japan (19.1%)
- China (18.4%)

Source: Open Data/Ministry of Development, Industry, Trade and Services (MDIC).

- Data include the Mineral Extractive Industry (IEM) and the Mineral Transformation Industry (ITM)

***FOB** = The seller fulfills its obligations and responsibilities when the goods, cleared for export, are delivered, stowed on board the vessel at the port of shipment, both indicated by the buyer, on the date or within the agreed period.

Foreign trade: main products of the mineral extractive industry (IEM) in 2025

Main Exported Products

	NCM 25041000 - Natural graphite in powder or flakes
USD FOB	23,933,238
EXP Share (%)	99.7

Main Imported Products

	NCM 25041000 - Natural graphite in powder or flakes	NCM 25049000 - Natural graphite, in other forms
USD FOB	610,425	343,405
IMP Share (%)	64.0	36.0

Foreign trade: main products of the mineral transformation industry (ITM) in 2025

Main Exported Products

	NCM 69031012 - Refractory crucibles of graphite and silicon carbide	NCM 38011000 - Artificial graphite
USD FOB	7,742,775	1,162,152
EXP Share (%)	67.9	10.2

Main Imported Products

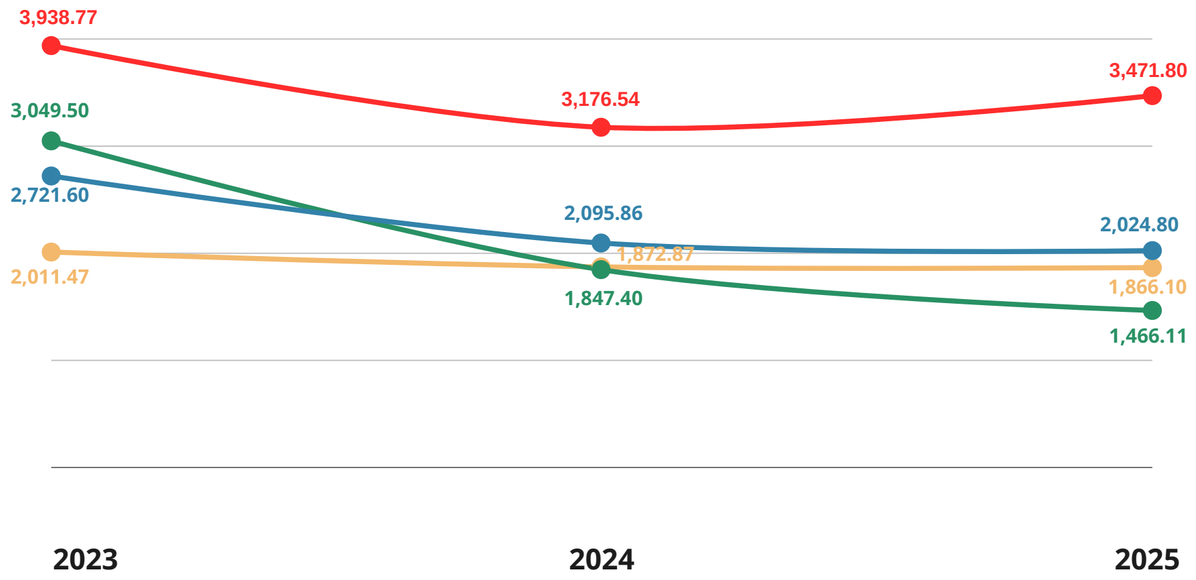
	NCM 38011000 - Artificial graphite	NCM 85451920 - Graphite blocks, cathodes for electrolytic cells
USD FOB	38,245,349	23,062,738
IMP Share (%)	52.4	31.6

Source: Open Data/Ministry of Development, Industry, Trade and Services (MDIC)

5. Prices

The chart shows the evolution of average export and import prices of the main graphite products between 2023 and 2025, calculated from COMEXSTAT value and quantity data.

Chart – Average FOB prices - USD/t - Last 3 years



- NCM 25041000 - Natural graphite in powder or flakes (exp.)
- NCM 38013090 - Carbonaceous pastes and similar (exp.)
- NCM 25041000 - Natural graphite in powder or flakes (imp.)
- NCM 85451920 - Graphite blocks (cathodes) (imp.)

Source: Open Data/Ministry of Development, Industry, Trade and Services (MDIC)

***USD FOB/t** = The seller fulfills its obligations and responsibilities when the goods, cleared for export, are delivered, stowed on board the vessel at the port of shipment, both indicated by the buyer, on the date or within the agreed period.

6. Financial Compensation for the Exploitation of Mineral Resources (CFEM)

Collection of CFEM, Brazil's mining royalty, on graphite amounted to R$ 8.03 million in 2025, an increase of 6.3% compared to 2024 (R$ 7.55 million).

CFEM - Graphite (2025)

- Total collection: R$ 8.03 million
- Change: +6.3% compared to 2024 (R$ 7.55 million)
- Rate: 2.0% (Law No. 13,540/2017)

Main Collecting States

- Minas Gerais (99.94%)
- Bahia (0.06%)

Main Collecting Companies

Nacional de Grafite Ltda.	**98.43%**
Samaca Ferros Ltda.	**1.52%**
Brasil Grafite Mineração Ltda.	**0.05%**

Graphite collection rose 6.3% compared to 2024, in line with the growth in domestic production.

Minas Gerais and Bahia together accounted for virtually 100% of the total collected from graphite.

Source: ANM.

7. Investments and Mining Rights

Graphite investments (Exploration, Mine and Plant) were concentrated mainly in the states of Minas Gerais, Bahia and Ceará, which together accounted for 99.7% of the amount invested in 2025.

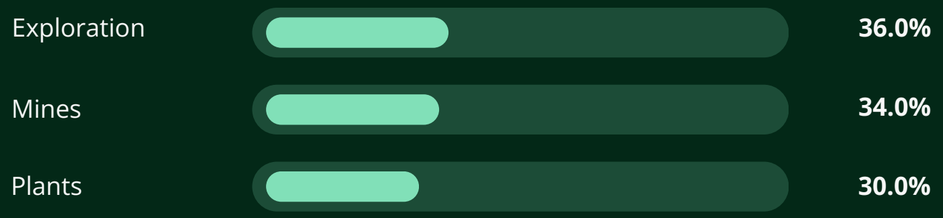
Investments in Mining

In 2025, according to data from the Mineral Exploration Investment Statement (DIPEM) and the Annual Mining Report (RAL), investments in graphite mining amounted to R$ 46.0 million, of which 36.0% went to mineral exploration and 64.0% to the mining phase.

Main States

- MG (70.9%)
- BA (25.5%)
- CE (3.3%)

Investment Breakdown



Mining Rights Granted in 2025

Exploration

- 48 new exploration permits
- -43.5% compared to 2024
- 3 approved final exploration reports published

Main States

- MG (18 permits)
- BA (13 permits)
- CE (10 permits)

Mining Applications

- 8 mining applications filed

Mining Concession

- 1 mining concession ordinance published

Source: ANM.

8. Relevant Factors

In January 2025, Appian Capital Brazil announced investments of over R$ 2 billion in Graphcoa, aimed at developing graphite concentrate exploration and production assets in Brazil. In Bahia, the first phase of the Boa Sorte project, in Itagimirim, received investments of R$ 350 million for a processing plant with an initial capacity of 5.5 thousand t/year of concentrate. The venture also includes other projects in northern Minas Gerais and represents a significant step towards expanding Brazil's graphite supply, in light of the growing demand for lithium-ion batteries and the energy transition. (Source: Brasil Mineral, 2025)

In 2025, the Geological Survey of Brazil (SGB) published the Mineral Resources Report "Assessment of Graphite Potential in Brazil – Bahia–Minas Graphite Province Area: State of Minas Gerais", with an integrated characterization of the region's deposits. Located in the Araçuaí Orogen, the Bahia–Minas Graphite Province is Brazil's main region of natural flake graphite occurrence, with mineralization in the Macaúbas Group and the Jequitinhonha Complex. The study identified graphitic carbon grades of up to 18% in the samples analyzed. (Source: VILELA et al., SGB, 2025)

In 2025, graphite gained prominence in strategic mineral policies aimed at the energy transition and the decarbonization of the economy. BNDES and the Funding Authority for Studies and Projects (Finep) launched a public call with up to R$ 5 billion available for strategic mineral transformation projects, including graphite, covering investments in production capacity and research, development and innovation (R&D&I), as well as the production of materials and components for low-carbon technology value chains, such as batteries. (Source: Finep/BNDES)