Aluminum to transform

cba

# 2023 Annual Report


Cintia Ribeiro da Silva Barros,
Mechanical Turner at Sorocaba (SP) facility

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Wind complex
*Ventos do Piauí*

# Messages

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Reservas Votorantim

# Chairman of the Board of Directors

GRI 2-22

Luis Ermírio de Moraes
Chairman of the Board of Directors, Companhia Brasileira de Alumínio (CBA)

## Low carbon aluminum to transform the future

The Companhia Brasileira de Alumínio (CBA), recognized for its pioneering spirit, resilience and competence, had a very challenging year in 2023, with rising raw material costs, falling metal prices – due to weak demand from Asia and Europe mainly –, and geopolitics conflicts that impacted the global economy as a whole. Despite factors exogenous to our industry, the Company faced a serious technical problem arising from the supply of petroleum coke from Pre-Salt, which affected not only the supply of metal but also higher operating costs. This technical issue was already well identified and solved in the second half of the year, but its harmful effects lasted until the end of 2023. Like in every crisis, we, on the Board of Directors, as well as the management, dedicated a great deal of time and energy, and open mind to learn and improve our risk management processes, which is increasingly present at all operational and corporate levels at CBA.

At this time of low prices for metallic commodities, we remained focused on the incessant and obstinate search for greater operational efficiencies and on prioritizing and redefining our CAPEX projects and short-term capital allocation.

Years of low economic performance are nothing new in the mining and metallurgy industry, but this does not affect our medium and long-term vision! We pay special attention to projects related to recycling, with the inauguration of a new scrap treatment line at Metalex and the creation of the first CBA Processing and Recycling Center. A globally innovative project that is practically completed is our ReAl project, which aims to recover aluminum and paper from carton packaging, increasingly preserving our mandate to align aluminum production with the best technologies to mitigate the industry's carbon emissions. With regard to industrial waste, we have begun the pre-operation phase of dry tailing disposal, an investment that will make the construction of new dams for the bauxite tailing unnecessary.

In addition, throughtout the year, the Company made significant progress across various fronts of its Sustainable Procurement Program, including supplier training on ESG (Environmental, Social, and Governance) topics and collaborative partnerships aimed at enhancing efficiency, productivity, and sustainable practices.

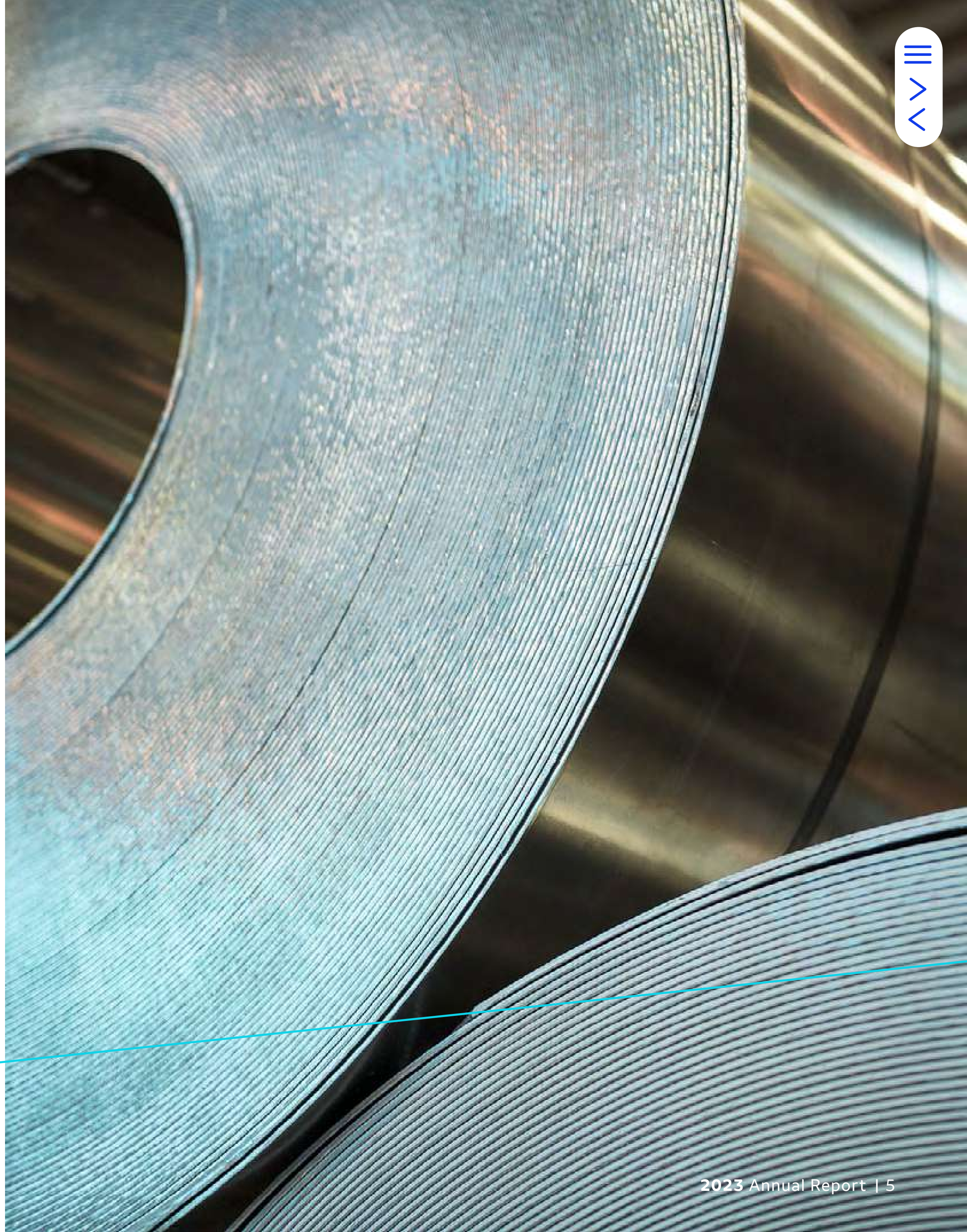
In diversity, equity, and inclusion, we conducted a new employee census to develop a more accurate picture of our workforce profile. This will inform targeted initiatives, particularly benefiting gender and racial minority groups. Our vision is that such movement is extremely important to promote more comprehensive and creative solutions in the near future, as we understand how diversity promotes enriching and innovative experiences, directly reflecting in the quality of the work environment and in attracting the best talents.

Supporting these projects and wider innovation, CBA's DigitALL program plays a strategic role within the Company. Through digital innovation, CBA has continued to create disruptive solutions across processes, products, and work methodologies. And with digital skills becoming increasingly important for all business success, in 2023, CBA began an analysis of which capabilities will be offered through training to our team in 2024.

CBA's commitment to our workforce extends beyond their professional development—health and safety have long been a priority for the Company as nonnegotiable values. Afterall, people are the driving force behind CBA's industry leadership. Thus, I would like to extend my appreciation to our dedicated and talented team. It is their efforts that transform bauxite into aluminum, make our aluminum sustainable, translate customer aspirations into reality, and positively impact society at large.

I also wish to thank Ricardo Carvalho for his years of service as CEO of CBA. In 2023, Ricardo transitioned to the Board of Directors, and Luciano Alves stepped up as CEO from his previous role as CFO. Our new CEO will continue to rely on our support to propel CBA toward established goals and its purpose of transforming lives through aluminum.

**Luis Ermírio de Moraes**
Chairman of the Board of Directors,
Companhia Brasileira de Alumínio (CBA)



Caster roll,
Alumínio (SP) plant

# CEO

GRI 2-22

**Luciano Alves**
CEO, Companhia Brasileira de Alumínio (CBA)

## CBA's transformative capacity

The year in review was a challenging one, in particular for the global aluminum industry. Geopolitical tensions, a real estate crisis in China, rising global interest rates and inflation, and other external factors heightened uncertainties for the global economy. Consequently, aluminum prices on the London Metal Exchange (LME) remained under pressure and volatile, failing to provide adequate profitability for the global industry.

But amid the aluminum downturn, there were also positive developments in the domestic market: Brazil raised its taxes on aluminum imports, a tax reform was passed in Congress, and discussions progressed regarding the regulated carbon market—three developments that could lead to a fairer and more competitive market.

At CBA, our commitment to providing the market with low-carbon aluminum and sustainable solutions guided us through another cycle. We went through this adverse market conditions with a focus on our long-term strategy—which remains unchanged at its core. Furthermore, we implemented short-term containment measures that enabled us to better navigate this period:

- We successfully managed a temporary operational disruption in our Smelters through teamwork.

- We demonstrated our sense of ownership through measures to keep the business financially resilient, such as adjusting our investment schedule, renegotiating our debt profile, and structuring a recovery plan to improve operating and financial performance.

- We worked together to deliver a series of management measures that strengthened our cash position and our ongoing commitment to CBA's purpose, using an approach that encourages constructive disagreement and co-created solutions, all of which helped to further bolster our liquidity position.

- We delivered important planned investments, including the scrap treatment line at Metalex and CBA's first Processing and Recycling Center. Progress was also made on our dry tailings disposal initiative and our carton and flexible packaging recycling project, ReAl, which will start operation in the first half of 2024.

In addition, we made significant advancements in digital transformation, earning the Inovativos innovation award for the second year. In sustainability, we continued to lead the industry. For the second year in a row, we entered the ISE portfolio – B3's Corporate Sustainability Index – remaining among the top ten and retained our place on the CDP's A list for climate leadership.

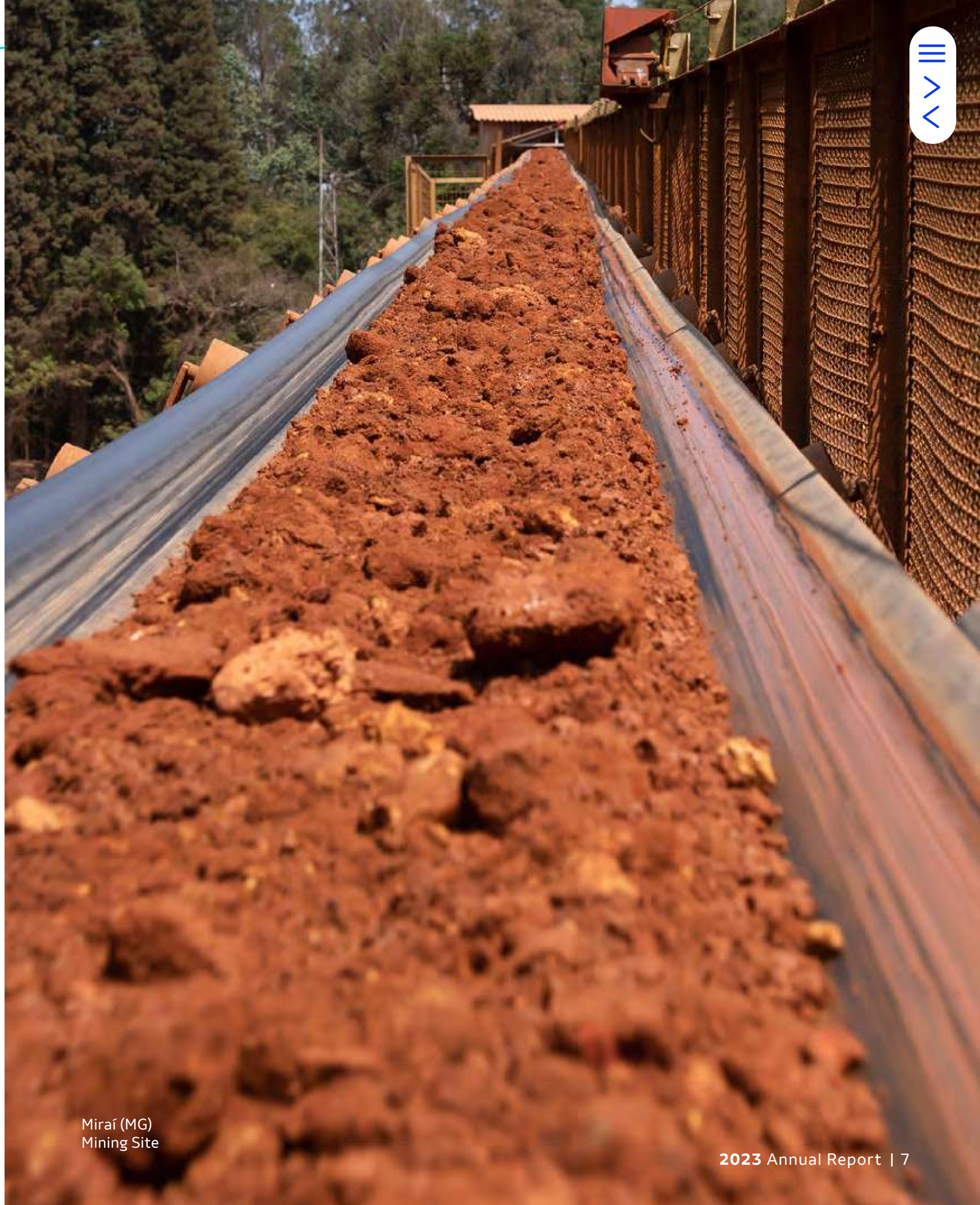
We also excelled in diversity, with CBA being included in B3's IDIVERSA index for publicly traded companies, the first of its kind in Latin America, with a particular emphasis on gender and race.

Leveraging our capacity for reinvention, we have built a unique company with clear competitive advantages that also enable us to play a leading role in the energy transition and other global trends for which aluminum is essential.

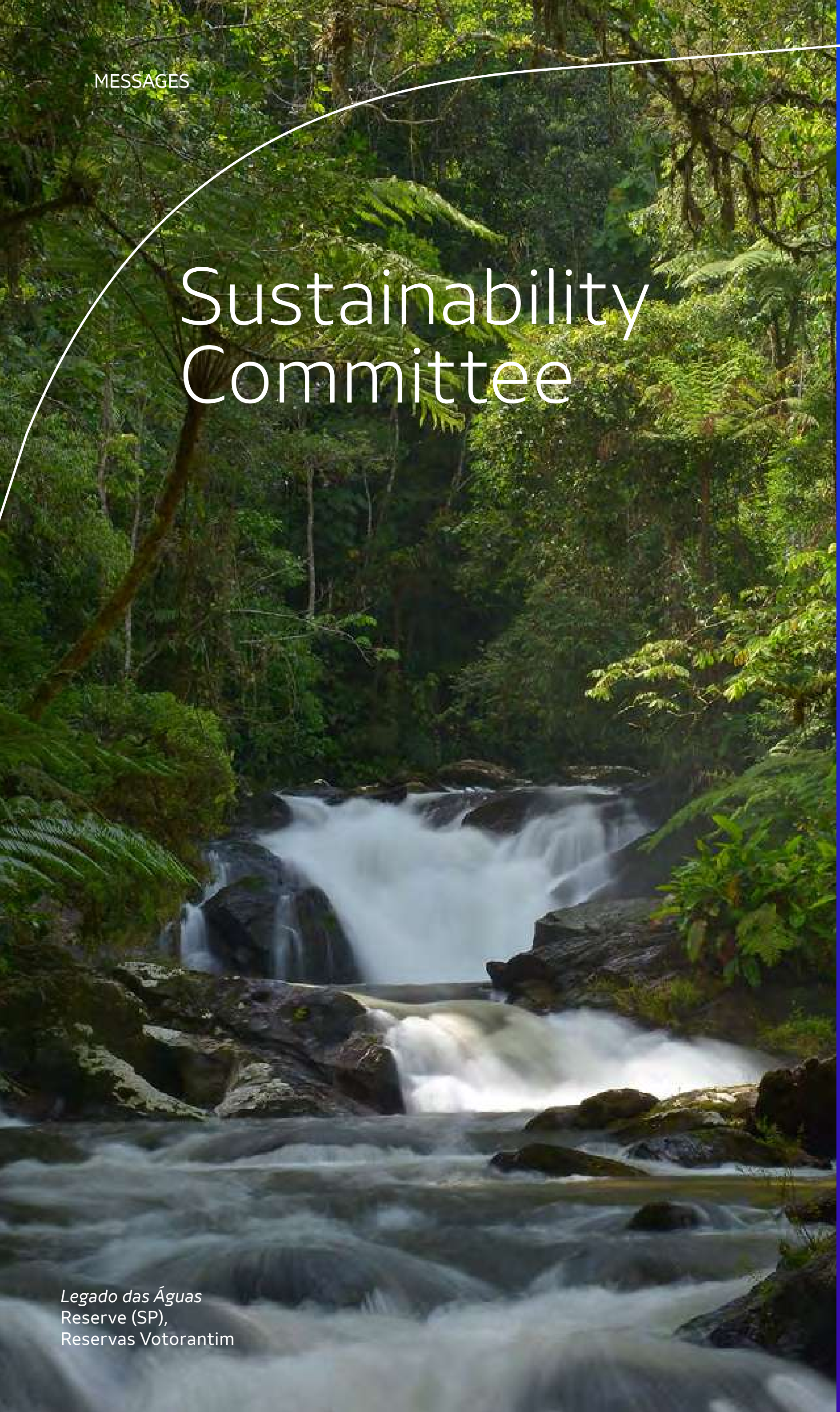
As we enter 2024, the global aluminum market presents more optimistic prospects. With limited global production and historically low stocks, the industry outlook is likely to improve, particularly in terms of LME prices, if there is a sustained recovery in global consumption. We also see opportunities to increase awareness and uptake of our Alennium label, encouraging the use of sustainable aluminum in the value chain and supporting sustainability goals in both our own and other industries.

We are committed to this way forward. One thing we know for sure: the future belongs to low-carbon aluminum! And #OurCBA offers aluminum solutions that transform lives!

**Luciano Alves**
CEO, Companhia Brasileira de Alumínio (CBA)



Miraí (MG)
Mining Site



# Sustainability Committee

*Legado das Águas* Reserve (SP), Reservas Votorantim

"Cost competitiveness, customer centricity, transparency, and sustainable aluminum are an integral part of CBA's history and culture. The Company recognizes that merely minimizing the negative impacts of vertically integrated aluminum operations is not enough; it aspires to have a net positive impact! Thus, CBA has climbed to a position of industry leadership in ESG, with these principles permeating the Company's identity and resonating among all employees."

**Franklin Feder, Member of the CBA Board of Directors and Sustainability Committee**

"CBA is a recognized industry leader for ESG, as evidenced by its stand-out position in B3's Corporate Sustainability Index (ISE). It is also the world's first primary aluminum company to have science-based emission reduction targets approved by the Science Based Targets Initiative (SBTi). These achievements reflect a strong tone from the top around ESG initiatives. CBA understands its role, rejects complacency, is constantly seeking out ways to push further, and boasts governance and structure that are prepared for this journey."

**Sonia Consiglio, Member of the CBA Sustainability Committee**

"CBA has an immense transformative potential within the industry and society. Our aluminum is positioned in the first quartile of GHG emission intensity, and we are now investing heavily in recycling and formalizing the secondary aluminum value chain. I believe that, with creativity and competence, we have a significant opportunity to establish CBA as an exceptional recycler in Brazil—and this determination can already be seen within our team."

**José Roberto Ermírio de Moraes Filho, Member of the CBA Board of Directors and Sustainability Committee**

"Competence, adaptability, and the exceptional preparedness of the entire CBA team enabled the Company to successfully navigate the challenges of 2023. Vertically integrated operations, spanning from mining to end products, make our business more resilient. And we have continued to invest in strategic pillars such as ESG, innovation, and recycling, which will be transformational for CBA and wider society."

**Ricardo Carvalho, Member of the CBA Board of Directors, Sustainability and Remuneration & People Committees**


# About this report



Evelin de Andrade Silva,
Environmental analyst,
Alumínio (SP) plant

# About this report

**GRI 2-3, 2-5**

*Legado Verdes do Cerrado Reserve (GO)*

Companhia Brasileira de Alumínio's (CBA) Annual Report provides an account of the Company's key strategies and initiatives in 2023. The contents of the report cover key environmental, social, economic, operational and governance aspects across all of CBA's operations.

The Report is for the fiscal year from January 1 to December 31, 2023 and has been prepared in accordance with the Global Reporting Initiative (GRI) Standards. It also incorporates disclosures in line with the Sustainability Accounting Standards Board (SASB) Metals and Mining Standard (for mining and manufacturing operations) and the SASB Electric Utilities & Power Generators Standard (for Energy Business operations). In addition, it presents a value creation model based on the International Integrated Reporting Council's (IIRC) six capitals framework. The Additional Disclosures Supplement further includes disclosures mandated by the Brazilian power sector regulator, ANEEL. The report has additionally drawn on reporting recommendations from the Aluminium Stewardship Initiative (ASI).

This year's edition has also incorporated the recommendations of the Taskforce on Nature-related Financial Disclosures (TNFD), providing an expanded set of sustainability disclosures. Annually, CBA also releases a climate report consistent with guidelines issued by the Task Force on Climate-related Financial Disclosures (TCFD), available for reference here. Where applicable, this Annual Report additionally observed reporting requirements from the International Financial Reporting Standards developed by the International Sustainability Standards Board (ISSB). The Company is preparing to achieve full compliance with IFRS S1 and S2 pursuant to Brazilian Securities Commission (CVM) Resolution 193/2023. CBA seeks to align its reporting practices with internationally recognized best-practice standards.

Beyond the Company's key environmental, social, and governance milestones, there are dedicated chapters on digital transformation and innovation, suppliers and customers, recycling, and financial governance.

Chapter headings include a reference to the relevant material topics, Sustainable Development Goals (SDGs), Global Compact principles and CBA's 2030 ESG Strategy levers. Throughout the report, projects, initiatives, and goals as part of CBA's 2030 ESG Strategy that support the SDGs are highlighted.

This edition has been independently assured by Bureau Veritas to ensure transparency and integrity.

# Materiality

**GRI 2-29, 3-1, 3-2**

The materiality review was done using the double materiality concept—in which both social and environmental impacts as well as financial impacts (and relevance) are taken into account—and by an ESG Perception survey to capture the views and perceptions of CBA's investors and creditors about the relevance of ESG topics.

CBA conducts materiality reviews every two years in accordance with the Company's Stakeholder Engagement and Relations Policy. Materiality changes from the previous assessment were disclosed in the 2022 Annual Report. The findings from the most recent materiality review were approved by CBA's Board of Directors.

CLICK HERE
and access the 2022 Annual Report

## THE MATERIALITY ASSESSMENT CONSISTED OF THE FOLLOWING STEPS:

1. Building a shortlist of high-level topics compiled from recognized rating frameworks and sustainability questionnaires, as well as internal documentation.
2. Prioritizing stakeholders based on their reliance and influence on CBA's activities.
3. Prioritized stakeholders are asked to select five priority topics among the 19 high-level topics.
4. Reviewing the survey results and assigning a survey quality rating to each stakeholder group.
5. Following a review by consultants and CBA, the final list was narrowed to 15 material topics.

**The stakeholders whose views informed the definition of material topics included: in-house, industry (Brazilian Aluminum Association - ABAL and Brazilian Association of Self Generators - ABIAPE), and external (United Nations (UN) Global Compact and Centro de Estudos em Sustentabilidade (GVCes) sustainability experts; CBA's senior leadership team; investors and lenders; customers; communities and community associations; suppliers; and employees and contractors.**

Billets CBA, Alumínio (SP) plant

## List of material topics

**GRI 3-2**

**Core topics for the aluminum industry**

- Biodiversity and ecosystem services
- Circular aluminum
- Local development
- Renewable energy and energy efficiency
- Climate strategy
- Waste management
- Dam safety management

**Material topics for the aluminum production**

- Sustainable supply chain
- Diversity, equity, and inclusion
- Ethics, integrity, and compliance
- Water and wastewater management
- Risk and crisis management
- Innovation, technology, and business resilience
- Health, safety, and quality of life
- Transparency and stakeholder engagement

If you have any questions, suggestions or comments about this Annual Report, the report team can be contacted by email to comunicacaocorpcba@cba.com.br

**GRI 2-3**

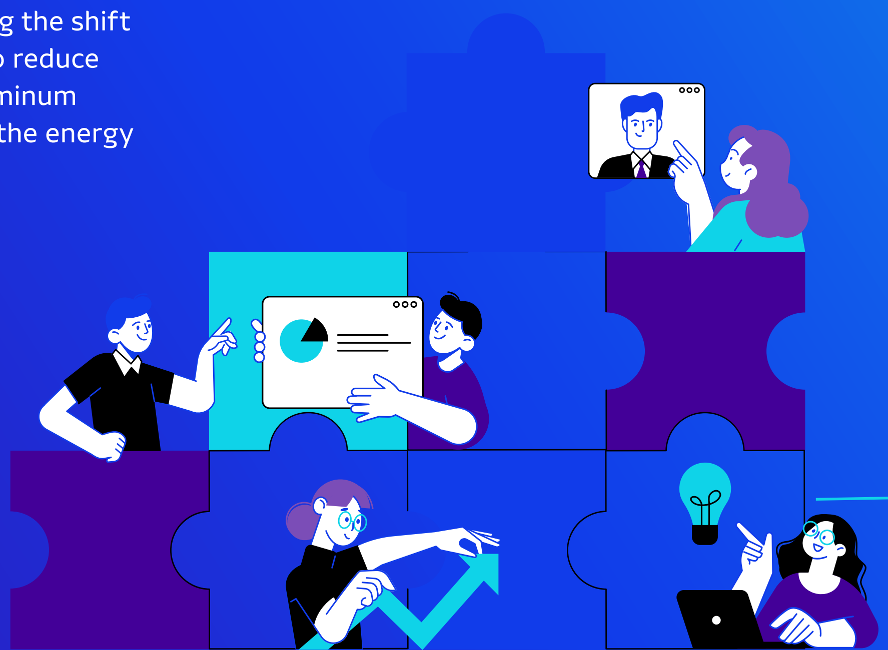
Matheus Menezes, Production operator, Alux (SP)

# Aluminum to transform

This year's Annual Report has been developed around a central theme: "Aluminum to transform." This alludes to the infinite transformative possibilities enabled by CBA's aluminum. The Company's vertically integrated operations and enterprise wide 2030 ESG Strategy ensure CBA delivers positive impacts on both the industry and wider society.

By transforming the aluminum —from sustainable bauxite mining to primary and downstream products—, CBA serves a wide range of markets. And by investing in recycling, the Company is supporting the shift to a circular economy and helping to reduce environmental impacts. Indeed, aluminum stands as a key industry enabler of the energy transition and decarbonization.

And the positive impacts extend to customers using CBA's sustainable aluminum, now certifiable via the Alennium label. Consumers, in turn, can join the global shift to conscientious consumption by choosing to purchase end products featuring CBA's low-carbon aluminum label. Suppliers are similarly benefited by CBA's support as a partner in developing ESG initiatives to enhance the sustainability of the wider supply chain.



This transformation is also being orchestrated within CBA's operations and among its employees, who are actively engaged around the Company's culture. Beyond professional development, the Company encourages civic engagement and works to achieve progress across health, safety, diversity, equity, and inclusion.

CBA transforms lives, through aluminum, its workforce, environment, and by understanding its responsibility and leadership role in building a better world. This is evidenced by the wide-ranging social impact initiatives developed across the Company's operations and in the communities where it operates. These include initiatives in education, healthcare, economic development, public management support, and child and adolescent rights, a selection of which are featured in this report. All underpinned by the highest standards of transparency and corporate governance.

# About CBA



From left to right: Jacqueline Diniz dos Santos, Luiz Antônio Serafim Junior and Lucas Henrique Gomes da Costa, Casting employees, Alumínio (SP) plant

# About the Company

GRI 2-1, 2-6


Alumínio (SP) plant

**SDGs related to this chapter**


**Material topics related to this chapter:**

- **Renewable energy and energy efficiency**
- **Circular aluminum**
- **Sustainable value chain**
- **Innovation, technology, and business resilience**
- **Biodiversity and ecosystem services**

**Global Compact principles addressed in this chapter:**
**9. Businesses should encourage the development and diffusion of environmentally friendly technologies.**

**2030 ESG Strategy levers related to this chapter:**

- *Renewable energy*
- *Sustainable value chain*
- *Circular aluminum*

A commitment to producing aluminum while building a better world has been integral to Companhia Brasileira de Alumínio (CBA) since the Company was founded in 1955. Today, the company is present in seven Brazilian states and has a workforce of more than 6,000 direct employees. CBA is a publicly traded company listed in an enhanced-governance (*Novo Mercado*) segment of the Brazilian stock exchange, B3, and is a member of and majority-owned by Brazilian conglomerate Votorantim S.A.

The only vertically integrated aluminum producer in Brazil, and one of the few in the world, CBA has operations that span from bauxite mining to the production of primary aluminum (ingots, slabs, billets, and rod) and downstream products (caster rolls, sheet, foil, extruded profiles, roofing, and parts and components).

CBA's competitive advantages include self-sufficiency in bauxite and alumina, an integrated value chain, renewable generation capacity to produce 100% of the Company's electricity requirement, and a strategy that places sustainability and innovation at its core.

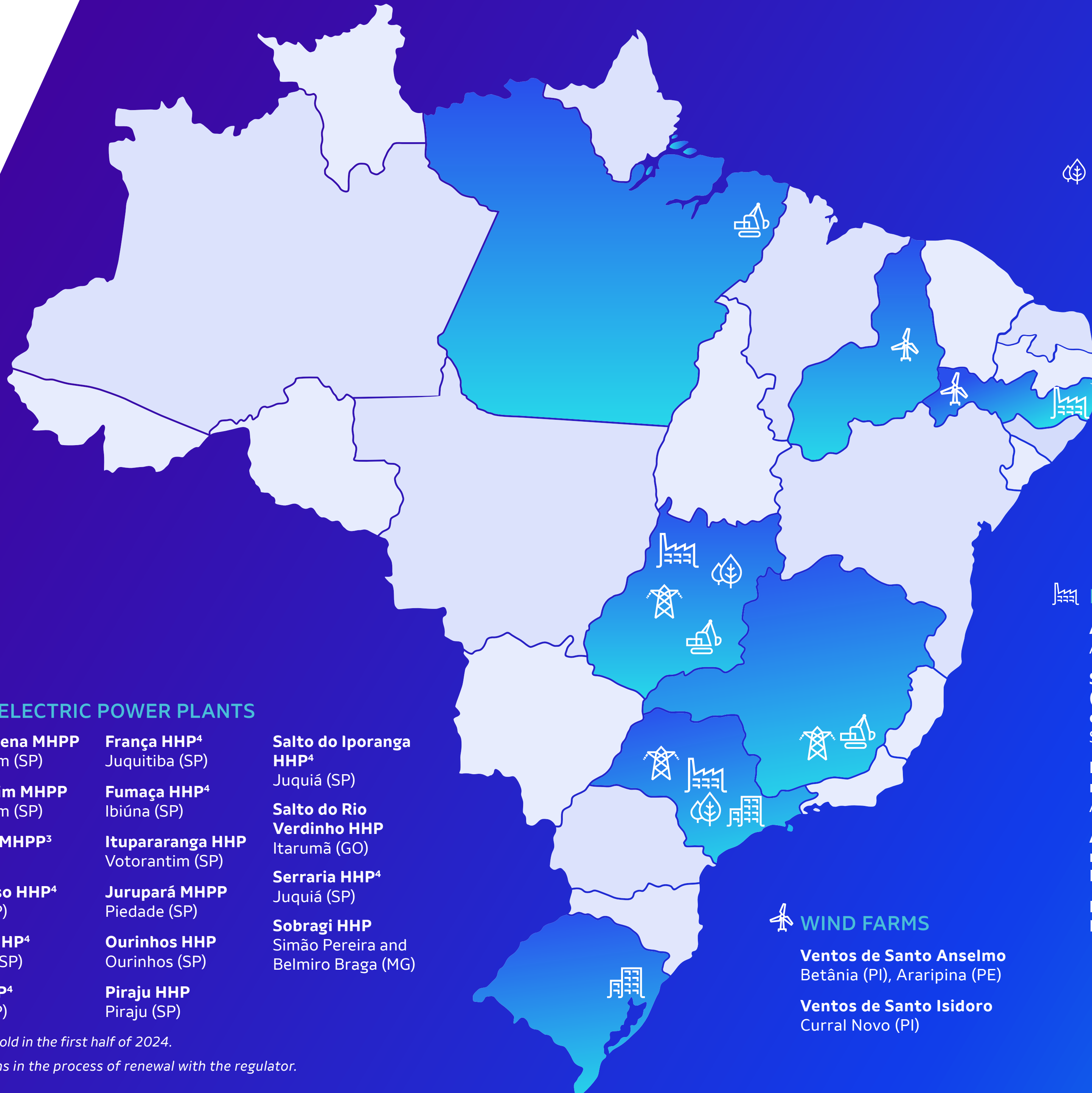
CBA's 2030 ESG Strategy is factored in all projects and investment decisions, such as the Company's investments in low carbon aluminum and recycling. Alongside its core operations, CBA owns Metalex, a scrap processing facility, and Alux, a secondary alloy producer.

Inspired by its purpose to deliver aluminum solutions that transform people's lives, CBA seeks to develop value-added partnerships with employees, customers, suppliers, trade and financial associations, communities, and investors. This supports its ambition to deliver increasingly customized and sustainable solutions that create positive impacts on the industry, the environment, and society.

# Nationwide presence

GRI 2-1

## CBA's operations



### OFFICES

**Corporate Office**
São Paulo (SP)

**Distribution Center and Solutions & Services Center**
Caxias do Sul (RS)

**Solutions & Services Center**
Alumínio (SP)

### NICKEL BUSINESS[1]

**Niquelândia**
Niquelândia (GO)

*[1] This operation has been curtailed and is currently held for sale.*

### MINES

**Itamarati de Minas Mine**
Itamarati de Minas (MG)

**Miraí Mine**
Miraí (MG)

**Poços de Caldas Mine**
Poços de Caldas (MG)

**Barro Alto Mine**
Barro Alto (GO)

**Rondon[2]**
Rondon (PA)

*[2] Currently under licensing.*

### HYDROELECTRIC POWER PLANTS

**Santa Helena MHPP**
Votorantim (SP)

**Votorantim MHPP**
Votorantim (SP)

**Rio Novo MHPP[3]**
Avaré (SP)

**Porto Raso HHP[4]**
Tapiraí (SP)

**Alecrim HHP[4]**
Miracatu (SP)

**Barra HHP[4]**
Tapiraí (SP)

**França HHP[4]**
Juquitiba (SP)

**Fumaça HHP[4]**
Ibiúna (SP)

**Ituparanga HHP**
Votorantim (SP)

**Jurupará MHPP**
Piedade (SP)

**Ourinhos HHP**
Ourinhos (SP)

**Piraju HHP**
Piraju (SP)

**Salto do Iporanga HHP[4]**
Juquiá (SP)

**Salto do Rio Verdinho HHP**
Itarumã (GO)

**Serraria HHP[4]**
Juquiá (SP)

**Sobragi HHP**
Simão Pereira and Belmiro Braga (MG)

*[3] Due to be sold in the first half of 2024.*

*[4] Concessions in the process of renewal with the regulator.*

### LEGACY RESERVES[5]

**Legado das Águas**
Miracatu (SP)

**Legado Verdes do Cerrado**
Niquelândia (GO)

*[5] Managed by Reservas Votorantim.*

### PRODUCTION PLANTS

**Alumínio plant**
Alumínio (SP)

**Sorocaba facility (fabrication and machining of parts and equipment)**
Sorocaba (SP)

**Metalex (aluminum recycling)**
Araçariguama (SP)

**Alux Brazil (aluminum recycling)**
Nova Odessa (SP)

**Itapissuma**
Itapissuma (PE)

### WIND FARMS

**Ventos de Santo Anselmo**
Betânia (PI), Araripina (PE)

**Ventos de Santo Isidoro**
Curral Novo (PI)

# Progress on our strategic plan 2023-2027

## ACCELERATE GROWTH

- Acquisition of the remaining 20% of the share capital of **Alux do Brasil**, whose performance and resilience reinforce our recycling growth strategy
- Startup of **Dry residue disposal** project in early 2024, extending the useful life of the dam by an additional 20 years while improving safety by switching from wet to dry disposal
- Start-up of the **scrap treatment line at Metalex** in 2023, with state-of-the-art technology, becoming a leading player in the aluminum scrap processing segment in Latin America
- **ReAl** Project nears completion: proprietary, patented technology for recycling multilayered packaging

## BUILD COMPETITIVENESS

- Divestment in non-core assets, such as the sale of **Niquelândia**
- Liability Management, with **competitive financing for ESG projects**
- ***Alennium label*** uptake by customers
- Management initiatives to **cut production costs**

## DRIVE INNOVATION AND COLLABORATION

CLICK HERE

Learn more in the chapter "Increasingly Digital and Innovative"

- Progress on **DigitAll Movement** (Video Analytics project)
- ***Agile Trends*** 2023 and ***Inovativos* award** in the Digital Transformation & Innovation Programs category, recognizing CBA's Digital Transformation Program
- **Progress on innovation projects:** additive manufacturing for prototype creation, aluminum foil for electric batteries and aluminum used for truck decks in replacement of other materials

## BUILD LEADERSHIP IN ESG

- Named to the **IDIVERSA index** and, for the second consecutive year, included in the **ISE index** - remaining among the top ten -, both B3's ESG indexes
- For the second year in a row, CBA was included on **CDP's Climate Change A List**, being the first and only aluminum company in the world with this classification
- Scored 61 points (61/100) in the **S&P Corporate Sustainability Assessment (CSA)**, 40% higher than the industry average
- **Best in ESG award from *Exame* magazine** for the 2nd time, in the Mining, Metal and Steel-making category

# CBA Culture

GRI 2-6

## Aluminum solutions that transform people's lives.

This is the **purpose** that inspires the Company to produce better aluminum for a more sustainable world.

### CULTURE PILLARS

Express the practices and values that people are expected to adhere to within the Company:

- **Teamwork**
  #ValuablePartnerships
  #InThisTogether
  #WeAreAllCBA
- **Sense of Ownership**
  #GetAhead
  #OurCBA
  #Trustworthy
- **Constructive Disagreement**
  #DisagreeingWell
  #Transparency
  #AMoreDiverseCBA
- **Ambition for Competitiveness**
  #InnovationHappensHere
  #CustomersCentered
  #ESGInOurBlood

### VOTORANTIM VALUES

The Votorantim Principles and Values express the Votorantim way of doing things, of being and of going beyond—and are common across all portfolio companies, including CBA:

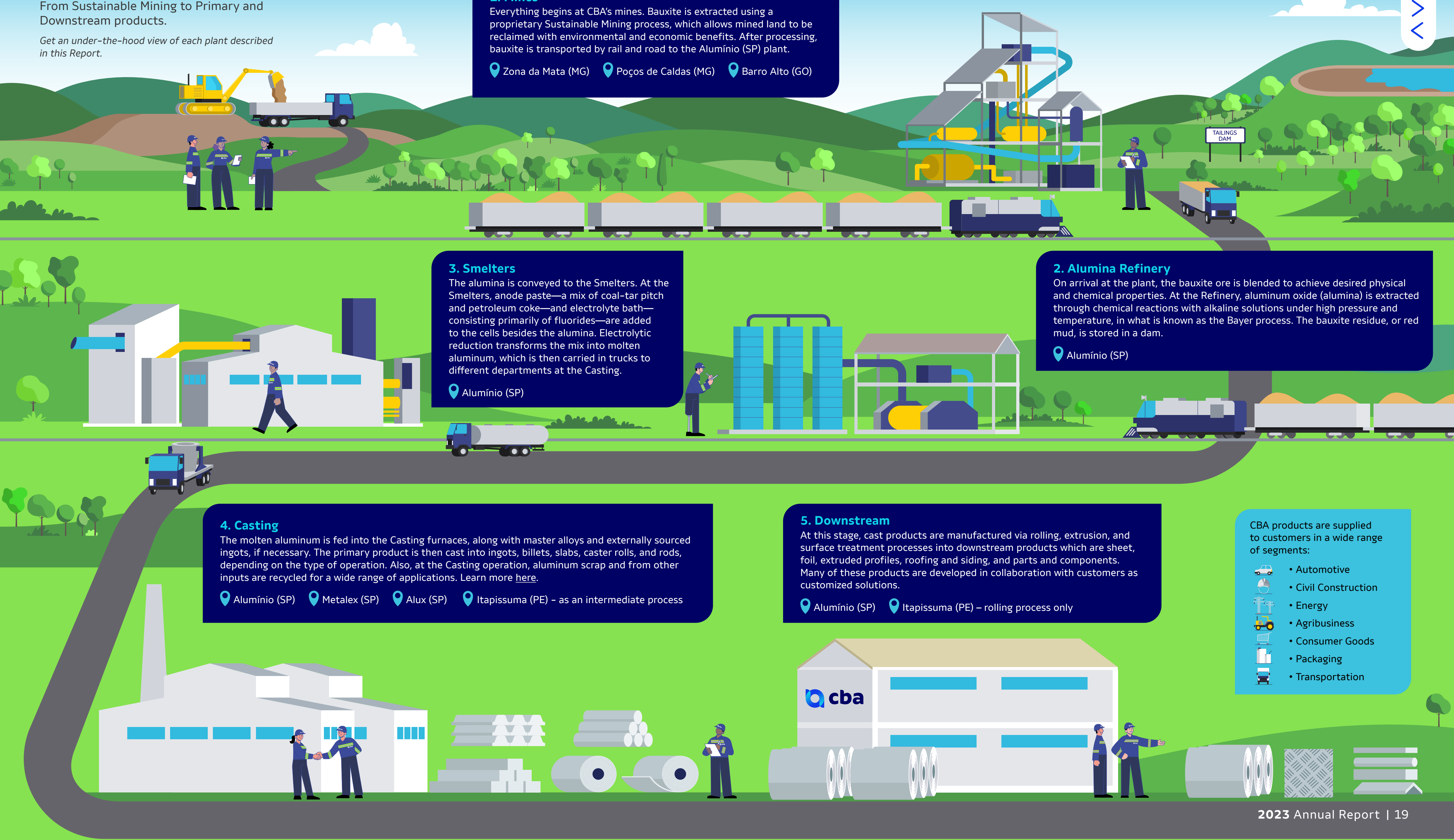
- **Integrity**
  - Doing what's right
  - Valuing differences
  - Respect and ethics
- **Collaboration**
  - Creating shared value
  - Networking
  - Valuing people
- **Courage**
  - Leadership
  - Innovation
  - Building the future

Stock photo

# CBA's production process

From Sustainable Mining to Primary and Downstream products.

*Get an under-the-hood view of each plant described in this Report.*




### 1. Mines

Everything begins at CBA's mines. Bauxite is extracted using a proprietary Sustainable Mining process, which allows mined land to be reclaimed with environmental and economic benefits. After processing, bauxite is transported by rail and road to the Alumínio (SP) plant.

Zona da Mata (MG) Poços de Caldas (MG) Barro Alto (GO)

### 2. Alumina Refinery

On arrival at the plant, the bauxite ore is blended to achieve desired physical and chemical properties. At the Refinery, aluminum oxide (alumina) is extracted through chemical reactions with alkaline solutions under high pressure and temperature, in what is known as the Bayer process. The bauxite residue, or red mud, is stored in a dam.

Alumínio (SP)

### 3. Smelters

The alumina is conveyed to the Smelters. At the Smelters, anode paste—a mix of coal-tar pitch and petroleum coke—and electrolyte bath—consisting primarily of fluorides—are added to the cells besides the alumina. Electrolytic reduction transforms the mix into molten aluminum, which is then carried in trucks to different departments at the Casting.

Alumínio (SP)

### 4. Casting

The molten aluminum is fed into the Casting furnaces, along with master alloys and externally sourced ingots, if necessary. The primary product is then cast into ingots, billets, slabs, caster rolls, and rods, depending on the type of operation. Also, at the Casting operation, aluminum scrap and from other inputs are recycled for a wide range of applications. Learn more here.

Alumínio (SP) Metalex (SP) Alux (SP) Itapissuma (PE) – as an intermediate process

### 5. Downstream

At this stage, cast products are manufactured via rolling, extrusion, and surface treatment processes into downstream products which are sheet, foil, extruded profiles, roofing and siding, and parts and components. Many of these products are developed in collaboration with customers as customized solutions.

Alumínio (SP) Itapissuma (PE) – rolling process only

CBA products are supplied to customers in a wide range of segments:

- Automotive
- Civil Construction
- Energy
- Agribusiness
- Consumer Goods
- Packaging
- Transportation

# Products and services

**GRI 2-6**

**CBA's products and services are used in the automotive, building and construction, energy, agribusiness, consumer goods, packaging, transportation, and metallurgical industries.**

## DOWNSTREAM PRODUCTS

- Caster rolls
- Caster sheet and coils (CC)
- Hot-rolled sheet and coils (DC)
- Roofing and siding
- Foil
- Coated foil
- Extruded profiles
- Surface treatment lines (coating, anodizing, grit blasting, and polishing)
- Custom parts, components and services via CBA's Solutions and Services Center

Caster roll, Alumínio (SP) plant

## PRIMARY PRODUCTS

- Bauxite
- Hydrate
- Alumina
- Molten aluminum
- Ingots
- Secondary ingots
- Slabs
- Billets
- Rod

Molten aluminum, Alumínio (SP) plant

**CBA primarily serves customers located in Brazil, but also customers in wider South America, North America, and Europe.** GRI 2-1

# How CBA Creates Value

## Resources and assets

**(1) Financial Capital**
- Land, raw materials, inputs and services
- Asset maintenance
- R$ 657.4 million in sustainability-linked loans
- Listed shares on B3 (Brazilian stock exchange)

**(2) Manufactured Capital**
- 11 operations in the Aluminum Business
- 1.6 GW of installed capacity for renewable energy generation across 22 hydroelectric power plants and 2 wind farm complexes
- 2 nature reserves

**(3) Intellectual Capital**
- Knowledge and data management
- Research and development
- Solutions with a digital mindset
- Tailored solutions co-engineered with customers and strategic partners

**(4) Human Capital**
- 6,834 direct employees—17.3% women—and 1,787 fixed contractors

**(5) Social and Relationship Capital**
- Relations with customers, communities, suppliers, investors, sector organizations, trade associations, press, government, and other stakeholders
- 60 community development projects

**(6) Natural Capital**
- Land used in operations
- Mined bauxite ore, other inputs, and materials
- Aluminum scrap recycling
- Electricity and fuels
- Water resources


**R$ 9.7 million** invested in 60 social initiatives

Startup of scrap treatment line at Metalex and CBA's inaugural Processing and Recycling Center

More than **17,000 hours** of Digital Transformation training, reaching approximately **2,000 people**

Named to **ISE and IDIVERSA B3**

GHG emissions **3.5** times lower than the global average (at the smelting stage)

### Strategic Pillars
- Accelerate growth
- Build competitiveness
- Drive innovation and collaboration
- Build leadership in ESG

## Key results in 2023

**Financial**
- **R$ 7.3 billion** in net revenue
- **R$ 307 million** in adjusted EBITDA

**Produção**
- **1.9 million** metric tons of bauxite processed
- **328.9 thousand** metric tons of molten aluminum produced
- **512.7 thousand** metric tons of primary and downstream products
- **7,824 GWh** of 100% renewable electricity generated

**Governance**
- **100%** of employees with assigned ESG targets
- Leading position in sustainability indices such as ISE, CSA, MSCI and CDP
- **All Primora-branded profiles** and products from five customers featuring the Company's Alennium low-carbon label
- **97%** of the extended supplier base underwent assessments against ESG criteria

**Social**
- **ISO 45001:2018** (Health and Safety) certification for the Alumínio (SP) plant
- **54,000 people** and 28 municipalities benefited by social programs
- First edition of *Empreende Mulher* ("Women Entrepreneurs"), with **30 participants and 5 aspiring women entrepreneurs** selected to receive seed capital
- **111 Volunteering Challenge initiatives**, benefiting more than **8,300 people**

**Environmental**
- **183.9 kt** of scrap consumed
- Launched the Climate Action Initiative, which supports Brazilian cities in tackling climate change
- Startup of new **pilot mobile beneficiation plant**, which produces Tecno-solo (topsoil) that enables the Company to mine bauxite without generating tailings or requiring tailings dams
- **374,700** carbon credits issued from 2017 to 2023 through the REDD+ Cerrado program


# Primary Business

GRI 2-6

Ingot,
Alumínio (SP) plant

**1.9 million metric tons** of bauxite mined using mining methods that support social and environmental balance

**36.5 thousand metric tons** of hydrate produced for sale

**25.7 thousand metric tons** of alumina with the world's lowest carbon footprint produced for sale

**328.9 thousand metric tons** of low carbon molten aluminum produced

**476.5 thousand metric tons** of cast products produced at CBA's Alumínio, Metalex and Alux facilities

## MINES

CLICK HERE
Read more about the Sustainable Mining initiative

GRI 3-3 (Biodiversity and ecosystem services)

The aluminum value chain begins with mining bauxite. Bauxite ore is mined and processed in Poços de Caldas and Zona da Mata, both in Minas Gerais, southeastern Brazil; and in Barro Alto, Goiás, midwestern Brazil, using site-specific mining methods.

One of the Company's key differentiators is its industry-leading **Sustainable Mining** practices, supported by extensive research and technological development. This includes a longstanding collaboration with the Federal University of Viçosa (UFV) in three different research areas: Environmental Rehabilitation (soil), Forest Restoration (forest), and Water Conservation (forest hydrology). This research helps to develop mine rehabilitation practices that provide environmental, social, and economic benefits in surrounding areas, including biodiversity, local development and land improvement, establishing a new relationship between mining and the environment. Learn more about these practices on pages 144 to 146.

A significant sustainability milestone in 2023 was the start of operation of CBA's first mobile beneficiation plant. Stationed at the mine face, the mobile plant produces Tecno-solo (topsoil that is ready for application in mine rehabilitation activities), enabling the company to mine bauxite without creating tailings or requiring tailings dams. The innovative system is designed to address the challenge in the mining industry of reducing waste generation, minimizing the use of tailings dams, and increasing water recoveries through alternative mining approaches that are advancing the circular economy and increasing sustainability in the mining industry.

### Rondon Project (PA)

The Rondon Project, one of CBA's largest investments, will produce bauxite for export. In this operation, clay from the bauxite washing process is dewatered and returned to the pit without the need for a tailings dam. The mine will be developed in a mineral reserve in the municipality of Rondon do Pará (PA), in anthropized areas. The project will use a modular approach, with an initial annual capacity of 4.5 Mtpa that is scalable to 18 Mtpa. A Preliminary License (PL) has already been secured and the Construction License (CL) is under review by the appropriate environmental regulator (SEMA/PA).

In 2023, following the completion of feasibility and project scoping assessments, project efforts turned to prospecting for strategic partners.

## REFINERY

GRI 3-3 (Climate strategy)

Mined bauxite is transported to the Refinery at the Alumínio (SP) plant, where aluminum oxide (alumina) is extracted using the Bayer process (dissolution and crystallization in an alkaline solution). The bauxite residue, or red mud, is stored in the Palmital dam in Alumínio (SP).

In 2023, CBA's Alumina Refinery retained its position of leadership for low carbon alumina, with its process steam generated from reforestation biomass and wood residues. The Refinery's emissions intensity in the year stood at 0.22 $tCO_2e$/t oxide, the lowest in the world according to emissions intelligence data from global consulting firm CRU.

**More than 60% of the Refinery's annual emissions** have reduced since installing the biomass boiler

CBA's bauxite

## SMELTERS

The alumina produced at the Refinery is transported to the Smelters, where it is dissolved in an electrolytic bath primarily consisting of cryolite along with other elements like aluminum fluoride and fluorite. These components lower the melting point of cryolite. Once dissolved, alumina molecules undergo separation, yielding both liquid aluminum and carbon dioxide as a byproduct of the chemical reaction between oxygen and anode paste, which is primarily composed of carbon (in the form of petroleum coke and coal-tar pitch).

In the first half of 2023, CBA was faced with operational issues at its Smelters. The Company identified alterations in the physical and chemical properties of third party-supplied petroleum coke and coal-tar pitch, the primary constituents of the anode paste used in this production stage, which led to inconsistent quality.

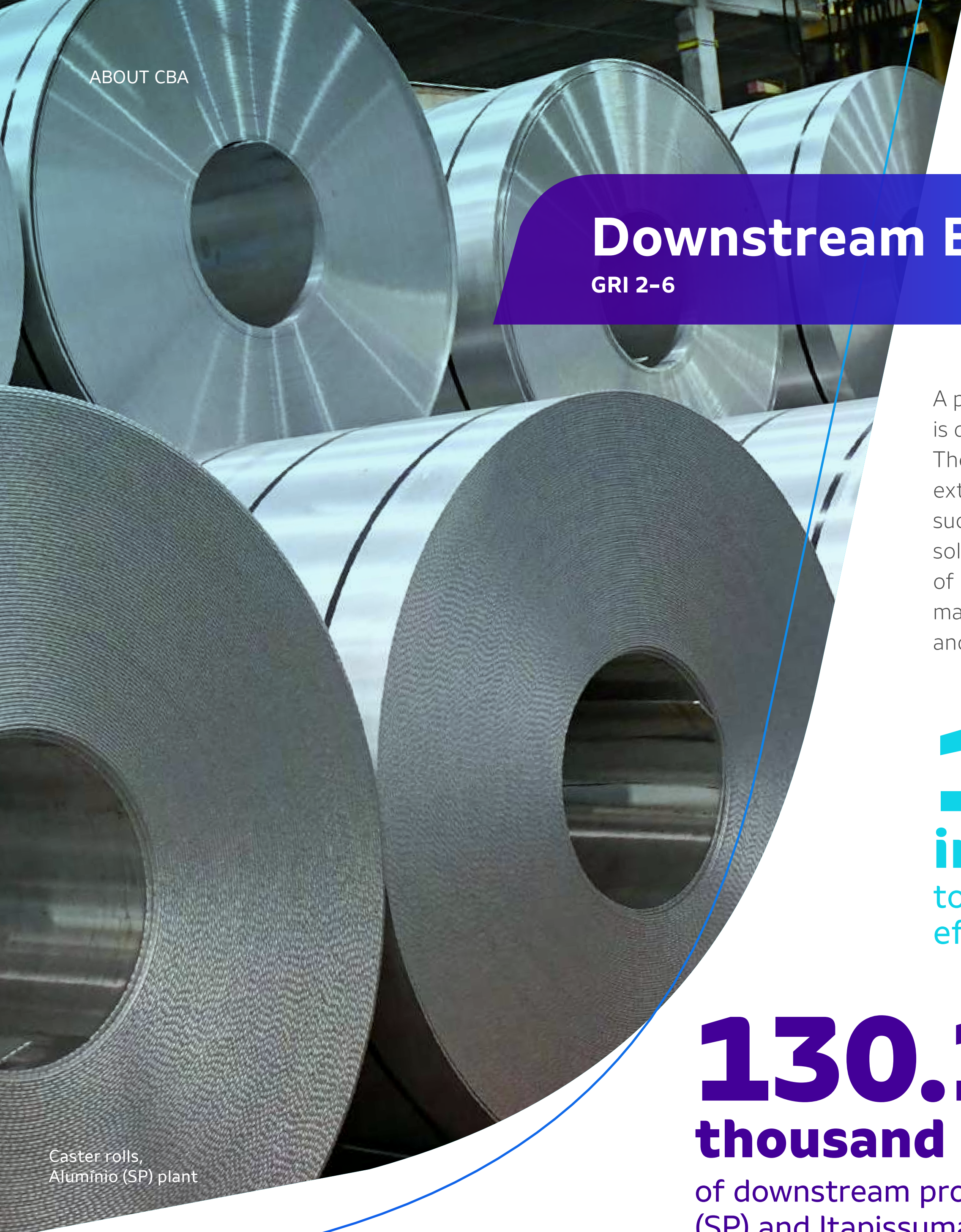
To resolve this issue, the Company began importing petroleum coke and coal-tar pitch to formulate a new blend of anode paste developed in-house at CBA. After adapting the process to the new material to meet the Company's stringent quality requirements, the process was stabilized by the third quarter, with production volumes rebounding. CBA's ability to resolve the issue was primarily thanks to high levels of team engagement and competence.

Thus, with the process normalized, another technology upgrade implemented in 2022 in Pot Room 3—a point feeder system—began to deliver its benefits. Among these benefits is enhanced production efficiency and lower consumption, in line with project goals. The Company plans to roll out the new technology to the other Pot Rooms in the coming years.

## CASTING

The molten aluminum is fed into the Casting furnaces, along with master alloys and scrap. Subsequently, the liquid aluminum is cast into various shapes, including ingots, billets, slabs, caster rolls, and rods. Besides the Alumínio (SP) plant, this process also happens at CBA's Metalex facility in Araçariguama (SP) to produce billets, and at Alux do Brasil in Nova Odessa (SP), to produce ingots made of secondary alloy. At Itapissuma (PE), a casthouse produces sheet ingots and caster rolls that are only used as feedstocks to produce downstream products.

CBA's
billets



Caster rolls,
Alumínio (SP) plant

# Downstream Business

**GRI 2-6**

A portion of the cast products produced by CBA is directed to the Downstream business division. These products undergo remelting, rolling or extrusion processes followed by additional stages such as surface treatment, coating, or customized solutions and services tailored to meet the needs of each segment. CBA's downstream products are made at the Alumínio (SP), Itapissuma (PE) plants, and at Solutions & Services Centers (São Paulo and Rio Grande do Sul). CBA has also developed partnerships for some custom solutions.

Market challenges this year, such as a decline in both domestic and global demand, affected commercial performance in the Downstream business. With a focus on the packaging market, CBA increased its production capacity by 1,500 metric tons.

**176**
**initiatives**
to improve operational efficiency and cost savings

**142**
**real estate**
developments completed with Primora aluminum frame products

**130.1**
**thousand metric tonnes**
of downstream products produced at Alumínio (SP) and Itapissuma (PE) plants

**1.5**
**thousand metric tonnes**
increase in sheet production capacity for the packaging segment

## DOWNSTREAM IMPROVEMENT INITIATIVES

Throughout 2023, CBA continued to advance on programs to improve operational efficiency, cost optimization, and customer service. During the year, the Company implemented 176 initiatives across six production lines at two operational sites: Alumínio (SP) (sheet, foil, and extruded products) and Itapissuma (PE) (remelt, sheet, and foil). Some of these initiatives included:

Coils,
Alumínio (SP) plant

- Rolling process improvements at both sites to reduce rolling oil consumption by implementing new technology and using alternative materials. This resulted in increased oil recovery, with both production sites collectively recovering 1 million liters in 2023.
- Rolling oil undergoes distillation to remove impurities, allowing it to be reused and enabling a reduction of new oil consumption. The Alumínio (SP) plant introduced enhanced rolling oil recovery in 2020 and, in 2023, the Itapissuma (PE) facility also stood out with this operation, reusing 2.5 million liters of oil in the year.
- Investment of R$ 523,000 in state-of-the-art equipment to reduce natural gas consumption. Using tools powered by artificial intelligence, CBA has achieved new levels of sustainability by optimizing resource use and minimizing waste.
- Investments of R$ 21.4 million to increase sheet line production capacity not only increased rolled product productivity but also improved flatness and, consequently, the quality of CBA's foil and sheet products. The investment also supported an expansion of the Company's portfolio, enabling it to tap into new markets.
- Implementation of two initiatives to improve the packaging used to ship products to customers. One initiative focused on improving the quality of wood used for transportation packaging, reducing breakage or damage. The other initiative involved assessments and implementation of new reusable materials for packaging.

## PRIMORA BRAND GROWTH

**GRI 2-6**

Launched in February 2022, CBA's Primora brand offers modern framing systems incorporating innovative solutions that are responsive to market demands and trends. CBA supplies framing systems for windows, doors, and facades to construction firms and developers in two different segments:

- **Primora Systems:** designed for medium-end real estate developments, and especially for framing businesses and installers.
- **Primora Building System:** designed for high-end real estate developments requiring tailor-made frame systems.

Primora sales growth in the year is attributable to personalized service and the high levels of product availability and quality assured by CBA's vertically integrated operations—from mine to end product.

In 2023, the brand began expanding its product line through a distribution network in strategic markets within the civil construction industry.

Another of Primora's competitive advantages is its use of low-carbon aluminum, which aids customers looking to secure LEED (Leadership in Energy and Environmental Design) certification for sustainable buildings. In 2023, all Primora-branded profiles featured CBA's Alennium label.

**32.6%**
**growth**
in Primora products since their launch in 2022

**100%**
**of Primora-branded profiles**
featured CBA's Alennium label

Stock photo

Sorocaba (SP) facility

In 2023,
**78**
**co-engineered projects**
developed with customers

## CO-ENGINEERED SOLUTIONS

**GRI 2-6**

CBA believes in the value of partnership. This is seen in the many co-engineering projects developed with customers, transforming aluminum into innovative solutions. A range of customer specifications are fulfilled during aluminum processing and fabrication, including drilling, blasting, anodizing, painting, special cutting, welding, machining, and assembly of kits, parts, and components.

These specifications are tested and implemented at CBA's Extruded Profile Surface Treatment Center in Alumínio (SP) and Solutions and Services Centers in Alumínio (SP) and Caxias do Sul (RS).

In 2023, 78 co-engineered projects were developed, some of which are described in chapter "Sustainable value chain". The Company's approach to co-engineering uses design thinking governance combined with agile decision-making models.

Wind complex
*Ventos do Piauí*

# Energy Business

**GRI 2-6, 3-3 (Renewable energy and energy efficiency), SASB IF-EU-000.D, IF-EU-000.E**

CBA uses 100% renewable electricity sources in its production process, and has a substantial portfolio of renewable generation assets, including hydroelectric power plants and wind complexes.

## Hydroelectric Power plants

**22 plants**
in 6 Brazilian states, **with**

**16** fully owned by CBA and

**6** in which the Company has direct equity participation or through consortiums.

**1,462.7 MW**
of installed capacity directly owned or through consortia.

**609.3 MW**
of installed capacity from wholly owned plants and

**853.4 MW**
through direct ownership or consortia participation.

## Wind Complexes

**2 complexes**
in Piauí and Pernambuco

**171.6 MW**
installed wind capacity, with

**168.2 MW**
owned by CBA

**7,824 GWh**
of **100% renewable power output**
across hydroelectric plants (wholly and jointly owned) and wind complexes

Alecrim HPP (SP)

## HYDROELECTRIC POWER PLANTS

CBA operates 22 hydroelectric power plants in 6 Brazilian states, including 16 wholly owned plants and 6 facilities jointly owned either directly or through joint ventures.

Given its significant reliance on hydroelectric power, CBA also has power purchase agreements (PPAs) in the free market to ensure electricity supply during periods of less favorable hydrological conditions. These agreements prioritize renewable sources that are traceable via energy certificates.

## WIND COMPLEXES

CBA's energy assets also include two wind complexes: Ventos de Santo Anselmo (located in Betânia-PI and Araripina-PE) and Ventos de Santo Isidoro (in Curral Novo-PI). These complexes contribute approximately 10% of CBA's total power generation output, providing 171.6 MW of installed capacity (CBA's share is 168.2 MW), with the electricity serving the Alumínio (SP) plant and the Itapissuma (PE) rolling mill.

Beyond these complexes, CBA is constantly exploring new projects to diversify its energy sources, primarily in wind and solar. In 2023, the Company sought partners to meet anticipated demand in the coming years. This diversification is strategic to CBA's business resilience and energy security amid the challenges posed by climate change.

This diversification is strategic for business resilience and ensuring energy supply, especially considering the context of climate change.

## 100% renewable power generation

Aluminum production is energy-intensive, with electricity serving as one of its primary inputs. CBA's production process is powered by 100% of renewable energy sources. In the Energy Business, the Company works to ensure a secure, sustainable, and competitive supply of electricity for its operations through hydroelectric power plants and wind farms, resulting in low-carbon aluminum production. When necessary, the Company purchases additional electricity to meet its demand from the National Grid and ensures its traceability by acquiring Renewable Energy Certificates (RECs).

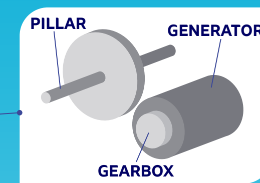
**SASB IF-EU-000.C, IF-EU-000.D**

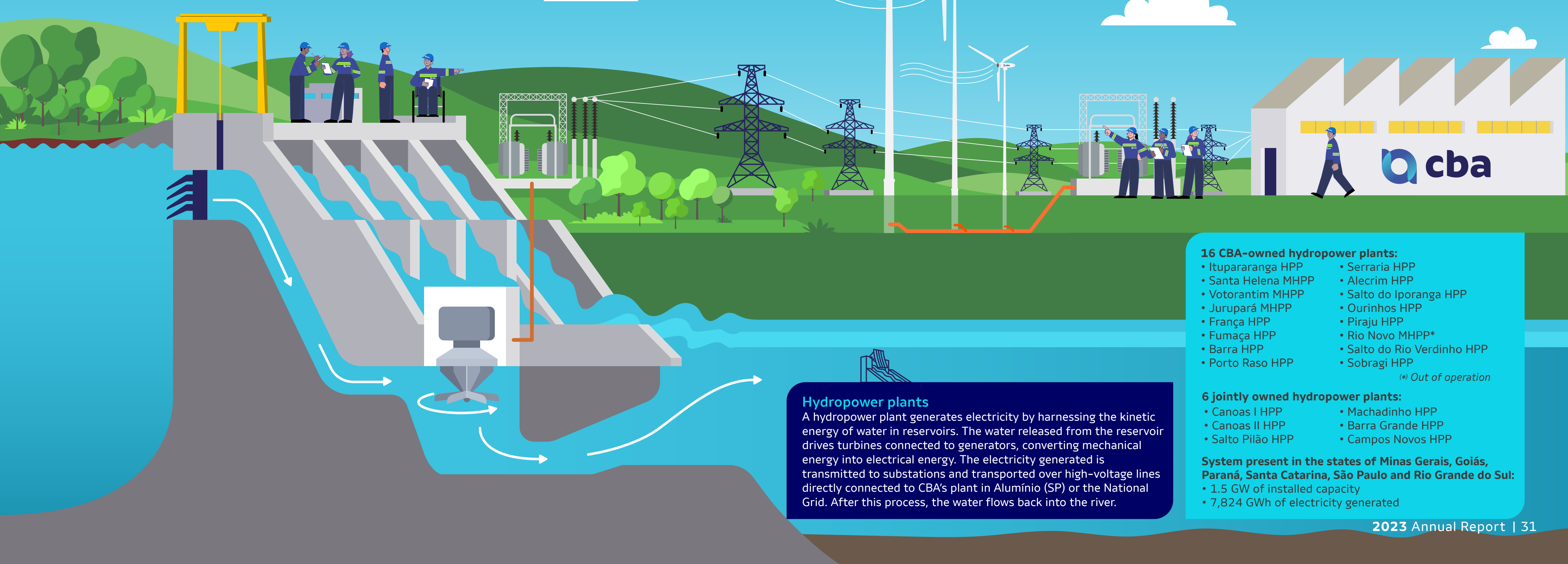
### Wind farms

A wind farm generates electricity by harnessing the kinetic energy of wind. Wind turbine blades capture the wind energy, making the turbines spin. This motion drives a generator, converting mechanical energy into electrical energy. The electricity generated is transmitted to substations and transported over high-voltage lines connected to the Grid.

**4 Wind Farms:**
- Ventos de São Crispim I
- Ventos de Santo Alderico
- Ventos de Santo Antero
- Ventos de Santo Apolinário

**Wind parks in the states of Pernambuco and Piauí**
- 171.6 MW of installed capacity (168.2 MW belongs to CBA)
- 690,480 MWh of eletricity generated




### Hydropower plants

A hydropower plant generates electricity by harnessing the kinetic energy of water in reservoirs. The water released from the reservoir drives turbines connected to generators, converting mechanical energy into electrical energy. The electricity generated is transmitted to substations and transported over high-voltage lines directly connected to CBA's plant in Alumínio (SP) or the National Grid. After this process, the water flows back into the river.

**16 CBA-owned hydropower plants:**
- Itupararanga HPP
- Santa Helena MHPP
- Votorantim MHPP
- Jurupará MHPP
- França HPP
- Fumaça HPP
- Barra HPP
- Porto Raso HPP
- Serraria HPP
- Alecrim HPP
- Salto do Iporanga HPP
- Ourinhos HPP
- Piraju HPP
- Rio Novo MHPP*
- Salto do Rio Verdinho HPP
- Sobragi HPP

*(*) Out of operation*

**6 jointly owned hydropower plants:**
- Canoas I HPP
- Canoas II HPP
- Salto Pilão HPP
- Machadinho HPP
- Barra Grande HPP
- Campos Novos HPP

**System present in the states of Minas Gerais, Goiás, Paraná, Santa Catarina, São Paulo and Rio Grande do Sul:**
- 1.5 GW of installed capacity
- 7,824 GWh of electricity generated

## A SELF-SUFFICIENT PRODUCTION PROCESS

With installed capacity to meet its entire electricity requirement, CBA's aluminum production process is self-reliant. Electricity is one of the aluminum industry's primary inputs, representing 15% to 20% of total costs in aluminum smelting, the most electricity-intensive stage of the process. Energy self-sufficiency enables CBA to maintain a competitive edge in terms of costs.

In 2023, due to heavy rainfall, hydroelectric reservoir levels rose significantly. This surplus water boosted generation output compared to 2022, resulting in an 800 GWh increase in hydroelectric energy generation.

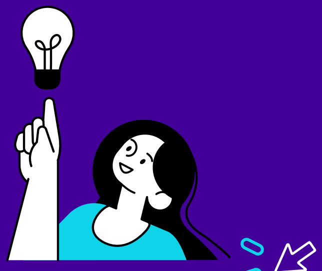
CBA is the largest single-load electricity consumer in the State of São Paulo, according to data from the Electric Power Trading Chamber (CCEE) and boasts an installed capacity equivalent to that of the largest electricity generators in Brazil. This substantial capacity also enables the Company to sell surplus electricity to the national grid.

Salto do Iporanga HPP (SP)

## MORE EFFICIENT ENERGY BUSINESS OPERATIONS

Throughout 2023, a range of initiatives were implemented to improve efficiency in the Energy Business, including:

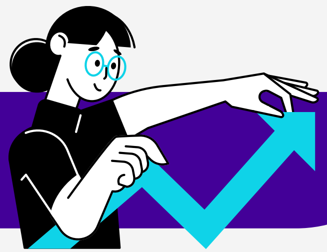
- Optimization of electricity generation and consumption at the Alumínio (SP) plant through medium and long-term planning in generation operations, such as changes in maintenance schedules and generation rescheduling depending on reservoir levels and plant requirements.
- 9% improvement in manageable operating costs, excluding personnel and charges, compared to 2022.
- Reliability maintenance: by collecting statistical data from Power plants machinery, the optimal timing for maintenance shutdowns can be determined. The benefits provided by this methodology include a reduction in the number of shutdowns, increased maintenance efficiency, and cost savings.



CLICK HERE

**Learn more about CBA's energy efficiency initiatives**

# Certifications, ratings, indexes, commitments and awards



## CERTIFICATIONS

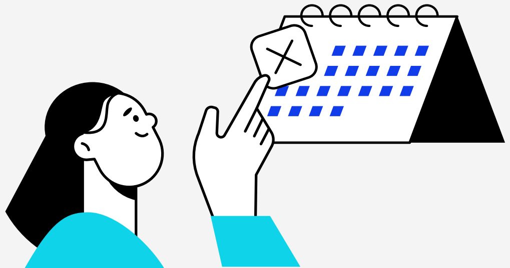
- ISO 45001:2018 certification for the Alumínio (SP) plant
- Recertification against the Aluminium Stewardship Initiative (ASI) Performance and Chain of Custody Standards – CBA was the first aluminum producer in Brazil to be certified under the new ASI standards
- Resources & Reserves certification and audit for Barro Alto (GO) and Miraí (MG), in accordance with JORC Code standards
- ISO 14001:2015 – Environmental Management System
- ISO 9001: 2015 - Quality Management System
- ISO/IEC 17025-2017 - General requirements for the competence of testing and calibration laboratories, for CBA's Miraí (MG) site
- Recertification against the International Automotive Task Force (IATF) 16949:2016 standard for the Alumínio (SP) plant and Caxias do Sul (RS) Solutions and Services Center

## RECOGNITION

- *Brasil Mineral Award* – Company of the Year in the minerals sector, in the Environmental Governance category
- *Valor 1000 list* – 130$^{th}$ place among the 1,000 largest companies in the list and 9$^{th}$ company in the Metals and Steelmaking sector ranking
- Mining and Metals Industry Excellence Award from *Minérios & Minerales* magazine for CBA's Reflora program
- Best Suppliers Awards from Honda, in the Gold category, for Alux
- *Inovativos* Award, in the Digital Transformation & Innovation Programs category, for CBA's Digital Transformation Program
- Best in ESG award from *Exame* magazine, in the Mining, Metals and Steelmaking category
- *Institutional Investor*'s 2023 Latin America Executive Team, in all categories, including Best CFO (3$^{rd}$ place), Best Investor Day (3$^{rd}$ place), and best ESG program (2$^{nd}$ place)
- PVE (Partnership for Education) Award from the Votorantim Institute, in the Mobilization and Educational Management categories (learn more on pages 106 and 107)
- Voluntary Challenge Award from the Votorantim Institute for Barro Alto (GO) (1$^{st}$ place – small size category), Miraí and Poços de Caldas (both in the state of Minas Gerais) (2$^{nd}$ place, in the medium and small size categories, respectively), and Legado Verdes do Cerrado (GO) (3$^{rd}$ place – medium size category)
- Recognition from the National Symposium on Forest Restoration (Reforest) for work on forest restoration in bauxite mining
- 1$^{st}$ Good Practices Award from the Global Compact's Transparency 100% Movement, for a case study on whistleblowing hotline transparency
- Recognition by the São Paulo State Forest Foundation for preservation initiatives in the Itupararanga Protected Area (APA)
- GHG Protocol – Gold Reporting Status
- Supply Awards 2023 – 1$^{st}$ place for CBA's Automatic On-Scale Invoicing project, in the Innovation and Technology category, and top 3 for the Company's Picking by Data Collector project, in the Performance category
- Agility Brazil 2023 Award, from *Agile Trends* – top 6 among the most agile companies in the country in the Transformation category, for CBA's DigitALL program
- CBA's 2022 Annual Report was recognized as one of the top 10 reports in the Reporting Matters 2023 (available only in Portuguese) evaluation, which shows how companies use their annual reporting to drive change in their business. CBA also performed strongly for best practices in the Alignment category
- Tetra Pak Supplier Sustainability Award 2023

## EXTERNAL COMMITMENTS

- Science Based Targets initiative (SBTi)
- Task Force on Climate-related Financial Disclosures (TCFD)
- Taskforce on Nature-related Financial Disclosures (TNFD)
- First Movers Coalition
- Global Compact Net Zero Ambition Movement
- Global Compact 100% Transparency Movement, of which CBA is an ambassador (learn more on page 63)
- Global Compact Leading with Impact Program – CEO Luciano Alves is spokesperson for SDG 13
- Global Compact Leadership with Impact Program – Ricardo Carvalho, a member of CBA's Board of Directors, Sustainability and Remuneration & People committees, serves as spokesperson for SDG 17
- CBA is a signatory of Call to Action from Business to Governments letter, aimed at encouraging the fight against corruption.



## RATINGS AND INDICES

Ratings milestones:

- Named to IDIVERSA B3, the Brazilian stock exchange's first diversity index
- Second consecutive year with a leadership-level A score for CDP Climate Change disclosures
- For the second consecutive year, CBA has been included in the ISE – B3's Corporate Sustainability Index – remaining among the top ten in the overall ranking
- Result of 61 points (61/100) in the S&P Corporate Sustainability Assessment (CSA)

Result

**40% higher**

than the industry average in the S&P Corporate Sustainability Assessment (CSA)

### Ratings and indices

| | 2021 | 2022 | 2023 | *Status* |
|---|---|---|---|---|
| **IDIVERSA B3** | NA | NA | ✓ | - |
| **MSCI ESG** | A | AA | A | Decreased |
| **CDP Climate Change** | A- | A | A | Maintained |
| **CDP Water Security** | NA | B | B | Maintained |
| **ISE B3 index** | NA | ✓ | ✓ | Maintained |
| **CSA** | NA | 28 points | 61 points | Improved |

*NA: not applicable*

# Increasingly digital and innovative

- > DigitALL: the movement is ours
- > Implementation and experimentation PODs
- > IdeAI Program
- > Innovation partnerships
- > Competitiveness Management


From left to right: Pedro Henrique Pamplona Pereira, Guilherme Felippe dos Santos Oliveira and Bruno Pereira Maciel, employees at Alumínio (SP) plant


# DigitALL: “the movement is ours”

**GRI 3-3 (Innovation, technology, and business resilience)**

**SDG related to this chapter**

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

**Material topic related to this chapter:**

- **Innovation, technology, and business resilience**

**Global Compact principles addressed in this chapter:**

**9. Businesses should encourage the development and diffusion of environmentally friendly technologies.**

**2030 ESG Strategy levers related to this chapter:**

*ESG Ownership*

CBA's Innovation & Digital Office employees

CBA's digital transformation journey continued as one of the Company's key strategies during 2023—guided by its belief that innovation is crucial for sustainable performance, business competitiveness, talent development, and value creation. Through digital transformation, the Company is not only upgrading its technological infrastructure but also reshaping its workforce and revolutionizing the way aluminum is delivered within the industry.

CBA has made consistent progress in its digital transformation journey since 2017. In 2022, the Company launched a program, called DigitALL, aimed at accelerating the Company's digital transformation to explore and capture value from digital trends.

The program operates at three different levels:

- **Inform and guide – high-level narrative and investment commitment**
- **Design and experiment – a sandbox environment for testing and learning to explore value propositions and confirm hypotheses**
- **Scale and operate – implementation, execution, scale-up, and value creation initiatives**

In 2023, the Innovation & Digital Office assigned a dedicated staff to manage the DigitALL program, together with a group of people from different CBA departments participating in the program as members of the non-linear careers' initiative (read more on page 89). This team explores and engages around digital transformation opportunities with the potential to enhance efficiency and value across the business, guided by the Company's broader strategy.

CBA's innovation structure was revisited in 2023. Previously, different categories of innovation were managed separately by each function. Now, the company has established an Innovation Committee supported by the Innovation & Digital Office, creating a more dynamic and integrated ecosystem. The Committee, which is responsible for executing strategic decisions and directing tactical and operational activities within the innovation architecture, is composed of CBA's Downstream Products, Innovation and Digital Transformation VP and executive representatives from the financial and strategy functions and each innovation area within CBA: Product, Technology, IT, Digitalization, and Sustainability.

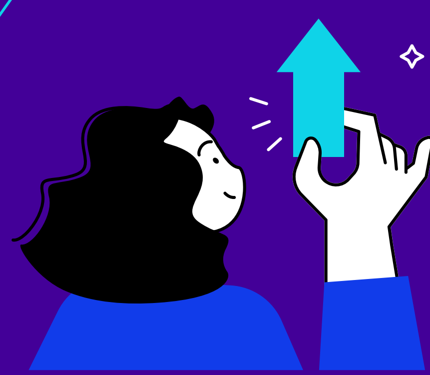
To foster a genuine digital transformation within the company, this topic is incorporated in CBA's strategy and organizational culture. For certain positions, corporate targets have been set that affect variable compensation.

In line with the Company's commitment to employee development, in 2023 CBA invested heavily in growing its first learning community, *Decodificando o Digital* ("Decoding Digital"), which currently has over 1,300 members and has already produced around 600 "knowledge pills." In addition, over 40 learning experiences were organized – LABs, Meetups, Group Discussions, and Learning Tracks – totaling more than 10 hours of training, 30 hours of live events, and 4 experimental labs with over 15 classes.

As part of its commitment to advancing cultural transformation as a lever for digital transformation, CBA conducted a detailed gap analysis to identify digital skills that should be included in the Company's training processes. For more details, see the chapter "Transforming lives".

CLICK HERE
**Learn more in the Additional Disclosures Supplement**


Inovativos Award: Maria Eugênia Ferreira Meirelles (Innovation & Digital Manager) and Fernando Varella (Downstream Products, Innovation and Digital Transformation VP)



## Aspiration

Make CBA an industry leader for Innovation & Digital

## Goals

- Rapidly evolve CBA's cultural innovation and digital transformation
- Capture opportunities to create value
- Evolve into a modern CBA, with attributes to attract and retain talent and increase diversity and ideation
- Have the capabilities to manage, incubate and experiment with initiatives
- Build the capabilities to sustain the program as a standalone initiative

cba

## INNOVATION DRIVERS AT CBA

**1. FOCUS** | **2. VALUE** | **3. CUSTOMER-MINDED** | **4. TALENTS & CULTURE** | **5. AMBIDEXTERITY**

## FUTURE-READY STRATEGIC BELIEFS

**Belief 1**

The future of the aluminum industry will be data- and technology-driven

**Belief 2**

Sustainability will be one of the main drivers of innovation in the industry

**Belief 3**

Science and material design play a critical role in accelerating potential applications for aluminum and new materials

**Belief 4**

The aluminum industry will develop innovative new revenue streams

### LEARN

- SKILL GAP
- MEETUPS
- DECODING DIGITAL

### FEEL

- INSPIRING AND ENGAGING LEADERSHIP
- DREAM

### PRACTICE

- GOVERNANCE DigitALL
- LABS
- CNL
- TECHBOX

### SHARE

- LEARNING COMMUNITIES
- CROSS MOVEMENT
- SHARED TARGETS

More than

**17,000**

**hours**

of digital transformation training delivered to

**2,000**

**people**

in 2023 (including Leadership and professional roles*)

**Professional roles exclude operational positions*

More than

**R$ 263**

**million invested**

in technology and innovation in 2023


Pablo Renato Marcelino de Souza, High voltage technician, Alumínio (SP) plant


# Implementation and experimentation PODs

**GRI 3-3 (Innovation, technology, and business resilience)**

Employees of the Maintenance Management in the Asset Management sector, Alumínio (SP) plant

Since 2022, CBA has orchestrated DigitALL program activities through PODs: multidisciplinary teams devoted to addressing a specific problem within a given timeframe. The different skill sets and experiences of team members, some even coming from the non-linear career program, have both enhanced diversity and supported the development of a business plan based on agile methodologies.

In 2023, some of the ideas explored in 2022 progressed to implementation:

**CLICK HERE**
Learn more in the "Recycling is essential" chapter

## Scrap video analytics

(implementation completed):

using sensing and artificial intelligence to improve recycling line efficiency and aluminum quality.

An annualized benefit of

**R$ 2.9 million**

## Digital Maintenance

(ongoing implementation):

to anticipate equipment failure and carry out preventive maintenance before it occurs, enhancing efficiency and cost savings.

An annualized benefit of

**R$ 50.6 million**

Currently, the Company continues to explore opportunities to maintain momentum.

In 2023,
**8**
**PODs were explored,**
engaging
**190**
employees,
and yielding over

**R$ 145 million**
**in identified annualized benefits**
to be implemented and captured in the coming years.


Beatriz Rodrigues Sobreira,
Comercial General Manager
Primary Business,
Corporate Office (SP)

## PODS AND THE ESG AGENDA

Many POD ideas emerge within the DigitALL ecosystem. The decision-making process to prioritize suggestions for implementation assesses six levers: alignment with strategy, economic value, ESG impact, scope, implementation timeline, and technological and competency maturity. One of these levers is ESG— which means that projects that contribute to the Company's environmental, social, and/or governance goals are given priority when selecting PODs. Additionally, when developing the business case for each POD (where applicable), a comprehensive analysis is conducted to quantify and agree on metrics to track sustainability impacts as the initiative builds maturity and implementation.

Bauxite

# IdeAI Program

The Recognition Program IdeAI is one of the main platforms where employees can pitch ideas for process improvements and new products. Either individually or in groups, employees present suggestions across categories such as New Revenue Streams and Cost Reduction, Operational Excellence, Environment, and Product Development.

In 2023, the program expanded to include employees from Itapissuma (PE) and Metalex and was overhauled to improve accessibility and functionality and platform upgrade.

An example of initiative from the IdeAI Program was the project implemented at the Refinery “Cleaning of the rotary screens at mills 4 and 5”. Previously, operators used hoses and personal protective equipment (PPE) to mitigate risks during screen cleaning. Based on an idea submitted through the program, the hoses were replaced with a remotely operated shower system featuring ten high-pressure nozzles, enhancing safety, eliminating the need for PPE, and reducing water wastage.

Another notable IdeAI project implemented in 2023, called “DigitALL automatic lubrication control,” developed a drive system managed via a mobile app to monitor lubricant dosages applied to conveyor belt drum bearings. This technology also tracks motor data and bearing temperatures. The solution yielded savings of R$ 277,000 per year while enhancing reliability in bauxite conveying.

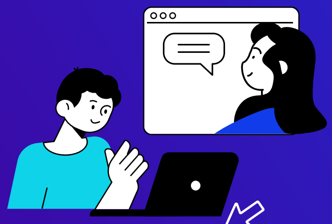
**1,877**
**ideas submitted**

**556**
**implemented**

**1,321**
**in progress**

# Innovation partnerships

CBA has a strong track record of collaborating with customers to develop innovative solutions that deliver enhanced products and services to meet market needs. Technology has been a key enabler in this journey and has led to significant projects for the industry.



CLICK HERE
**Learn more about projects co-engineered with customers in the "Sustainable value chain" chapter**

From left to right: Jane Paula de Oliveira and Lais Aparecida Rodrigues, Downstream employees, Alumínio (SP) plant

# Competitiveness Management

**CBA-5**

Competitiveness Management (CM) is a management model aimed at accelerating value capture at CBA through a methodology focused on discipline, ultimately creating competitive advantages for the Company. It encompasses various areas such as strategy, operations, innovation, personal development, and sustainability, linking projects sharing common business growth and evolution opportunities.

At CBA, the CM team meets weekly to discuss initiatives and, in 2023, was responsible for developing and managing a recovery plan in response to the operational and economic challenges faced by the mining and metals industry in the year. Learn more about activities under the plan in the chapter "Robust financial governance".

Additionally, in 2023, a new sustainability module was incorporated into CBA's Wave Program, a system used to monitor and approve CM initiatives. This module optimizes the Company's ability to track financial and sustainability gains from Competitiveness Management. In line with CBA's DigitALL culture, a dashboard was developed to automatically extract data from the system for quick visualization of these gains.

Tatiane Silva Trajano,
Controller's analist,
Corporate Office (SP)

## Competitiveness Management (CM)

| | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|
| **Initiatives assessed within Competitiveness Management** | 464 | 635 | 522 | 539 |
| **Initiatives with sustainability benefits** | 181 | 124 | 71 | 110 |
| **Completed initiatives assessed** | 49 | 35 | 59 | 98 |


Alumina Refinery, Alumínio (SP) plant

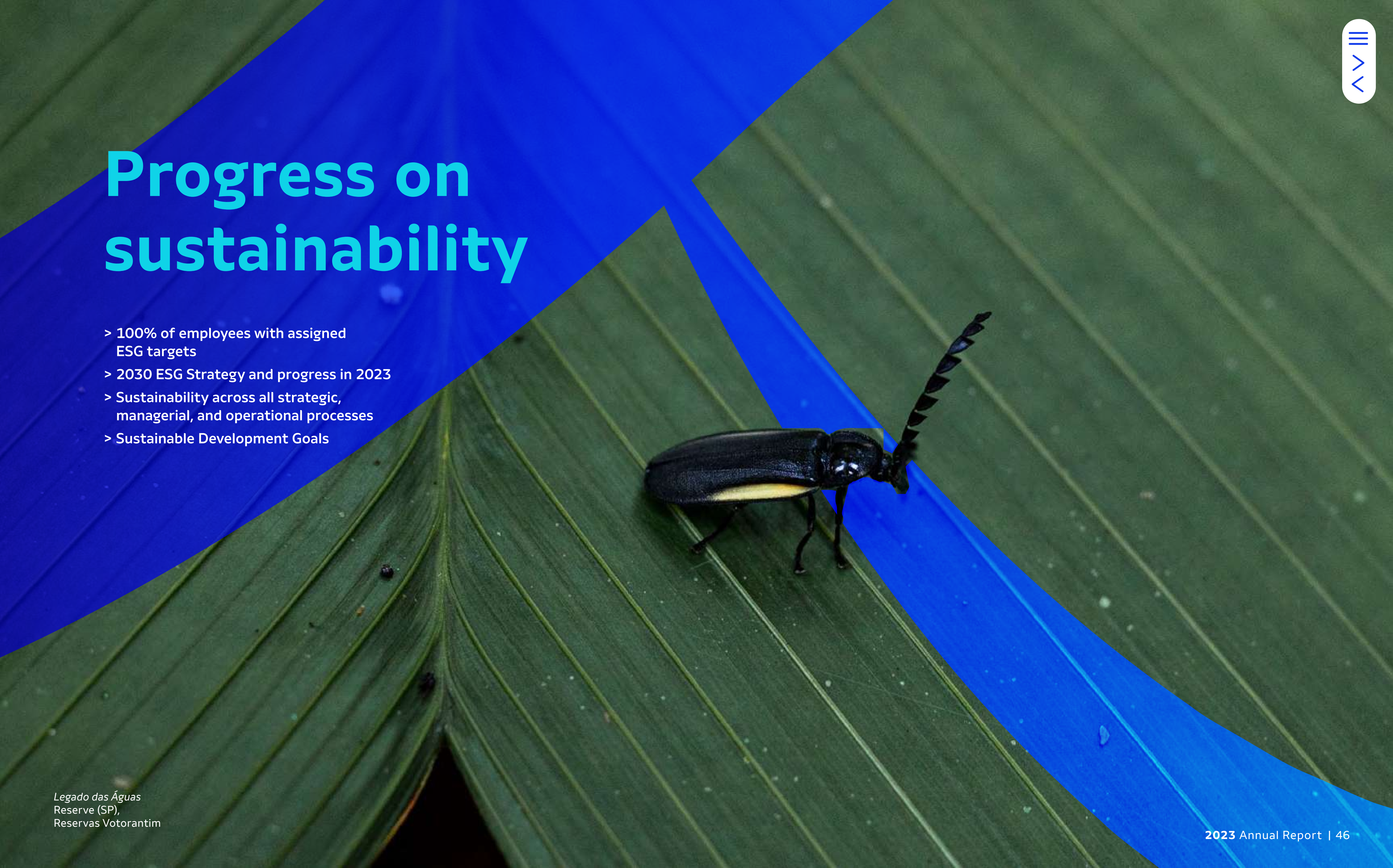
## Gains from CM sustainability initiatives

| | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|
| **Climate change** | • 279,489 $tCO_2$ in emissions reductions | • 108,932 $tCO_2$ in emissions reductions | • 27,339 $tCO_2$ in emissions reductions | • 110,621 $tCO_2$ in emissions reductions |
| **Waste** | • 20,000 metric tons of waste either avoided or sold for better environmental destinations | • 557 metric tons of wood waste materials avoided | • Generation of 8 metric tons of filter media waste avoided | • 6,500 metric tons of waste avoided, including slag, scrap metal and other materials |
| **Natural resources** | • 3,000 MWh of electricity savings<br>• 17,000 metric tons of savings on inputs and materials, including lime, caustic soda and steel bar<br>• 359,000 m³ of savings on nitrogen | • 35,000 m³ of water returned from the Palmital dam to the Alumina production process<br>• 2,500 MWh of electricity savings<br>• 944 metric tons of savings on materials such as fluoride, caustic soda and flocculants<br>• 27,000 liters of savings on rolling oil | • 52,000 m³ of water savings<br>• 5,600 metric tons of savings on materials such as fluoride, caustic soda and flocculants<br>• 300,000 liters of savings on rolling oil<br>• 420,000 m³ of savings on natural gas | • 64,000 m³ of water savings<br>• 3.4 thousand metric tons of savings on caustic soda<br>• More than 26,000 liters of savings on rolling oil<br>• 709,000 m³ of savings on natural gas |
| **Financial benefits from sustainability enhancement projects** | R$ 40.4 million | R$ 40.5 million | R$ 51.8 million | R$ 79.4 million |

*Note 1: The reduction of greenhouse gas (GHG) emissions does not include avoided emissions.*
*Note 2: The sustainability gains presented are annualized and not cumulative.*

# Progress on sustainability

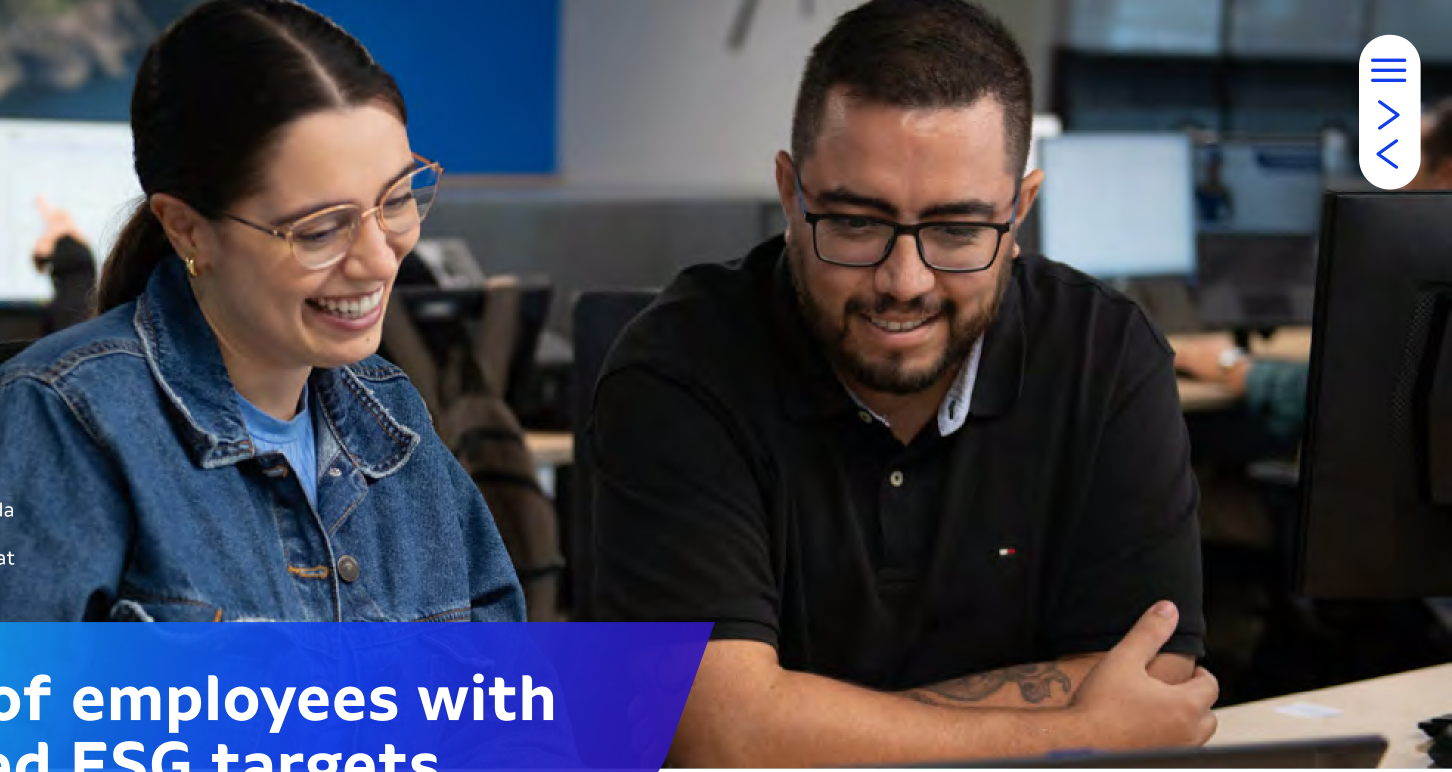
- 100% of employees with assigned ESG targets
- 2030 ESG Strategy and progress in 2023
- Sustainability across all strategic, managerial, and operational processes
- Sustainable Development Goals



*Legado das Águas*
Reserve (SP),
Reservas Votorantim

CBA's purpose extends far beyond its internal operations. The Company transforms lives using aluminum and aims to raise awareness of a better world among all stakeholders. Sustainability is the pathway to achieving this goal.

Through CBA's 2030 ESG Strategy, established in 2020 and updated in 2022 to include aspects related to the Energy Business, the Company has set commitments regarding environmental, social, and governance (ESG) issues. The strategy comprises 10 levers, with 5 focusing on environmental aspects, 2 on social concerns, and 3 on governance issues. These levers, in turn, have been translated into 15 programs and 33 targets. ESG Communication is a cross-cutting theme within the strategy, with its own assigned goal.



Cinthia de Pinho Miranda and Ricardo Augusto Magalhães, employees at Corporate Office (SP)

# 100% of employees with assigned ESG targets

To underscore the importance it attaches to sustainability, CBA has set corporate targets aligned with the 2030 ESG Strategy for all employees. Operational-level staff are eligible for the Company's Profit Sharing Program (PPR), where a committee of employees is elected at each site to set and track targets. ESG factors have been integrated into the PPR target framework. This program has also been discussed and agreed with relevant unions.

Professional and leadership roles are eligible for variable compensation, with part of the targets being corporate-wide and part being specific to certain challenges. Within the corporate targets, CBA has cascaded ESG targets tailored to the unique contexts of each department and the challenges listed in the ESG Strategy for the relevant year. In 2023, CBA introduced corporate targets relating to digital transformation culture and diversity. The ESG target for Senior Management measures the average of consolidated results. This practice is outlined in the Company's Compensation Policy. **GRI 2-19**

Furthermore, the Company has implemented a robust process for managing sustainability indicators and goals, with monthly oversight by the Executive Board and quarterly reporting to the Sustainability Committee. To enhance transparency in these processes, an internal business intelligence tool (Power BI) has been developed, providing detailed insights into all goals outlined in the 2030 ESG Strategy and the ESG variable compensation targets for the year.

# 2030 ESG Strategy


Participant in the Open Doors project at *Legado Verdes do Cerrado* Reserve (GO)

## Aspiration

CBA as a benchmark in sustainability.

## Mandate

Delivering an offering of low-carbon aluminum products and sustainable solutions in partnership with stakeholders, while developing the communities where the Company operates and positively influencing the end-to-end aluminum value chain.

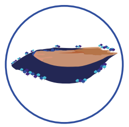
# 2030 ESG Strategy and progress in 2023

**SASB EM-MM-110a.2**

● Within expectations ● Below expectations ● In progress

| Pillar | Lever | Program | Commitment | Status 2023 | Progress | Related SDGs | Learn more in |
|---|---|---|---|---|---|---|---|
| Environmental | 1. Climate change | P1. Climate mitigation and adaptation | **1.1** Reduce $CO_2e$ emissions by 40% (on average for cast products, cradle-to-gate) | 65% ● | • 26.0% reduction in emissions from a 2019 baseline<br>• Refinery with the lowest emissions in the world, and Smelter emissions positioned in the 25th percentile<br>• Key initiatives supporting emissions reduction include: Smelter technology upgrade, increased recycled content and traceable externally sourced ingots | 13 CLIMATE ACTION | **Environmental protagonism**<br>• Climate change and CBA's role in decarbonization |
| | | | **1.2** Offer customers a carbon-neutral product range | 50% ● | • Issued second batch of CBA's carbon credits (REDD+ Cerrado) in partnership with Reservas Votorantim: more than 374,000 issued in total<br>• Expanded the Reflora program, setting aside 200 hectares for planting in the states of Minas Gerais, Goiás and São Paulo | 13 CLIMATE ACTION | **Environmental protagonism**<br>• Biodiversity and ecosystems services |
| | | | **1.3** Create a roadmap to becoming emissions neutral by 2050 | 49% ● | • Continued progress toward emissions reduction targets approved by the Science Based Targets initiative (SBTi)<br>• Research on carbon capture, utilization and storage (CCUS) | 13 CLIMATE ACTION | **Environmental protagonism**<br>• Climate change and CBA's role in decarbonization |
| | | | **1.4** Develop a climate change adaptation plan | 100% ● | • Mapped out climate-related risks and opportunities and developed in-depth adaptation plan, including the Energy Business and Alux (SP) | 13 CLIMATE ACTION | **Environmental protagonism**<br>• Climate change and CBA's role in decarbonization |
| | | | **1.5** Public Management Support in mitigating and adapting to climate change | 50% ● | • Launched Climate Action initiative and formalized a commitment to support two municipal governments using a checklist to identify key climate gaps and implement adaptation measures to address them | 13 CLIMATE ACTION; 17 PARTNERSHIPS FOR THE GOALS | **Environmental protagonism**<br>• Climate change and CBA's role in decarbonization |
| | 2. Renewable energy | P2. Renewable generation | **2.1** Source 100% of plants' power requirement from renewable sources | 100% ● | • Continue to source 100% of energy requirement from traceable, renewable sources | 7 AFFORDABLE AND CLEAN ENERGY | **Environmental protagonism**<br>• Renewable energy and energy efficiency |
| | | | **2.2** Diversify renewables capacity beyond hydro | 100% ● | • Started operation of wind farms with an installed capacity of 171.6 MW (10.3% of CBA's total installed capacity) | 7 AFFORDABLE AND CLEAN ENERGY; 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE | **About CBA**<br>• Energy Business |
| | | P3. Energy efficiency | **3.1** Reduce energy intensity (electric power and fuels) | ● | • Implemented 11 initiatives to reduce electricity and fuel consumption as part of CBA's Competitiveness Management program<br>• Implemented measures to improve energy management, such as energy consumption monitoring<br>• Completed two projects at the Alumínio plant (SP) that resulted in savings of approximately 4 MW in the year: installation of high-performance compressors in the Alumina Refinery and motor replacement and installation of new variable frequency drives in Casting and Refinery. | 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION | **Environmental protagonism**<br>• Renewable energy and energy efficiency<br>**Increasingly digital and innovative**<br>• Competitiveness management |

| Pillar | Lever | Program | Commitment | Status 2023 | Progress | Related SDGs | Learn more in |
|---|---|---|---|---|---|---|---|
| Environmental | 3. Circular aluminum | P4. Aluminum recycling | **4.1** Increase the ratio of aluminum recycled from industrial and end-of-life scrap at Metalex (SP) to 80% | 84% | • Started operation of scrap treatment line<br>• 66.9% recycled content in Metalex (SP) billets | 8 Decent work and economic growth; 9 Industry, innovation and infrastructure; 12 Responsible consumption and production | **Recycling and circular aluminum**<br>• Metalex |
| | | | **4.2** Increase the ratio of aluminum recycled from industrial and end-of-life scrap in billet production at the Alumínio (SP) plant to 50% | 38% | • 18.9% recycled content in billets produced at Alumínio (SP)<br>• Implemented initiatives to increase scrap consumption and efficiency at the Almínio plant, improving waste sorting by composition and reducing consumption of other raw materials, such as master alloys | 8 Decent work and economic growth; 9 Industry, innovation and infrastructure; 12 Responsible consumption and production | **Recycling and circular aluminum**<br>• Increased use of scrap |
| | | | **4.3** Increase the ratio of scrap collected from external sources for recycling | | • New Metals division responsible for setting strategy and implementing scrap sourcing plans across Brazil and globally<br>• Created first Processing & Recycling Center<br>• Over 95 thousand metric tonnes of external scrap fed into CBA's production processes | 1 No poverty; 8 Decent work and economic growth; 9 Industry, innovation and infrastructure; 10 Reduced inequalities; 12 Responsible consumption and production; 17 Partnerships for the goals | **Recycling and circular aluminum**<br>• Increased use of scrap<br>• Recycling and circular aluminum<br>• New Scrap Processing & Recycling Center |
| | | P5. Carton and flexible packaging recycling | **5.1** Recycle 40,000 metric tons of cartons and flexible packaging per year | | • CBA's breakthrough ReAl project will start operation in 2024, using a technology that enables flexible and carton packaging containing aluminum to be fully recycled<br>• 275.6 metric tons of polyalu supplied for ReAl processing | 1 No poverty; 8 Decent work and economic growth; 9 Industry, innovation and infrastructure; 10 Reduced inequalities; 12 Responsible consumption and production; 17 Partnerships for the goals | **Recycling and circular aluminum**<br>• ReAl project nears completion |
| | 4. Natural resources | P6. Water stewardship | **6.1** Reduce water withdrawals per metric ton of molten aluminum by 20% | 100% | • 26.5% reduction in the water intensity indicator ($m^3$ of water withdrawals/ton molten aluminum) from 2019 to 2023<br>• Conducted an assessment at Alumínio (SP) with the aim of evaluating the closed-loop system for implementing improvements in the coming years<br>• Reviewed and updated water stress study | 6 Clean water and sanitation; 12 Responsible consumption and production; 17 Partnerships for the goals | **Environmental protagonism**<br>• Water stewardship |
| | | | **6.2** Implement water stewardship initiatives to improve water security in partnership with stakeholders | | • Membership of watershed committees<br>• Reformulated Water Resilience Working Group into a Water Resilience Committee<br>• Scored B on CDP Water Security questionnaire for the second consecutive year | 6 Clean water and sanitation; 12 Responsible consumption and production; 17 Partnerships for the goals | **Environmental protagonism**<br>• Water stewardship |
| | | P7. Biodiversity | **7.1** Create/expand 1 hectare of ecological corridors for every 10 hectares of mined and reclaimed land | | • 6,864 seedlings planted and 61 hectares restored in Zona da Mata, Minas Gerais<br>• 200 hectares of third-party land selected for CBA's Reflora program | 11 Sustainable cities and communities; 15 Life on land | **Environmental protagonism**<br>• Biodiversity and ecosystems services |
| | | | **7.2** Have 10% of key suppliers and customers co-investing in forest and biodiversity programs | | • Developed a portfolio of projects in partnership with Reservas Votorantim<br>• Identified potential customers to work with in the coming years | 11 Sustainable cities and communities; 15 Life on land; 17 Partnerships for the goals | **Environmental protagonism**<br>• Biodiversity and ecosystems services |

| Pillar | Lever | Program | Commitment | Status 2023 | Progress | Related SDGs | Learn more in |
|---|---|---|---|---|---|---|---|
| Environmental | 5. Dam management  | P8. Dams | **8.1** Eliminate tailings disposal in dams | ● | • Palmital dam Filter Press Project (for drying bauxite residue) nearing completion, with start of operation scheduled for the first quarter of 2024<br>• Startup of first pilot mobile processing plant. The plant produces Tecno-solo (topsoil) that enables the Company to mine bauxite without generating tailings or requiring tailings dams | 11 Sustainable cities and communities; 12 Responsible consumption and production | **Environmental protagonism**<br>• Dam safety management |
| | | | **8.2** Send 100% of dry red mud residue for use in cement production and other applications | ● | • Palmital dam Filter Press Project (for drying bauxite residue) nearing completion, with start of operation scheduled for the first quarter of 2024<br>• Startup of first pilot mobile processing plant. The plant produces Tecno-solo (topsoil) that enables the Company to mine bauxite without generating tailings or requiring tailings dams | 9 Industry, innovation and infrastructure; 12 Responsible consumption and production | **Environmental protagonism**<br>• Dam safety management<br>• Waste and co-product management<br>• Biodiversity and ecosystem services |
| Social | 6. Valuing people  | P9. Diversity, equity and inclusion | **9.1** Achieve 25% gender diversity in leadership positions (managers or above) by 2025 | 87% ● | • 21.4% women in leadership positions, a year-on-year increase of 7%<br>• Re-registration of personal data with an 88% response rate from employees<br>• Organized second edition of Women's Circle | 5 Gender equality; 8 Decent work and economic growth; 10 Reduced inequalities | **Transforming lives**<br>• Employee engagement<br>• Diversity, equity and inclusion |
| | | P10. Health and safety | **10.1** Zero fatalities or severe injuries[1] in operations | ● | • Zero fatalities in the year<br>• 75% reduction in severe injuries in CBA's operations, with a single incident at the Alumínio (SP) plant | 3 Good health and well-being; 8 Decent work and economic growth | **Transforming lives**<br>• Employee engagement<br>• Safety is key |
| | | | **10.2** Achieve an injury frequency rate[2] lower than 1 | ● | • Lost-time and no-loss-time injury frequency rate of 1.76, down 22% year on year<br>• ISO 45001 certification of the Alumínio (SP) plant, covering 71% of CBA employees | 3 Good health and well-being; 8 Decent work and economic growth | **Transforming lives**<br>• Employee engagement<br>• Safety is key |
| | 7. Social legacy  | P11. Social legacy | **11.1** 100% Service Level Agreement (SLA) conformity in social programs | 100% ● | • A Social SLA of 112%, with projects exceeding planned deliverables for 2023<br>• 60 initiatives implemented in 28 municipalities, in an investment of R$ 9.7 million | 3 Good health and well-being; 4 Quality education; 5 Gender equality; 8 Decent work and economic growth; 10 Reduced inequalities; 13 Climate action; 17 Partnerships for the goals | **Transforming lives**<br>• Community relations |
| | | | **11.2** Secure 1-to-1 match funding from co-investors for corporate social investment | ● | • Identified potential social investment partners<br>• Initial preparations made for co-investing initiatives | 17 Partnerships for the goals | **Transforming lives**<br>• Community relations |
| | | | **11.3** Contribute to strengthening recycling cooperatives in Brazil | ● | • Structured a new program to include cooperatives in the recycling value chain<br>• Conducted assessment in the area surrounding CBA's Processing and Recycling Center (Araçariguama-SP) to identify potential partners for 2024 | 1 No poverty; 8 Decent work and economic growth; 10 Reduced inequalities; 17 Partnerships for the goals | **Recycling and circular aluminum**<br>• The social benefits of recycling |

*Note 1: Fatal accident or injury that generates permanent disability (level V and VI).*

*Nota 2: Base 1 million MHW. Includes employees and contractors.*

| Pillar | Lever | Program | Commitment | Status 2023 | Progress | Related SDGs | Learn more in |
|---|---|---|---|---|---|---|---|
| Governance | 8. Sustainable value chain  | P12. Sustainable procurement | **12.1** 100% of suppliers compliant with CBA's Sustainable Procurement Policy | 97% | • 97% of CBA suppliers screened against ESG criteria<br>• Organized a workshop with strategic partners<br>• Organized webinars for strategic partners to address topics such as greenhouse gas (GHG) emissions, waste management, and diversity, equity and inclusion | 12, 17 | **Governance best practices**<br>• Ethics and compliance<br>**Sustainable value chain**<br>• Supplier relations |
| | | | **12.2** Increase local sourcing from SMEs by 10% | 0% | • 8% from SME and local suppliers, which represent 8% of total spend<br>• Established priority areas for the Company's local supplier development program | 8, 10, 12, 17 | **Sustainable value chain**<br>• Supplier relations |
| | | P13. Sustainable solutions for customers | **13.1** 100% of billets produced at Metalex with greenhouse gas emissions lower than 1.4 $tCO_2e/t$ | 83% | • Achieved an emissions intensity of 2.28 $tCO_2e/t$ for billets produced at Metalex<br>• Commissioned new scrap treatment line<br>• Implemented initiatives to increase scrap consumption and efficiency by improving waste sorting by composition and reducing consumption of other raw materials, such as master alloys | 9, 12, 13 | **Recycling and circular aluminum**<br>• Metalex |
| | | | **13.2** Increase revenues from sustainable solutions for downstream customers | | • All projects assessed on sustainability across ESG aspects.<br>• A portfolio of 35 projects with attributes directly linked to sustainability, representing 44% of the project pipeline<br>• 5 customers using the Alennium label, along with Primora-branded profiles | 9, 12, 13, 17 | **Increasingly digital and innovative**<br>• Implementation and experimentation PODs<br>• Competitiveness management<br>**Sustainable value chain**<br>• Customer relationships |
| | 9. Ethics and transparency  | P14. Ethics and transparency | **14.1** Achieve an average rating of 4 for CBA's third-party-audited Compliance Program | 83% | • A score of 3.3 in 2021. Third-party audit conducted every three years.<br>• CBA has been named an ambassador of the Global Compact's 100% Transparency Movement to the manufacturing sector, and was recognized in the Movement's 1st Good Practices Awards, for a case study on whistleblowing hotline transparency | 16 | **Best governance practices**<br>• Ethics and compliance<br>**About CBA**<br>• Certification, ratings, indices, commitments and awards |
| | 10. ESG ownership  | P15. ESG ownership | **15.1** 100% of operations certified to the ASI Performance and Chain of Custody standards | 70% | • 70% of operations eligible for Aluminium Stewardship Initiative (ASI) certification<br>• First aluminum producer in Brazil to be certified under the new ASI Performance and Change of Custody standards<br>• Preparations underway for certification of additional eligible operations | 11, 12, 17 | **About CBA**<br>• Certification, ratings, indices, commitments and awards |
| | | | **15.2** 100% of employees with assigned ESG targets | 100% | • 100% of Aluminum and Energy business employees assigned ESG-linked variable compensation and Profit Sharing Program targets | 8, 12 | **Progress on sustainability**<br>• 100% of employees with assigned ESG targets |
| | | | **15.3** Apply ESG criteria in 100% of funding and investment analysis | 100% | • 100% of financial operations took ESG criteria into consideration. 43% of these operations captured resources with sustainable attributes and totaled R$657 million. | 12, 16, 17 | **Robust financial governance**<br>• Sustainable Finance |
| Transversal | ESG Communications  | ESG Communications | Achieve and maintain an "Excellent" RepTrak® score | 86% | Results as of December 2023:<br>• Reputation Score: 68.8 (medium)<br>• ESG Score: 70.3 (strong)<br>• Brand Score: 70.2 (strong) | 12, 16 | **Sustainable value chain**<br>• Communication with stakeholders |

Smelters employee,
Alumínio (SP)

# Sustainability across all strategic, managerial, and operational processes

Sustainability is the foundation underpinning CBA's initiatives and decisions. As such, it is factored in all strategic, managerial, and operational processes. One of the Company's key strategic goals in the previous cycle was cementing its leadership position in ESG. On an annual basis, CBA conducts a Strategic Planning (SP) exercise over a medium- and long-term horizon, in which projects are approved for execution in the upcoming years. Every three years, the Company organizes Strategy Dialogue with a long-term perspective involving sustainability issues.

At the managerial level, Strategic Planning is followed by feasibility assessments and project prioritization aligned with the established Strategy. Within the CAPEX (Engineering and Technology) team, in addition to measuring greenhouse gas emissions avoided and reduced, assessments of engineering projects and upgrades also consider impacts on natural resources and waste. Competitiveness Management exercises, focused on process improvement, take into account sustainability benefits such as reduced input use, waste, and emissions, increased safety, and positive governance impacts. As a way to cascade ESG benefits throughout the supply chain, co-engineering projects in collaboration with customers also assess benefits throughout the product life cycle.

Operationally, when implementing projects and initiatives (prioritized through the above processes), positive and negative impacts are tracked to ensure that these initiatives deliver the best possible ESG outcomes.

These aspects are also addressed in POD portfolio management, where ESG is among the prioritization levers in deciding which projects to explore.

By strategically integrating sustainability into all operations, CBA reaffirms its commitment to contributing to a more sustainable future, balancing economic growth with environmental preservation and positive social impact.

*Legado das Águas* Reserve, Reservas Votorantim (SP)

# Sustainable Development Goals

Every two years, CBA measures and assesses its alignment with the United Nations (UN) Sustainable Development Goals (SDGs) and the Company's contribution to building a fairer and more equal society for a better planet.

The most recent review, conducted in 2022, incorporated new initiatives such as: extension of ESG criteria to the supply chain through CBA's Sustainable Procurement Program; improved gender diversity at the operational and leadership levels; new parental policy; sustainable products co-developed with customers; certified products; 100% renewable energy and increased investment in R&D.

The assessment was conducted using SDG Action Manager, an online assessment tool developed by the Global Compact in collaboration with B Lab, a non-profit network that helps businesses take action to achieve the SDGs by 2030. Click here to access CBA's 2022 Annual Report for the results in the last review.

## CBA ESG Dialogues

In June, the Company organized an event, called CBA Dialogues – ESG, to present the Company's sustainability initiatives with a particular focus on decarbonization efforts. The event video received over 850 views, exceeding expected viewership on the Company's YouTube channel, where it was streamed.

CLICK HERE

**Check out the event coverage**

# Governance best practices



Nathalia de Aquino Passos,
Administrative assistent,
Itapissuma (PE) plant

# Corporate governance

CBA operates to the highest standards of corporate governance. Ethics, transparency, respect, and anti-corruption guide all its activities and relationships.

Through policies, standards, and procedures that are continuously reviewed and disseminated within and outside the company, the Company ensures transparency is upheld among employees, board members, shareholders, and business partners.

CBA believes that doing what is right is the way to achieve equality, sustainability, and business growth, while positively impacting society, the industry, and the regions where it operates.

**SDGs related to this chapter:**


**Material topics related to this chapter:**
- Ethics, integrity, and compliance
- Risk and crisis management
- Transparency and stakeholder engagement
- Sustainable supply chain

**Global Compact Principles addressed in this chapter:**

1. Businesses should support and respect the protection of internationally proclaimed human rights within their sphere of influence.
2. Businesses should make sure that they are not complicit in human rights abuses.
4. Businesses should uphold the elimination of all forms of forced and compulsory labor.
5. Businesses should uphold the effective abolition of child labor.
10. Businesses should work against corruption in all its forms, including extortion and bribery.

**2030 ESG Strategy levers related to this chapter:**

*Sustainable value chain*

*Ethics and transparency*

Juliana Graziela Farinacio Morais and Ana Bruna Justo Aranha, Metalex (SP) employees

## CHANGES TO THE COMPANY'S CORPORATE AND GOVERNANCE STRUCTURE

**GRI 2-9**

2023 saw several changes in the composition of CBA's senior leadership team. Within the Board of Directors, sitting members were reelected and Ricardo Rodrigues de Carvalho, the Company's former CEO, joined as a member. He was also appointed to seats on the Sustainability Committee and the Remuneration & People Committee.

At the Executive Board level, Luciano Francisco Alves, who previously served as Chief Financial (CFO) and Investor Relations Officer, stepped up as CEO of CBA. The leadership transition occurred as planned in the Company's long-term succession plan.

With these changes, Camila Abel Correia da Silva took on the role of CFO and Investor Relations Officer of the Company.

Existing members were also reappointed to the Finance, Sustainability, and Remuneration & People Committees—with the latter now including João Zeferino Ferreira Velloso Filho.

Another structural change was announced at the end of 2023 in the Company's Sustainability team. Leandro Faria, formerly Chief Sustainability Officer and integrating the Human and Organizational Development (HOD), Health, Safety & Environment (HSE), Communication and Sustainability department, assumed the position of Chief Sustainability, Safety and Environment Officer. In this new capacity, he reports directly to the CEO, underscoring the strategic importance of sustainability for the Company.

With the establishment of an independent Sustainability division, the former HOD, HSE, Communication, and Sustainability department was restructured and renamed as the People and Culture department, which now includes HOD, Communication, and Management Systems.

CBA Leadership,
Corporate Office (SP)

*Legado das Águas* Reserve (SP), Reservas Votorantim

## Governance structures

**GRI 2-9, 2-12**

The Company's highest decision-making body is the **Shareholders' Meeting**. It approves financial statements, appoints members to the Board of Directors, and proposes changes to the Company's Bylaws.

CBA's governance structure also includes a **Board of Directors** (BoD), a governance body responsible for setting and validating the Company's strategy. The Board has seven members, three of them independent, who meet annually or as often as required in the interests of the Company. Under CBA's Bylaws, the BoD is tasked with setting the overall direction of the Company's business—its mission, strategic objectives, and guidelines—including matters related to sustainable development. It is also responsible for appointing members to the Executive Board.

**Four committees advise the Board:**

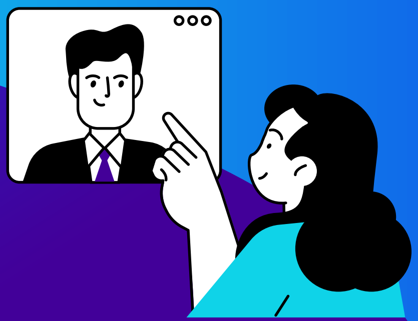
- **Sustainability Committee:** comprising four members—two of whom are independent—who meet four times per year. Committee members provide guidance to the Board of Directors on matters linked to the Company's 2030 ESG Strategy. They hold discussions on local, global, and emerging issues and support CBA's engagement around issues such as climate change, biodiversity, energy transition, circular aluminum, and corporate social responsibility. The Committee also strategically tracks progress toward the goals outlined in the Company's 2030 ESG Strategy.
- **Statutory Audit Committee:** issues opinions on the engagement and performance of independent auditors; reviews and oversees the preparation and issuing of quarterly information and financial statements; audits internal controls and risk and crisis management; oversees internal audit activities and procedures; and assesses and approves the Company's annual reports. This Committee comprises three members, all of whom are independent and appointed based on relevance and expertise criteria.
- **Finance Committee:** responsible for reviewing economic scenarios and trends; monitoring the Company's budget and investment plan; evaluating merger and acquisition (M&A) transactions; analyzing the Company's capital structure; planning fundraising and indebtedness limits; monitoring financial risks and controls; among other related duties. The Finance Committee has three members, including one independent member.
- **People & Remuneration Committee:** advises the Board of Directors on matters related to executive and committees members remuneration; nominates candidates to the Board of Directors; and oversees talent management matters. This Committee is composed of three members, two of whom are independent.


CBA's governance structure also includes an Executive Board responsible for managing and representing the Company in its relationships with stakeholders. It sets out strategic guidance and implements resolutions taken by the Board. The Executive Board comprises nine executives who meet on a weekly basis and it's advised by nine Executive Committees: Dams, Conduct, Data Protection, Diversity, Crisis, Sustainable Procurement, Innovation, Water Resilience, and Climate Change.

In 2023, the Company restructured some of its executive committees: the Executive Sustainability Committee was split into two different strategic committees—a Climate Change Committee and a Water Resilience Committee—to better support the Company's business goals. The restructuring was based on the rationale that the Sustainability Committee, linked to the Board of Directors (as described above), already addresses ESG issues comprehensively.

The composition of the Board of Directors, the Executive Board and their advisory committees is available in the Additional Disclosures Supplement to this report and on the Company's Investor Relations website.

Fernanda Ferreira Borges and Cinthia de Pinho Miranda, Corporate Office (SP) employees

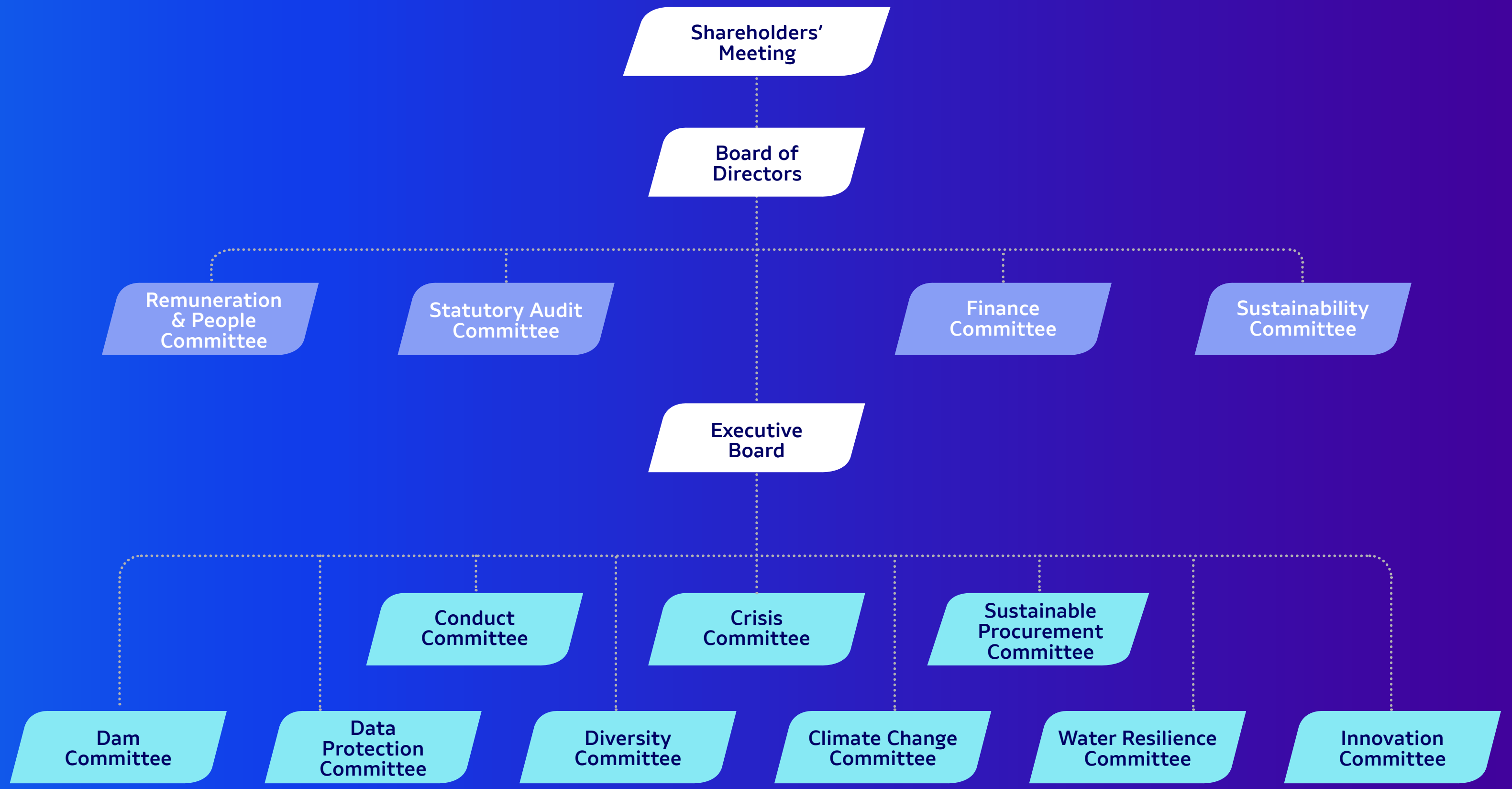


## Training in corporate governance

In 2023, all General Managers, Managers, and Coordinators underwent training on corporate governance at CBA, with 100% attendance at the four sessions held. The training covered key governance topics such as governance bodies and structures, related parties, and management workflows.

A total of
**89**
**people**
were trained

## Organizational structure supported by independent committees



Vivian Correa Neves, General Manager Legal, Business and Governance, Corporate Office (SP)

# Sustainability governance

**GRI 2-13, 2-17, TNFD**

At CBA, sustainability permeates all levels of governance including the Board of Directors (BoD), the Sustainability Committee and the Executive Board and its supporting committees. Governance bodies regularly discuss matters addressed in the Company's 2030 ESG Strategy, such as climate change, biodiversity, natural resources, circular aluminum, diversity, equity and inclusion, health and safety, and sustainable sourcing.

The Sustainability Committee holds quarterly meetings and, among other responsibilities, addresses sustainability-related matters and provides the Board with the insights and experience necessary for decision-making on sustainable development topics.

Within both the Sustainability Committee and the Board of Directors, internal and external subject-matter experts are invited to participate in ordinary meetings, providing valuable sustainability inputs into BoD discussions.

All committees advising the Board must include at least one director. The matters discussed in committee meetings are conveyed by participants to the other Board members at all ordinary meetings, ensuring the matters discussed in committee meetings are factored in BoD decisions. In addition to these discussions, committee coordinators may be invited to attend BoD meetings depending on the subject under discussion. The frequency of the meetings varies according to the diversity of activies of each advisory committee.

# Ethics and compliance

**GRI 2-23, 2-24, 2-25, 3-3 (Ethics, integrity, and compliance, and Transparency and stakeholder engagement), SASB EM-MM-510a.1**

Integrity is among CBA's core values, and includes related values such as respect, ethical conduct, embracing diversity, and doing the right thing. To ensure the Company upholds the highest standards of conduct, CBA has established a set of standards and policies including a Code of Conduct, a Supplier Code of Conduct, a Human Right Policy (learn more on page 72), an Anti-Corruption Policy, a Competition Policy, and Management Standards on Donations and Sponsorships and Dealings with Government Officials.

To embed these principles into its culture, CBA is supported by the Board of Directors and its advisory committees, such as the Statutory Audit Committee, the Executive Board, middle management, and all employees in upholding best practices and adopting new mindsets.

CLICK HERE
Learn more about CBA's Compliance Program and policies in the Additional Disclosures Supplement

The Compliance team assists CBA in building trust and demonstrating transparency by disseminating the behaviors outlined in corporate standards through different approaches:

- **Communications and training:** monthly communication and mandatory training sessions for both general and specific audiences reinforce best practices and integrity guidelines.
- **Due diligence procedures:** integrity due diligence provides guidance to stakeholders in their interactions with suppliers, customers, banks, insurers, and land owners.
- **Monitoring and controls:** these are designed to ensure integrity and transparency in business and the effectiveness of the Compliance Program.
- **Integrity Risk Assessments:** evaluations of CBA and its subsidiaries gauge the maturity of integrity initiatives aimed at mitigating exposure to reputational risks and maintaining the Company's reputation for integrity in the market.


From left to right: Fabrício Rissato, Mariana Godoy and Paula Cidale, Corporate Office (SP) employees

## *DigitALL Compliance*

Technology and innovation are also embedded in CBA's governance systems. In 2023, the Company launched the **+Integrity App**, available on the internal portal MaisCBA and Microsoft Teams, to facilitate and streamline employees' daily tasks. Developed internally in collaboration with the Data Analytics team, this tool supports requests for integrity due diligence and provides a clear view of the status and outcomes of compliance checks.

Concurrently, the company implemented new features for the system, such as Power BI for managing integrity due diligence and compliance metrics. The app now features essential information and data compiled from integrity due diligence – study carried out according to the Compliance team's internal evaluation criteria –, besides enabling the reduction of indicators in the area.

Another new launch in the year was **+LegALL**, a contract drafting and management automation system. This tool streamlines the entire contract workflow, from creation to signed versions. The tool streamlines workflows and improves data security, with other features including automatic completion of standardized templates pre-approved by the Legal area.

## CBA as ambassador for the 100% Transparency Movement

The Transparency 100% Movement, an initiative led by the Global Compact Network Brazil, aims to encourage and empower companies to exceed legal requirements and improve their corporate transparency and integrity mechanisms. In 2021, CBA was among the first companies to join the Movement and has served as an ambassador since the previous year, representing the industrial sector.

**With over**

**140**

**participating companies, only**

**3**

**hold ambassador status.**

CLICK HERE

**CBA's 100% Transparency Moviment website provides updates on the Company's progress towards achieving the five targets**

**The initiative has set five targets to be achieved by 2030:**

**TARGET 1**

**100%**

**transparency**
in dealings with government officials

**TARGET 2**

**100%**

**integrity**
in top management compensation

**TARGET 3**

**100%**

**of the high-risk**
value chain trained on integrity

**TARGET 4**

**100%**

**transparent**
compliance and governance structure

**TARGET 5**

**100%**

**transparent**
whistleblowing channels

**In 2023, the Company was recognized in the inaugural Transparency 100% Movement Best Practices Award by the Global Compact. The accolade recognized transparency and practices in addressing reports received through CBA's Ethics Hotline, in line with Target 5.**

CLICK HERE

**Learn more about the Company's whistleblowing hotline on page 67**

## TRAINING FOR INTERNAL AND EXTERNAL STAKEHOLDERS

GRI 2-24, 205-2

Training is one of the primary tools CBA uses to disseminate standards on integrity and transparency. In 2023, new training initiatives were added to the Company's calendar, targeting employees, contractors, and suppliers:

- **Mentoring Program:** geared to employees appointed as Mentors, this training addressed CBA's guidelines, principles, and values to ensure that participants uphold best compliance practices while serving as mentors for others. A total of 115 employees participated in this program.

- **Compliance Program for Contractors:** carried out at Alumínio, Metalex, Alux, and Itapissuma, this training program covered guidelines, principles, and values. A total of 2,155 contractors were trained.

- **Supplier Code of Conduct:** aimed at suppliers identified by the Compliance, Procurement, and Sustainability departments, this program explained CBA's expectations for ethical and transparent conduct in business relationships. A total of 117 suppliers attended training.

- **Antitrust – Membership of External Committees and Trade Associations:** mandatory for individuals in strategic departments, trade associations, or committees. An external consultancy was engaged to help strengthen CBA's antitrust practices. A total of 294 employees attended training.

- **Harassment:** in-person training for employees and mandatory online training for supervisors. This training addresses integrity practices and the importance of the Ethics Hotline to report violations or other concerns. A total of 510 people were trained.

- **Insider trading:** training provided to the Executive Board and members of the Audit Committee to address insider trading issues, the rules of the Brazilian Securities Commission (CVM), and best practices. The training was attended by 93% of the target audience.

From left to right: Maurício Prestes, Oseias Assunção and Yago Gonçalves, Metalex (SP) employees

**In addition to these new initiatives, CBA maintained other training programs already featured in the Company's training system:**

**Code of Conduct:**
this online training course is mandatory for all newly hired employees, and refresher training is provided every two years. The training content addresses guidelines on integrity, permitted conduct, and CBA's principles and values.

This training was attended by **97%** **of active employees.**

**Anti-Corruption Game:**
mandatory for specific audiences (the most exposed positions and departments), this interactive training addresses the guidelines outlined in CBA's Anti-Corruption Policy and Code of Conduct.

This training was attended by **96%** **of the target audience.**

**Dealings with Government Officials:**
mandatory for employees and third parties representing CBA to government agencies.

This training was attended by **73%** **of the target audience.**

**Antitrust:**
also mandatory for specific audiences, this interactive training covers the guidelines contained in CBA's Antitrust Policy, Antitrust Manual, and Code of Conduct.

This training was attended by **97%** **of the target audience.**

From left to right:
Fábio do Nascimento Oliveira and Heitor Santos, Corporate Office (SP)

Talita Queiroz Constante, Production Supervisor, Metalex (SP)

## ANTI-CORRUPTION

**GRI 205-1, 205-2, 205-3**

CBA has a robust anti-corruption framework comprising internal policies, monitoring protocols, communications strategies, and training initiatives. These tools are specifically designed for preventing corruption and assessing related risks.

CBA's Anti-Corruption Policy is the Company's core document on anti-corruption. Every employee is required to read and apply the rules and controls outlined in the Policy, and other CBA procedures published on the Brazilian Security Commission (CVM) website via CBA's reference form, and to report any misconduct via the appropriate channels.

In 2023, the company broadened its anti-corruption efforts by extending training to contractors, suppliers, and specific partners such as customs brokers. Within governance bodies, 69% of members underwent anti-corruption training. Additionally, the RIG (Government Interaction Records) platform and the Government Relations program were updated to enhance integrity and transparency in interactions with governmental bodies and officials. This aligns with Target 1 of the 100% Transparency Movement (achieve 100% transparency in dealings with government officials).

### Conflicts of interest

**GRI 2-15**

In 2023, CBA conducted an assessment of Conflict-of-Interest Declarations submitted by employees. These declarations became mandatory for all internal stakeholders in 2022—including board members, committee members, executives, and employees. Reported conflict-of-interest information is updated on an annual basis as needed.

CLICK HERE

Learn more in the Additional Disclosures Supplement

CBA underwent a Risk Assessment and Compliance Maturity Assessment in 2021, aimed at identifying key integrity risks and areas for improvement, thus bolstering the Company's Compliance Program. Of the 67 action plans developed during the assessment, only four remain outstanding and will be implemented over the coming year. The following Risk Assessment is scheduled for 2024, following the three-year interval set by CBA. No instances of corruption have been confirmed within the Company over the past three years.

Of the **2,641 declarations** submitted so far, **95%** have been reviewed.

Conflict-of-interest declarations are managed on an internal platform, and the responses provided are reviewed by the Compliance team—with support as needed from other departments—following the review and approval workflow outlined in the Conflict of Interest Management Standard issued in 2022.

## ETHICS HOTLINE

**GRI 2-25, 2-26**

Conduct that violates the principles and guidelines of the Company's Code of Conduct or laws, regulations, and other internal policies must be reported to CBA's Ethics Hotline.

CBA's official whistleblowing channel is available to all stakeholders, including employees, contractors, suppliers, customers, business partners, and members of the communities where the Company operates. Contact methods are widely publicized on CBA's website, intranet, internal TV, and the Company's Workplace platform.

The Ethics Hotline is an independent channel managed by a third-party firm under the oversight of CBA's Conduct Committee. It is available 24/7, via phone or internet, which receives the reports, ensures the information is kept confidential and makes sure that whistleblowers are kept anonymous if they so choose and are not retaliated against. Whistleblowers can track the status of their reports via a case number from the beginning of the investigation until the case is closed in the system.

All reports are handled transparently and impartially, thoroughly investigated, and addressed by the Conduct Committee, which comprises four permanent members (three of whom are from the Executive Board, including the CEO) and three guest members. Aggregated whistleblowing information is periodically reported to the Statutory Audit Committee.

In 2022, CBA engaged an audit firm to assess the Ethics Hotline processes. The findings from the audit indicated that the majority (91%) of best practices in internal controls were partially or fully in place, with only a few (9%) areas for improvement identified. These opportunities were addressed throughout 2023 to further enhance the Compliance Program.

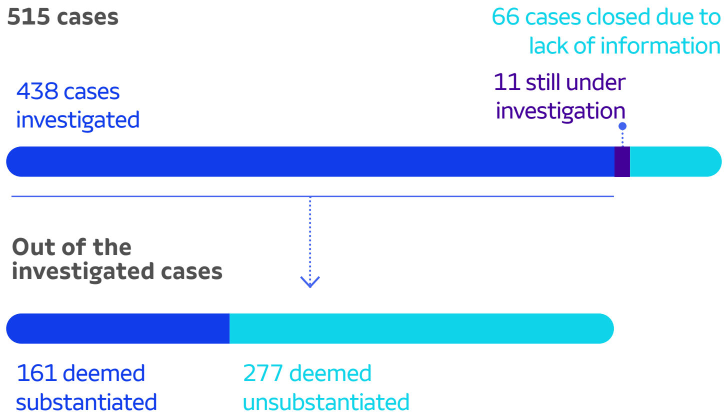
All information received through the channel is used to improve the Compliance Program through employee training and awareness-raising on preventing potential Code of Conduct violations.

In 2023, case numbers increased as a direct result of improved communication about the channel, preventive efforts throughout 2022, and the replacement, in September 2022, of the reporting system to facilitate user access.

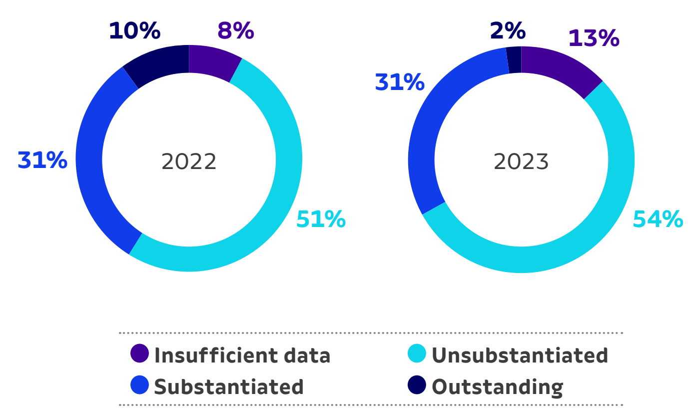
Samanta do Carmo Butieri, Production operator, Metalex (SP)

**Ethics Hotline**
The Ethics Hotline can be reached by calling 0800 300 4535 or on the dedicated website, available in Portuguese and English

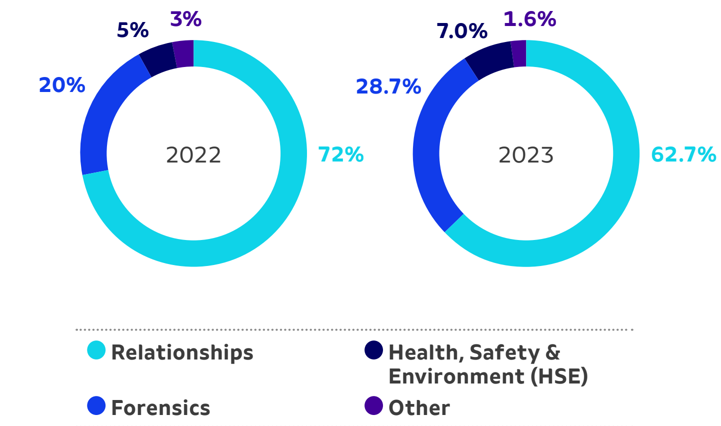
## Reports received via CBA's Ethics Hotline in 2023:

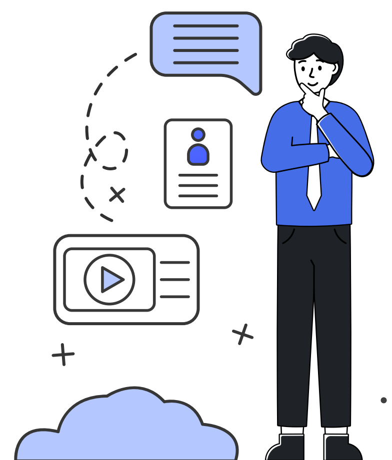



### Report outcomes

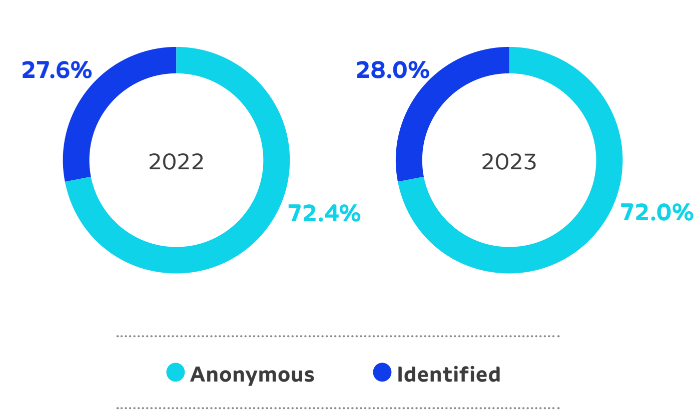



### Cases by topic

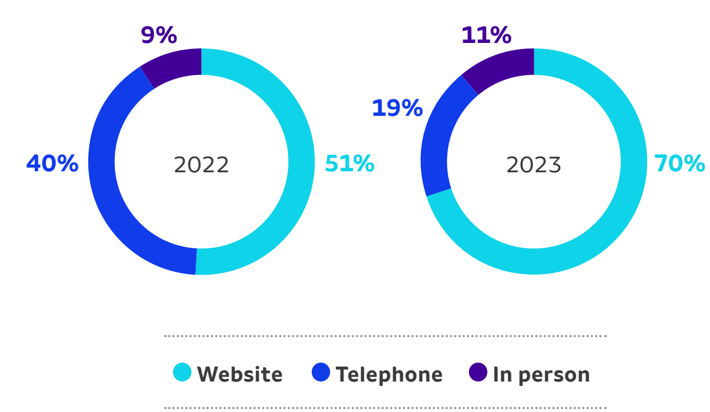


### Anonymity




### Reporting channel




CLICK HERE

Learn more about CBA's Ethics Line's activities on the **CBA's Transparency Movement** website

## *COMPLIANCE WEEK*

This year's edition of Compliance Week, an annual event dedicated to compliance issues, was organized around the theme "DigitALL Compliance – Ethical Conduct in the Information Age." The fully online event, held from October 2 to 6, featured a range of activities and lectures by industry experts.

Throughout the week, participants attended lectures by two technology and integrity experts: Patricia Peck, CEO and founding partner of Peck Advogados, and Reynaldo Goto, Compliance Officer at BRF. The event additionally included a roundtable discussion with Chief Legal, Governance and Compliance Officer Renato Maia; IT Manager Luis Carlos Maldaner; and Innovation and Digital Manager Maria Eugenia Meireles.

Compliance Week also offered interactive experiences, such as a "Fact or Fake" quiz on technology and integrity topics, and communications about machine learning. It was also during this week that CBA officially launched its **+Integrity App**.

Larissa Lara Fernandes, HOD analist, Alumínio (SP) plant

## PRIVACY PROGRAM

CBA has a Privacy Program aimed at protecting the personal data of all stakeholders, in compliance with the Brazilian General Data Protection Regulation (BR GDPR). In 2023, the Privacy Program was revitalized to achieve greater internal visibility. The initiative received ongoing support from CBA's Data Protection Committee, first established in 2021. The Committee, composed of the DPO and representatives from Compliance, Information Security, and all CBA business units, is responsible for addressing privacy matters, providing member training, offering guidance, and sharing best practices. The committee convenes at least three times a year, and internal discussions are periodically reported on to the senior leadership team.

A working group involving representatives from the Privacy, Information Security, and Risk teams was also introduced to enhance cross-department synergies in addressing material issues within the Company and develop supporting materials for the Data Protection Program, such as Gap Analyses, internal policies and standards, new security measures, and overall enhancements.

Throughout the year, CBA also reviewed its three Privacy Policies and contractual clauses and enhanced communications related to data protection and information security.

**6,187 employees** completed Data Protection E-learning, available on e-CBA since 2021.

In 2023, **94%** of employees attended training.


Michele da Cruz Silva, Production assistant, Sorocaba (SP) facility


Barbara Carolini Oliveira Ferreira, Process engineer, Alux (SP)

## PROGRESS ON "KNOW YOUR CUSTOMER" (KYC)

**GRI 3-3 (Ethics, integrity, and compliance)**

In 2022, CBA launched a Know Your Client (KYC) program aimed at assessing integrity risks relating to business partners and building transparency and trust in relationships with business partners. This year, the Company conducted its biannual assessment of active customers. Workflow processes were finalized, and action plans were developed to mitigate identified risks.

New features introduced in 2023 included integrity due diligence when onboarding new customers and ESG risk assessments for customers applying for the Alennium label, which certifies to the low-carbon aluminum produced by CBA. These initiatives, developed collaboratively with the Commercial, Compliance, and Sustainability teams, are designed to cultivate enduring partnerships aligned with CBA's principles and values.

## A FOCUS ON RECYCLING

Recycling was a key front in CBA's compliance efforts in the year. To ensure the highest standards of governance are observed in this segment, CBA implemented compliance action plans including a newly introduced procedure for onboarding scrap suppliers.

Due diligence is conducted on all new business partners to enhance integrity in CBA's relationships and foster a culture of transparency throughout the value chain.

In addition, CBA provided compliance training with a focus on integrity guidelines related to recycling to equip employees to identify potential risks in their activities and implement effective mitigation measures. Looking ahead to 2024, CBA plans to expand, strengthen, and refine its efforts in this area.

## HUMAN RIGHTS

GRI 2-23, 408-1, 409-1

Human rights are a fundamental aspect of CBA's operations and is governed by a dedicated policy that consolidates all related Company guidelines and commitments.

Launched in 2022, CBA's Human Rights Policy draws on internationally recognized commitments and treaties as well as applicable laws and regulations, including:

- The International Bill of Human Rights (which incorporates the Universal Declaration of Human Rights and the UN covenants on Civil and Political Rights and Economic, Social, and Cultural Rights)
- International Labor Organization (ILO) Conventions on Fundamental Principles and Rights at Work and on biological diversity, the environment and climate change
- United Nations Declaration on the Rights of Indigenous People
- ILO Convention 169 – Indigenous and Tribal People
- International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families
- UN Framework on Business and Human Rights
- UN Sustainable Development Goals (SDGs)
- Charter on Children and Adolescents – Federal Law No. 8,609 of 07/13/19900
- Brazilian General Data Protection Regulation – Federal Law No. 13,709 of 08/14/2018
- Certification in Aluminium Stewardship Initiative (ASI) Standards and ISOs 14001 and 45001

The Policy is built upon the following pillars:

- Free speech and freedom of association
- No-tolerance stance on discrimination and abuse
- Workplace conditions
- Physical and mental safety and integrity
- Valuing diversity, equity, and inclusion and equal rights
- Community and society
- Ethics, integrity, and compliance
- Privacy and transparency
- Human rights due diligence

CBA has conducted periodic human rights due diligence since 2019, including on third parties and local communities. Through these assessments, CBA seeks to continuously evolve on human rights management by identifying, developing, and implementing detective, preventive, and mitigating controls. In 2023, the scope of due diligence was expanded to include Alux plant and Barro Alto mining site, alongside consultations and engagement with external stakeholders through visits and face-to-face interviews. Since the human rights due diligence process was first introduced, no human rights violations have been found in CBA's operations, and no areas of conflict with indigenous and traditional communities have been identified. Any identified risks and impacts are addressed through action plans. **CBA-16, SASB EM-MM-210a.3**

## 2023 due diligence

**9** **sites** assessed

**23** **human rights** minority groups considered

**3** **target** priority audiences for sampling: surrounding communities, truck drivers, and women contractors

CLICK HERE

**For further information about CBA's human rights practices, see the Additional Disclosures Supplement**

Jaqueline Sabino, Production operator, Metalex (SP)

CBA's suppliers are also assessed on human rights criteria. During the onboarding process, all new partners are assessed on integrity, including aspects related to forced or slave labor practices and compliance with legal and technical requirements. Suppliers are required to complete a due diligence questionnaire and accept CBA's Supplier Code of Conduct or submit their own Code of Conduct for review (learn more on pages 78 to 81).

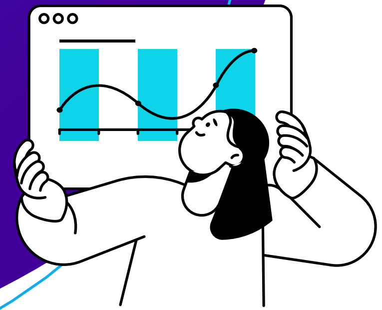
Every two years, a comprehensive supplier assessment is conducted to identify new risks and implement appropriate measures. No instances of forced or slave labor practices were identified in the year, nor is there a significant risk for such incidents or child labor within the Company's operations or among its business partners. **GRI 408-1, 409-1, SASB EM-MM-210a.3**

# Risk and crisis management

**GRI 3-3 (Risk and crisis management)**

CBA has an established Risk Management Policy that sets out guidelines and defines the roles and responsibilities of those involved. The Company's risk management practices include assessments of strategic, financial, operational, socio-environmental, governance, and compliance risks, both internal and external. The potential impacts from identified risks are assessed across multiple dimensions:

- Financial
- Reputational
- Environment
- Health and safety
- Information security
- Operation
- Social and human rights
- Legal and regulatory



As part of the risk management process, action plans are developed to mitigate risks. Mitigation plans are formulated by department risk owners and are overseen by the Risk Management team. Key Risk Indicators (KRIs), the Company's primary tool for gauging the effectiveness of mitigation measures, were implemented for CBA's main risks in 2022, helping to track the operation of key controls and exposure to risks. Each indicator has a defined frequency of measurement, and all KRIs are monthly reported to the Board.

The Risk Management team's most significant activities in 2023 included risk assessments and implementation of 13 KRIs, covering areas such as Mining, Asset Management, Market Risks, Information Security, Environment, Itapissuma (PE) Maintenance, and People and Culture. Implementing risk indicators is an ongoing process, with new KRIs planned for 2024.

The Company has worked to enhance Business Continuity Management by implementing a General Business Continuity Plan and eight Operational Business Continuity Plans for the Primary and Downstream Businesses in Alumínio (SP), alongside training for those involved in implementing the plans and a drill in the Downstream segment in Alumínio (SP).

CBA has a Business Continuity Management Policy that additionally covers crisis management. One of the primary objectives in crisis management is to safeguard the reputation and resilience of the business by ensuring:

- **Efficient and effective crisis management, minimizing and/or mitigating negative impacts**
- **Effective, agile, and transparent communication with stakeholders involved and/or impacted**
- **Lessons are drawn from crisis management incidents to support continuous improvement**

Crisis management processes and Crisis Committees are implemented in response to any events that could adversely affect the Company's reputation, operations, and business.

In 2024, a work plan will be developed for tracking information related to sustainability risks and opportunities, working with other departments within the Company.

# Sustainable value chain

> Engagement with the value chain
> Supplier relations
> Customer relationships

Miraí (MG) mining site

**SDGs related to this chapter**


**Material topics related to this chapter:**
- **Sustainable supply chain**
- **Transparency and stakeholder engagement**
- **Climate strategy**

**2030 ESG Strategy levers related to this chapter:**

*Sustainable value chain*

*Climate change*

# Engagement with the value chain

**GRI 2-29, 3-3 (Transparency and stakeholder engagement)**

CBA recognizes its significant and influential role throughout the various links of its value chain, which includes employees, contractors, customers, suppliers, investors, the media, government authorities, and other stakeholders.

Accordingly, CBA implements initiatives tailored for each stakeholder group to foster progress and mutual benefits across diverse fronts. In addition to initiatives to improve operating performance, drive innovation, and advance co-engineering projects, CBA seeks to enhance sustainability practices among its partners through initiatives such as its Sustainable Procurement Program and Alennium label.

By fostering close and transparent relationships through collaborative initiatives and effective communication, CBA has delivered on its vision of partnership and shared responsibility across all levels of interaction.

The following section outlines CBA's initiatives targeting suppliers and customers. Communities and employee relations are detailed in the chapter "Transforming lives", while investor relations are discussed in the chapter "Robust financial governance".

## Communication with stakeholders

Communication campaigns for product launches and institutional announcements are run through various channels, such as newspapers, magazines, online platforms, as well as CBA's official channels, internal (such as Workplace) and external (such as CBA's corporate website, investor relations website, LinkedIn, and Instagram). Beyond these channels, CBA hosts specialized events such as the CBA Day for investors and CBA Dialogues for customers, partners, and the broader market. In all communications, CBA ensures that stakeholders can voice questions, comments, and feedback.

To gauge stakeholder engagement with Company communications, in 2023 CBA monitored reputation metrics on a monthly basis, identifying both positive aspects and areas for improvement. At the end of the year, CBA also conducted a reputation survey among suppliers and communities to assess their perception of the CBA brand, identify areas for improvement, and tailor the language used, and topics discussed accordingly.

## Active suppliers

**GRI 2-6, 204-1**

CBA is served by over **6,000** suppliers, ranging from small local partners to large industries, broken down as follows:

**8%**
**local suppliers**[1]

**88%**
**other domestic suppliers**

**4%**
**international suppliers**
(Americas, Europe, and Asia)

Approximately **R$ 6 billion** in payments were made to these suppliers during the year, across various categories: services, CAPEX, inputs, logistics, maintenance, repairs, and operations.

In 2023, Energy Business suppliers were integrated into CBA's enterprise-wide supplier management systems.

[1]*Suppliers located in the municipalities in which CBA has units and in cities neighboring these regions. It includes Barro Alto (GO) and the* Legado Verdes do Cerrado *(GO) reserve.*

# Supplier relations

**GRI 2-6, 2-23, 2-24, 3-3 (Sustainable supply chain)**

In 2023, CBA's Supply Chain and Procurement teams were faced with challenges stemming from geopolitical issues that resulted in supply chain disruptions. The Russia-Ukraine conflict, the Israel-Hamas clashes, and China's economic slowdown were among the factors affecting the global aluminum market.

Through strategic sourcing and logistics partnerships, and investment in technology, the Company found solutions to sustain inventory levels and make its supply chain more resilient. Formalizing longer-term contracts and selecting multiple suppliers from less risky countries were some of the measures that have yielded positive results.

On the upside, the lingering impacts in previous years from the Covid-19 pandemic were noticeably lessened in 2023. Since the second quarter, the prices of several commodities relevant to CBA's business have been declining, as have inflation rates both in Brazil and globally.

In this operating context, throughout the year CBA focused on three main fronts in its supply chain efforts: sustainability, resilience, and digitalization. These initiatives align with the Company's strategy and are responsive to major global supply chain trends.

CBA's supply chain management practices are guided by the Company's Sustainable Procurement Policy and Supplier Code of Conduct. These practices include supplier screening via the Linkana platform and ongoing monitoring of the validity of supplier documentation submitted during screening. In addition to compliance assessments for new suppliers, all active suppliers are periodically assessed to update risk information and ensure these relationships are continuously monitored. All CBA contracts include compliance clauses to ensure that partners adhere to and are committed to best practices in integrity and transparency.

# SUSTAINABLE PROCUREMENT PROGRAM

GRI 3-3 (Sustainable supply chain and Climate strategy)

To help catalyze societal transformation, CBA seeks to cascade its environmental, social, and governance practices throughout the value chain, including suppliers. CBA's Sustainable Procurement Program was developed in 2020 and rolled out beginning in 2021, as a tool to position CBA as an industry leader in sustainable supply chain management.

## Aspiration

CBA as a benchmark in sustainable supply chain management.

## Mandate

Being among the best-performing companies for sustainable procurement, ensuring CBA's competitiveness and leveraging the positive impact on business and people.

See CBA's Sustainable Procurement Policy here. The program materials, developed under ESG principles, provide recommendations on aspects such as energy and water management, tackling climate change, providing decent working conditions and compliance with labor rights, protecting workers' and communities' health and safety, fostering diversity, equity, and inclusion, cultivating fair and transparent relationships, and adhering to ethics and integrity standards. Under the policy, assessments, due diligences, and audits are carried out to monitor compliance with these guidelines.

**Drawing on CBA's Sustainable Procurement Policy, which sets out the commitments CBA has undertaken and extends them to its suppliers, the Program comprises seven different component projects:**

**Program progress in 2023:**
Throughout the year, there were significant advancements across all projects within its Sustainable Procurement Program, with several notable highlights:

- **Project 1: Sustainable Procurement Policy and Strategy**
  CBA has best-practice governance processes for overseeing initiatives within the Program. Approved in 2020 by the Board of Directors, it has multidisciplinary teams that are responsible for monitoring strategic, tactical and operational aspects related to the implementation of the Program.

  The program's governance structure includes a team comprising representatives from multiple departments, which meet weekly, have monthly alignment sessions with the sponsor and bi-monthly meetings of the Sustainable Procurement Committee. Program progress and gaps are presented quarterly to the Executive Board and annually to the Sustainability Committee.

- **Project 2: Supplier Screening and Monitoring**
  GRI 308-1, 308-2, 414-1, 414-2, CBA-36
  **Screening against ESG criteria:** 97% of the extended supplier base underwent assessments against ESG criteria. This process assesses suppliers' maturity in sustainable practices by having them complete forms and provide supporting evidence, which are then reviewed and evaluated. The Company then identifies areas for improvement and enhances collaboration for collective development, engaging the entire supply chain. As part of this project, CBA extended ESG screening to the suppliers of Alux and Metalex in 2023.

  In addition, in the conventional onboarding process, all suppliers are assessed on social and environmental issues, across aspects such as environmental licensing, human rights, ethics, and compliance. These criteria are nonnegotiable and noncompliant suppliers may be disbarred from doing business with the Company. In 2022 and 2023, 100% of new suppliers were screened using these criteria. No evaluated suppliers were found to have adverse social and environmental impacts.

  **Supplier monitoring: Performance Dashboard**
  In 2023, CBA introduced a Supplier Performance Dashboard to track the monthly performance of its strategic suppliers across various aspects, including ESG, financial health, document management, commercial relationships, and operational efficiency. The results are shared with suppliers, enabling them to address areas for improvement. A supplier evaluation and recognition process is currently being developed as part of the program for future implementation.

  **Scope 3 emissions tracking:** CBA is committed to reducing emissions throughout its value chain. The company has already begun calculating Scope 3 emissions for priority categories recommended by the International Aluminium Institute. CBA uses reputable databases such as Ecoinvent, DEFRA, and CRU's Emissions Analysis Tool to compile its emissions inventory, as well as drawing on the GHG Protocol methodology.

  In 2023, a pilot initiative was conducted to assess the most impactful components of Scope 3 emissions, or emissions generated by suppliers. Suppliers were selected based on their maturity level, as denoted by their ESG screening results, and the size of their impact on emissions. Those with higher maturity levels were contacted to provide data on primary greenhouse gas emissions. This initiative has delivered promising results so far in emission management and supplier engagement, helping to identify future opportunities to support the Company's decarbonization strategy.

  Also, as part of CBA's efforts to mitigate climate risks, a risk mapping exercise was conducted for prioritized suppliers, covering 11 regions within and outside Brazil, using projections generated from the IPCC WGI Interactive Atlas tool.

- **Project 3: Sustainable Selection and Requisitions**
  In 2023, CBA continued its pilot projects for supplier procurement based on ESG criteria, collecting insights into suppliers' receptiveness to this type of assessment. In these pilots, during procurement bidding, the Company evaluates not only technical and commercial criteria but also environmental, social, and governance aspects. In 2024, the format will be expanded to include categories relevant to the business and critical for ESG.

- **Project 4: Contractor Management**
  In its contract drafts and templates, CBA incorporates clauses related to health, safety, environment, and compliance, among other aspects (learn more in the Additional Disclosures Supplement). As part of efforts to continuously improve the Program, a Sustainability and Socio-Environmental Responsibility clause was included to enhance information sharing, including performance indicators. In 2023, pilots were conducted with some suppliers, with occupational health and safety indicators as priority, mandatory disclosures. The Company plans to extend this pilot in 2024.

- **Project 5: Partnerships with Strategic Suppliers**
  The main goal of this project is to build close relationships with the supply chain so that both CBA and suppliers achieve excellence in sustainability, efficiency, and productivity.

  In 2023, CBA made progress in building a repository of sustainability initiatives focused on seizing opportunities to integrate ESG efforts into the supply chain. Initiatives are carried out periodically through a multidisciplinary committee, which evaluates these actions and supports their implementation along with the initiative owners.

Strategic Partnerships Workshop


In May 2023, the Company organized a Strategic Partnerships Workshop with its strategic suppliers to foster closer relationships and jointly develop action plans with positive impacts on ESG, efficiency, and productivity. The event saw participation from over 50 companies, resulting in a significant number of initiatives focused on this topic.

Roseane Bezerra da Silva,
Administrative analist,
Itapissuma (PE) plant

- **Project 6: Supplier Development**

  **Local sourcing:** one of the goals CBA has set under its 2030 ESG Strategy is to increase purchases from local suppliers by 10%. Local suppliers are defined as the ones located in the municipalities where CBA has operations, or in neighboring cities. Domestic suppliers are located in Brazil but that do not fall under the definition of local. International suppliers are companies located outside Brazil.

  In 2023, the Company refined the criteria for supplier size and location, established the approach for their engagement, and assessed suppliers' share of procurement for each location of operation. Pilot areas for interventions in the coming year were also identified. One of the initiatives planned for 2024 is an assessment of the economic profile of each city to inform the development of partnerships to expand local suppliers' operations.

  **Training:** with a goal to positively impact its supply chain, CBA organized three webinars with strategic partners in 2023, with a focus on areas with the greatest potential for improvement based on the ESG assessment conducted in 2022: Greenhouse Gas Emissions (GHG), Risk Management, and Diversity, Equity, and Inclusion. Over 70 companies and 100 individuals participated in these webinars.

- **Project 7: Engagement and Communication**

  CBA's Sustainable Procurement Program is regularly communicated to both internal and external stakeholders to explain the initiative and encourage engagement. Recent communications initiatives have included:

  - Sending welcome kits to the procurement team
  - Special communications for suppliers
  - A special episode on Sustainable Procurement featured on the Company's podcast, *Conecta CBA*
  - Support in organizing events and creating stakeholder-specific communications
  - A "+Sustainable Procurement" page with program content on CBA's intranet
  - Publication of a series of videos on Workplace, an internal platform for employees, with one dedicated to each project
  - Inclusion of Sustainable Procurement as a theme in CBA's artificial intelligence chatbot

**CDP Supplier Engagement Leaderboard 2030 – SER**

CBA was recognized as one of the leading companies in supplier engagement on climate change by CDP. The assessment takes into account supplier engagement performance using the Company's response to selected questions on Governance, Targets, Scope 3 GHG Emissions and Value Chain Engagement in the CDP Climate Change questionnaire.

# Customer relationships

**GRI 3-3 (Transparency and stakeholder engagement), CBA-35**

The aluminum produced at CBA using best sustainability practices is supplied to a wide range of industries to make products that are present in people's everyday lives.

CBA serves its diverse customer base with world-class quality, excellence in service, and innovative solutions. The Company's commercial partners benefit from enhanced agility, customization, and transparency throughout their relationship.

As part of its strategy, CBA runs a Customer Satisfaction Survey every two years. Conducted by a specialized firm using the PDCA model, the survey comprises two stages. The first is qualitative, aimed at providing insights into the customer journey to deepen, assess, and validate satisfaction-generating attributes and define the final quantitative questionnaire, while the second stage collects numerical data using that questionnaire.

The first stage of the survey compiles data related to criteria typically used in selecting an aluminum supplier, such as customer service, after-sales support, pricing and commercial terms, product quality, development and innovation, delivery, sustainability, industry 4.0 integration, and reputation.

CBA's customer service strategy aligns with the unique needs of each business and segment, offering customized service in various markets through regionalization, key account management, and prospecting for new customers.

Wellington Nery Gonçalves, Controller's department analist, Itapissuma (PE) plant

Stock photo

## LIFECYCLE ASSESSMENT

CBA first introduced Life Cycle Assessments (LCA) in 2018. This internationally recognized method is used to measure the potential environmental impacts of a product or service over its life cycle. In 2023, in response to customer and market demand, the company completed its first internal LCA Report.

Data collection for the report was carried out by the Company itself, which subsequently used the SimaPro® software, which has the most used database worldwide (EcoInvent), to model the information. This LCA assessment covers products from the Alumínio (SP) plant and underwent external assurance. Metalex's LCA also underwent external assurance, and both reports are now available to customers.

Also in 2023, CBA collaborated with customers in the packaging sector to develop LCA assessments, with positive results. The assessment underscored one of the main competitive differentiators of CBA's low-carbon aluminum: its use of 100% renewable electricity.

The assessment results support decision-making and comparisons between materials, products, or services.

## CO-CREATING SOLUTIONS

Being ready for future opportunities is essential for a company to remain competitive. Recognizing this, CBA has accelerated new projects in collaboration with customers and specifiers within each market it serves. These include co-creation and co-engineering projects in partnership with innovation ecosystems to enhance quality, technology, performance, sustainability, and new business models that generate more positive impacts for society as a whole.

In addition, in order to thrive in an increasingly competitive market, it is imperative that the Company differentiate from competitors by developing ways to create more perceived value for the customer. In the last few years, this approach has yielded numerous co-creation projects that have transformed the industry. Some of CBA's standout initiatives in 2023 included:

### Aluminum in agribusiness

In 2023, CBA launched its first range of parts and solutions for use in agribusiness. The use of aluminum not only delivered significant reductions in equipment weight but also a considerable improvement in efficiency. With aluminum, sprayer OEM*s were able to extend spray boom lengths by 30%, widening the coverage area. At CBA's Solutions and Services Center, products were developed using equipment and a team of engineers specialized in manufacturing structural components made of aluminum. These parts are currently marketed to two leading brands in the sector.

*Original Equipment Manufacturer

### Truck weight reduction and improved sustainability

In collaboration with one of its customers, CBA co-engineered a novel truck bed system made of aluminum. The new solution has sufficient mechanical strength to handle forklift trucks while reducing weight by 400 kilograms, resulting in increased efficiency, payload capacity, and sustainability. This application replaces materials such as steel and wood, for a reduced environmental footprint. In 2023, CBA began supplying the materials on a continuing basis to this customer.

### Advancements in aluminum applications in lithium-ion batteries

CBA continued to advance a project to develop applications for aluminum foil in lithium-ion batteries used in electric vehicles and electronic devices such as smartphones and laptops. During the year, a battery prototype was produced with promising results.

The prototype was developed in a collaboration with the SENAI Institute of Electrochemistry Innovation in Paraná. The ultimate goal of the project is to produce battery foils locally in replacement of imported counterparts. This partnership will make CBA the first local company with full proficiency in this technology, as an important step towards developing the local supply chain in the lithium-ion battery segment.

### Supporting the electric vehicle industry

Aluminum is one of the key enablers in the industry's decarbonization process. One example of its diverse applications is a project developed with a major systems supplier to build chassis for electric buses. The project is designing an aluminum rack, in replacement of steel, to accommodate the bus batteries. The solution reduces rack weight by 60%, avoiding emissions of between 3 and 5 $tCO_2e$ over each bus's lifespan, depending on the model. Currently, 50 vehicles have been equipped with this solution and are operating in São Paulo (SP).

### A new record in bus roof production

A bus roof system developed in collaboration with a world-leading bus and coach manufacturer, using aluminum in replacement of fiberglass, has improved overall finish, strength, and handling as well as fuel savings, and therefore emissions. The solution reduces weight by 100 kilograms and saves 4.25 $tCO_2e$ per bus. The product was officially brought to market in 2022 and, this year, set a new production record. In 2023, 1,681 roofs were produced, a 42% increase from the previous year.

### New applications in the automotive market

While the automotive market remains one of the main consumers of aluminum, there are still untapped opportunities for innovation. The company is currently developing a prototype alloy for brazed automotive radiators. Domestic production of this alloy, which is currently not produced in Brazil, has the potential to reduce emissions by decreasing reliance on imports, making CBA the sole Brazilian manufacturer of this solution.

### Quick and customized solutions

CBA prides itself in meeting customer requirements swiftly and efficiently. A case in point in 2023 was a product solution developed for a partner importing secondary aluminum. Located in Manaus (AM), a city experiencing a historically dry season that year, the customer was facing challenges with its delivery schedule as the water level in the Amazon River, the only supply route to the city, was running dangerously low. Alux developed an alternative product within 40 days, enabling the company to meet its production targets as planned.

Stock photo

## ALENNIUM—THE LABEL OF THE NEW MILLENNIUM—HITS THE SHELVES

Alennium is a new label developed by CBA to certify its sustainable aluminum, made with low-carbon emissions by using 100% renewable and traceable electricity.

The label can be used on products made with CBA's low-carbon aluminum and certifies an emissions intensity up to 4 metric tons of $CO_2$ equivalent per metric ton of liquid aluminum at the smelting stage. In 2023, the Company's emissions intensity stood at 3.23 $tCO_2e/t$ liquid aluminum, which is 3.5 times lower than the global average (further details on emissions performance for the year can be found on pages 120 to 124).

During 2023, the new label was featured on products from five customers: Wyda, Impacta, Pratsy, Alumax, and CDA Metais. In addition, CBA's Primora-branded aluminum profiles now also feature Alennium.

CLICK HERE
Learn more on Alennium

What Alennium certifies:

- Low carbon emissions
- 100% renewable and traceable electricity used in aluminum production
- Linked to GHG reduction targets approved by the Science Based Targets initiative (SBTi)
- Integrated with CBA's environmental, social and governance initiatives

With Alennium, consumers can readily identify products made from low-carbon aluminum.

In addition to the label, CBA provides a digital passport containing sustainability information on its primary and downstream aluminum products. This information can be featured on products via dedicated QR codes. The accompanying passports use blockchain traceability technology and are third party-audited.

CLICK HERE
Learn more on CBA's website

- Ingots

- Billets CBA

- Billets Metalex

- Primora

- Sheets

- Foil


alennium

# Transforming lives

> Employee engagement
> Community relations

Luana Fogaça, Participant of the Empreende Mulher program

People are the driving force behind CBA — from employees throughout the aluminum production chain, through suppliers, customers, consumers, and business partners, to the people living in the cities where the Company operates. Beyond fostering safety, health, and professional and social development, the Company is committed to transforming lives through aluminum, leaving a legacy of sustainability and civic engagement.

# Employee engagement

Querolin Monteiro, Production operator, Metalex (SP) plant

**Material topics related to this chapter:**

- Diversity, equity, and inclusion
- Health, safety, and quality of life
- Transparency and stakeholder engagement
- Local development
- Sustainable supply chain
- Climate strategy

**2030 ESG Strategy levers related to this chapter:**

*Sustainable value chain*

*Valuing people*

*Social legacy*

*Climate change*

**SDGs related to this chapter:**


**Global Compact Principles addressed in this chapter:**

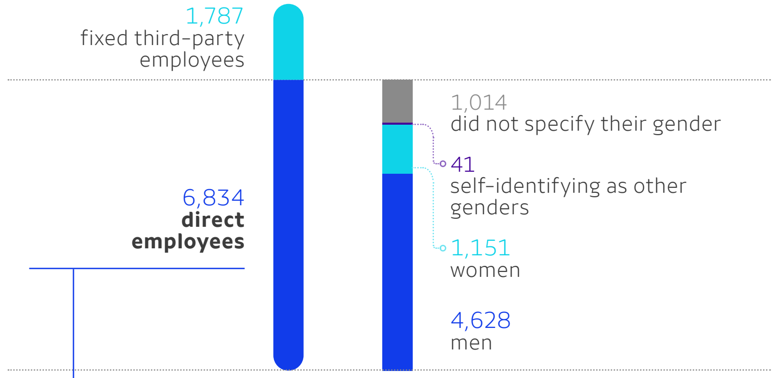
**1. Businesses should support and respect the protection of internationally proclaimed human rights within their sphere of influence.**

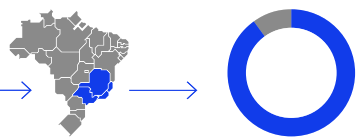
**3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.**

**6. Businesses should uphold the elimination of discrimination in respect of employment and occupation**

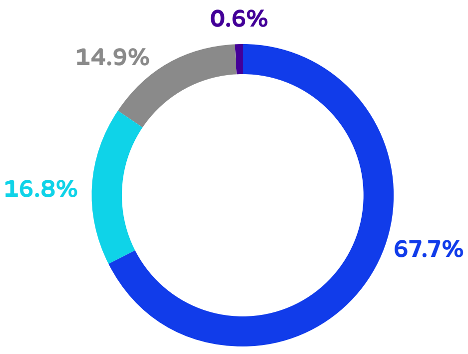
In order for CBA to achieve its corporate goals and 2030 ESG Strategy, it is crucial for employees to align with and engage around the Company's strategic pillars. In 2023, several key concepts were explored with employees: digital transformation through new ways of working and new digital skills; progress on diversity, equity, and inclusion; and the rollout of CBA's 2030 ESG Strategy.

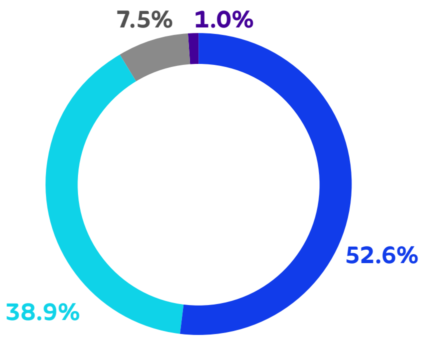
## CBA's workforce GRI 2-7, 2-8, 405-1, SASB EM-MM-000.B

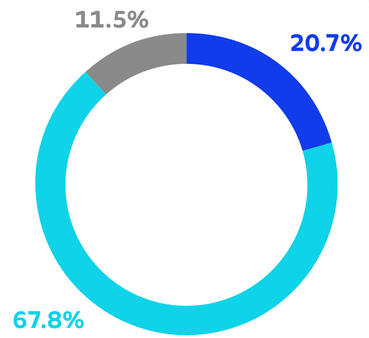



**Among direct employees:**



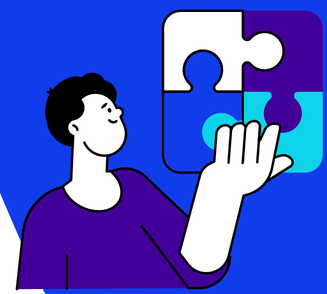




- Men
- Women
- Did not specify their gender
- Self-identifying as other genders

- White
- Black and brown
- Other ethnicities
- Did not specify their ethnicity

- Under 30
- Aged 30 to 50
- Over 50

Joyce Caroline Dias Campos, Production operator at Casting, Alumínio (SP) plant



In 2023,

**65**

**employees**

participated in activities related to non-linear careers.

## DIGITALL SKILLS

To ensure the Company is prepared to capture future opportunities, an exercise was launched in 2023 to identify key future-ready digital skills for employees.

Through collaboration between the Innovation & DigitALL Office and the People and Culture team, the most essential skills were determined based on resonance with the Company's beliefs, strategic priorities, and investments. Examples of these skills include generative artificial intelligence, cybersecurity, and encryption.

This was followed by self-assessments by 1,200 individuals working in digital-related areas, to gauge their readiness. Based on the results, the Company will plan skills-building initiatives throughout 2024.

Another program linked to CBA's digital transformation is what the Company refers to as "non-linear careers." Since 2022, employees have had the opportunity to apply for positions offered in this format, in which they work for a defined period of time in another area and/or role—not necessarily aligned with their background, education, or experience—to develop solutions to specific challenges. These activities are in addition to their primary roles and help them to acquire new skills and experiences beyond their host departments.

## LEADERSHIP DEVELOPMENT

The Leadership Journey, launched in September, is a knowledge and experience pathway designed to further enhance the management and development of supervisors at CBA. In 2023, over 165 leaders participated in this Journey, representing 99% of those in supervisor roles. The program included 58 training sessions covering 6 different topics, as well as 47 engagement initiatives across 8 fronts, totaling over 270 hours of development-focused experiences. As this group oversees approximately 4,000 employees, they play a significant role in disseminating the Company's processes and culture.

Eduardo Alves Borges Sena, Process engineer at Casting, Alumínio (SP) plant

The program was developed after a range of analyses, including workplace climate surveys, reports from Great Place to Work (GPTW), and discussions held during Coffee Talks (an initiative for open discussion with the leadership team), among other sources. After completing the program, participants received instruction on a variety of topics, including diversity, equity, and inclusion, compliance, safety, innovation, and sustainability.

Vanessa Vidal,
Environmental analist,
Alumínio (SP) plant

# ESG within CBA's performance target framework

In addition to ESG targets, CBA incorporates corporate culture targets in its variable remuneration program. In 2023, these targets were related to the DigitALL Program and diversity, equity, and inclusion.

## WORKPLACE CLIMATE SURVEY

CBA conducts regular workplace climate surveys to gather feedback and identify opportunities for continuous improvement and transformation within the company. The most recent survey was conducted in 2022 with the support of global consulting firm GPTW, which helps organizations to compile insights and metrics and achieve better results through a culture of trust, high performance and innovation. The next survey is scheduled for May 2024.

### Employee engagement in climate surveys CBA-34

| | 2021 | 2022 |
|---|---|---|
| **Percentage of employees who are currently engaged, report a highly positive experience or a high level of well-being** | 81% | 78% |
| **Percentage of employees who responded to the survey** | 86% | 79% |

*Note 1: The 2022 survey engaged employees in the Aluminum Business (with the exception of Alux), the Energy Business and Corporate Office.*
*Note 2: The survey was not performed in 2023. For this reason, data is not available for that year.*

## DIVERSITY, EQUITY AND INCLUSION

**GRI 3-3 (Diversity, equity, and inclusion), 405-1**

The Diversity, equity, and inclusion agenda is integral to CBA's 2030 ESG Strategy and has received increasing focus within the company, which seeks to foster a respectful, safe, fair, and equitable environment in the workplace. The Company's #MoreDiverseCBA Program forms the foundation of initiatives in this topic and is supported by the following tools:

- **2030 Diversity, Equity, and Inclusion Agenda:** based on six levers, this agenda guides the Company's related initiatives and translates into programs and commitments aimed at developing a culture of inclusion for minority groups within the Company. CBA's aspiration on this front is to be a diverse, equitable, and inclusive company by 2030, with an open and safe environment where opportunities are available to all.

- **Diversity Committee:** responsible for assessing progress on CBA's 2030 diversity, equity, and inclusion agenda and promoting an inclusive culture within the company, encouraging respect for individuals. The Committee brings together employees from different positions and organizational levels and representatives from minority groups.

- **Diversity, Equity & Inclusion Policy:** this policy contains guidance on and reiterates CBA's commitment to ensuring an equitable and respectful work environment and eliminating any form of discrimination within the Company. The Policy has been developed in accordance with the Brazilian Constitution and the Universal Declaration of Human Rights. Abiding by the rules in the Policy is a condition for employment at CBA, and this extends to outsourced workers and suppliers.

- **Diversity, Equity, and Inclusion Guide:** introduces the concepts of diversity in an inspirational and fun way. It also explains the distinction between diversity, equity, and inclusion with information about gender, people with disabilities, LGBTQIA+, and race.

- **Affinity Groups:** working groups created in 2021 in four categories: gender, race, people with disabilities, and LGBTQIA+. Working group members play a crucial role in identifying opportunities for and organizing initiatives to foster respect and inclusion within the Company.

From left to right: Lucia Aparecida da Costa Alexandre, Michele da Cruz Silva and Cintia Ribeiro, Sorocaba (SP) facility's employees

### CBA named to IDIVERSA B3

In 2023, CBA was named to the inaugural portfolio of the B3 Diversity Index (B3 IDIVERSA), which tracks the stocks of companies with outstanding gender and racial diversity practices.

The B3 IDIVERSA index aims to make companies' diversity metrics more visible, tangible and comparable using a Diversity Score developed by B3. CBA's inclusion in this portfolio, as the sole representative from the Metals & Mining industry, underscores its competitive standing and unwavering commitment to ESG principles.

# Diversity, Equity and Inclusion (DEI) Timeline

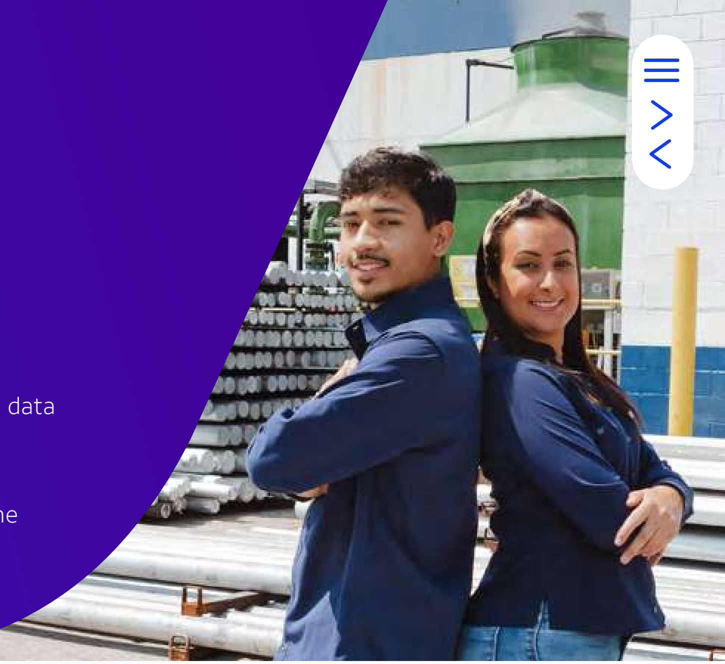
**2019**
- Maturity Assessment
- Leadership Training

**2020**
- Diversity Committee
- DEI Policy
- DEI Guide
- DEI Calendar

**2021**
- Inclusion Census
- Affinity Groups
- Subscribed to Global Compact

**2022**
- Diversity Census
- DEI Agenda

**2023**
- Employee Re-registration of personal data
- Affirmative Racial Target
- Affirmative opportunities for people with disabilities at the Alumínio and the Itapissuma units
- Change in personal registration, adding the social name



Alan Bertoletti and Jéssica Gomes, employees at Metalex (SP)

## 2030 DEI Agenda

### Aspiration

**To be a diverse, equitable, and inclusive company with an open and safe environment where opportunities are available to all people.**

### Levers

**CORPORATE GOVERNANCE**
Ensure CBA has a set of policies in place that are transparent and equitable to stakeholders and welcome diverse points of view in decision-making.

**EDUCATION**
Provide ongoing education to leaders, employees and other stakeholders on Diversity, Equity and Inclusion, and support the development of communities and minority groups.

**EMPLOYEE ATTRACTION AND RETENTION**
To be recognized as an employer brand that attracts and retains diverse talents through employee development and affirmative action.

**HIGH-IMPACT PROJECTS**
Accelerate social impact/ innovation partnerships to sustainably reduce inequalities.

**VALUE CHAIN**
Engage and influence business partners to promote a diverse, equitable and inclusive workplace environment.

### Communication and Engagement

**Provide audience-appropriate and inclusive communication that engages different stakeholders and strategically positions CBA's commitments to Diversity, Equity and Inclusion**

### Employee census

CBA has taken another important step in advancing diversity-related goals. In 2023, the Company conducted a new workforce census, in compliance with the Brazilian General Data Protection Regulation (BR GDPR), to identify employee profiles through self-reported data on gender, race, and sexual orientation.

The census helped provide a better notion of workforce profiles across all locations of operation. Armed with this information, CBA can now develop tailored and effective strategies to achieve diversity goals.

### Racial inclusion initiatives

During the year, CBA addressed racial issues in greater depth to enhance the inclusion of black and brown individuals in the workforce, and especially in leadership positions. These efforts span three fronts: career development (covering existing employees), inspirational key roles, and combating casual racism (offensive racial jokes or offhanded comments), helping to foster a safer and more inclusive environment.

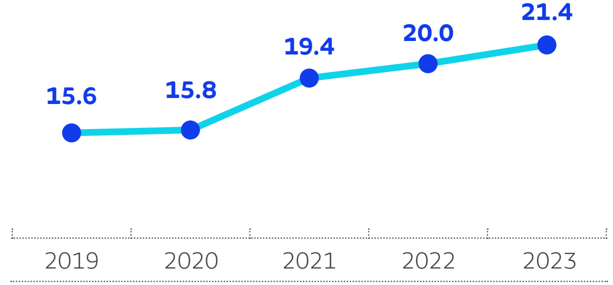
### Progress of women in Leadership

One of the goals within CBA's 2030 ESG Strategy is to achieve 25% gender diversity in leadership positions (managers or above) by 2025. In 2023, the Company made futher progress toward this target, reaching 21.4% female representation in these roles.

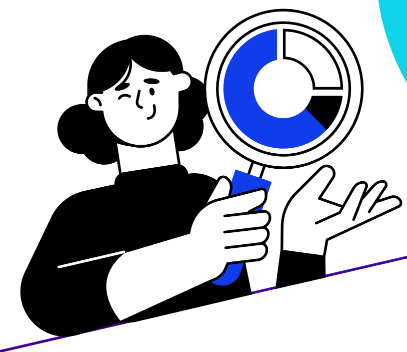
### Women in leadership GRI 405-1

**Manager and above (%)**

**2025 Target: 25%**




*Note: The data published in the 2022 Annual Report considered coordinators and was corrected for this year, covering only managers and above. (GRI 2-4)*



**88% of the workforce** participated in the re-registration

Among the **6,384 employees surveyed**:

**17% identified as female**

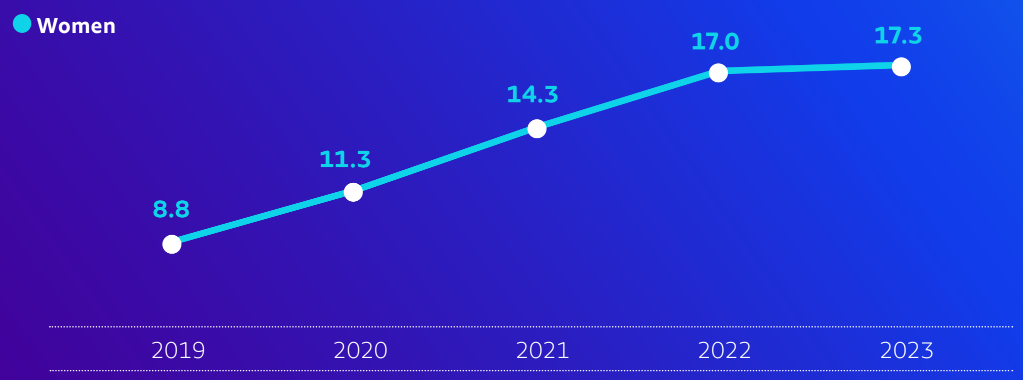
**39%** self-identified **as black or brown**

**2%** identified as **LGBTQIA+ individuals**

**12%** were **aged over 50**

## Women at CBA GRI 405-1

(%)




Another gender-related initiative was the second edition of *Círculo de Mulheres* ("Women's Circle"). Launched in 2022, this program brings together female Supervisors, Coordinators, and/or Managers in a safe environment to address women-related topics. In sessions facilitated by experts, participants are empowered, learn new skills, and share experiences that they can cascade to their teams later on.

In 2023, 13 women participated in 10 sessions throughout the year, featuring immersive experiences, discussions, guided rituals, and interactive activities.

### Diversity across the Company

CBA takes a comprehensive approach to diversity. As part of its related initiatives, in 2023 the Company launched a learning track on diversity, comprising two modules designed for supervisor and coordinator roles. Having leaders and co-leaders from affinity groups follow non-linear career paths has also improved alignment across corporate programs.

In 2023, CBA worked to extend its culture of inclusion to suppliers through its 1st Diversity Workshop, as part of the Company's Sustainable Procurement Program. This online event brought together 68 participants.

CLICK HERE
**Learn more about the Sustainable Procurement Program**

From left to right: Marina Garcia and Barbara Carolini Oliveira, employees at Alux (SP)

## PROFESSIONAL DEVELOPMENT

CBA's approach to managing employee careers encompasses their entire professional journey within the Company, from recruiting and selection to onboarding, performance management, and retention.

CBA's recruiting efforts throughout the year were aligned with the Company's diversity goals. As part of these efforts, CBA partnered with a consultancy to attract professionals with disabilities.

For candidates looking to start a career with CBA, there are two primary gateway programs:

- **Apprentice Program:** in partnership with SENAI, this program is for youth aged 18 to 23 who have graduated from High School and live close to a CBA plant. Participants receive instruction and technical training, and top-performing participants are selected for permanent positions on completing the program. Around 170 apprentices participated in the program in 2023.
- **Internship Program:** this program offers internship positions to university students in diverse areas. Interns participate in Development Workshops, providing a space for learning and sharing ideas about the Company's values, strategies, and common objectives. Around 150 apprentices participated in the program in 2023.

Darlan Araujo de Brito, Production supervisor, Itapissuma (PE) plant

## Training

People are at the core of CBA's Culture strategy and Human and Organizational Development practices. The Company offers an employee journey with enriching experiences that support both professional and personal development. After all, it's also by encouraging civic engagement that CBA contributes to transform lives.

To support employees' professional development, the Company offers courses and training through its Self Service and e-CBA platforms, allowing employees to select training according to their interests and career goals.

Over
**150**
**interns**
participated in
development workshops

- **Development workshops**
  Over 150 interns participated in development workshops designed to help them discover their purpose and take the reins of their careers.
  - Workshops provided to interns (all online):
    - Career and Future Skills, with 118 participants
    - #ILead with 150 participants
    - Year-end Wrap-up 2023, with over 70 interns trained
  - Workshops organized for apprentices:
    - Temperaments, with over 150 apprentices trained
    - Job application tips, for over 150 participants
    - Thank You workshop, with over 150 apprentices trained
  - Extra: DigitALL training for over 150 individuals, fostering a digital mindset in the Organization from the ground up.

Other professional development initiatives included:

- ***Potenciar***
  *Potenciar* is a talent development program covering all Votorantim's portfolio companies. In 2023, ten representatives from CBA participated in the initiative, representing all ten corporate departments. The group attended a development program at the Votorantim Academy, with three one-week meetings covering over 20 topics. The content provided fresh insights into market trends and an opportunity for networking and interaction among portfolio companies.

  Those who register for the *Potenciar* Program also participate in the Challenge Project, where they receive hands-on experience in solving a real-life strategic problem. In this edition, the focus was on structuring CBA's Integrative Health Program and related employee processes and culture.

- **Votorantim Academy**
  Votorantim Academy is a knowledge hub for Votorantim portfolio companies. Featuring courses, programs, webinars, and talks, the platform enables employees to self-develop and share experience on behavior trends and emerging technologies. In 2023, 260 people participated in the Academy.

- **Internal training**
  A training program called *Líder, vamos falar?* ("Leader, let's talk?") was attended by around 400 people in professional and leadership roles, divided into 10 groups throughout the year.

Over 430 employees were trained throughout the year in problem-solving approaches such as PDCA, Pareto Chart, and Ishikawa.

Maria Luiza Araujo de Farias, PCP analist, Itapissuma (PE) plant

### Performance review

CBA's SELF program is designed to foster personal development with a focus on individual performance management and supporting business objectives. In a transparent process, employees are assessed on their performance against corporate goals, how they reached those goals, and their alignment with cultural principles.

SELF reviews are performed annually and include a $360^{\circ}$ performance review form where employees are evaluated by their managers, team members, peers, internal clients, and themselves. The final score is validated after calibration by dedicated committees.

Finally, feedback sessions, which can be requested at any time by employees, identify development opportunities and inform Individual Development Plans.

## Gupy Feedback Label

For the third year, CBA has been awarded a Feedback Label by Gupy, a partner recruiting platform. The recognition is made to companies that have provided feedback to a minimum of 90% of candidates and have at least 90% of externally posted vacancies active. It attests to transparency toward job candidates.

## Training in 2023

**CBA-29**

Total funding allocated to training:
**R$ 2.5 million**

Total in hours:
**110,000**

Average hours per employee:
**21 hours**

Investment per employee:
**R$ 479**


CBA's clinic

## BETTER HEALTH FOR ALL

**GRI 403-6**

CBA strives to support the comprehensive well-being of its employees by addressing their primary needs: physical, financial, and emotional well-being, as well as extending various benefits to their families:

- ***Por Você*** **("For You") Quality-Of-Life Program:** it comprises a set of initiatives aimed at health protection and promotion, disease prevention, and health monitoring. The program encourages self-care and lifestyle changes to achieve healthier living by balancing physical, emotional, and financial health—the latter supported by CBA's private pension benefit, FUNSEJEM. Program initiatives include flu vaccinations, awareness campaigns on STIs/AIDS, cancer prevention, healthy nutrition, and support for emotional, auditory, and financial health. Monthly campaigns focus on specific themes, such as "White January," "Yellow September," "Pink October," and "Blue November." Health-related activities in 2023 facilitated a total of 7,841 interactions among employees and contractors. The program also offers nutritional support in all Business Units, with over 1,200 consultations during 2023. Another benefit is a subsidized Gympass subscription providing access to various gyms and studios without a contract or additional costs.

- **Health Space:** an exclusive health clinic for employees at the Alumínio (SP) plant and Corporate Office (SP), in partnership with Hospital Sírio Libanês. In addition to consultations with family physicians and nurses, employees can request and undergo laboratory tests and certain primary care procedures at no extra cost. Consultations can be conducted in-person or online via video conference calls on CBA's integrative healthcare app, available from Monday to Friday. The service also offers access to Digital Emergency Care (telemedicine) 24/7, with referrals to physical emergency rooms if necessary. The Health Space boasts a 71% user uptake rate, with a 53% increase in uptake in 2023.

- ***Plenamente*:** this service offers psychological, legal, financial, and social counseling for all employees and their legal dependents, accessible 24/7 through a toll-free number. The service also aids managers in conflict resolution and provides guidance in various situations, whether or not involving employees. In 2023, a total of 2,841 consultations were provided.

- ***Ser Família*:** a parenthood program tailored for employees anticipating a new family member through biological birth or adoption, accommodating both heterosexual and same-sex couples and their legal dependents. Accessible via an app, the program provides information on care from the first week of pregnancy to the baby's sixth month or adoption adaptation, along with telemonitoring by an obstetric nurse for support and guidance. Case-specific support is also available for premature births, as well as expanded newborn screening coverage for over 60 treatable diseases. The program additionally offers extended leave of 180 days for primary caregivers and 30 days for secondary caregivers. In 2023, 107 employees registered for the program, including primary caregivers and dependents.

## Occupational health

**GRI 403-3, 403-6**

CBA's Occupational Health Department comprises a multidisciplinary team that promotes integrative health through initiatives such as a Respiratory Protection Program (RPP), Hearing Protection Program (HCP), Quality of Life Program, Thermal Protection, and Ergonomics. To uphold administrative oversight, the Company employs a Health and Safety Management System alongside a risk management that encompasses the mapping of hazards, risks, and key control measures implemented.

All operations have on-site clinics or partner clinics. In the event of an emergency, each site has its own ambulances or a coverage area contract, with services available through an affiliated network.

Health promotion services and programs are developed in line with employees' epidemiological profiles and the World Health Organization's calendar. These programs are widely communicated to employees, including third-party employees. The Program pillars and activities encourage physical activity, healthy nutrition, health prevention, and emotional well-being.

## Safety is key

**GRI 3-3 (Health, safety, and quality of life), 403-1, 403-2, 403-5**

The safety of all individuals involved in CBA's operations is an uncompromisable value for the Company. Its Occupational Health and Safety Management System uses tools to ensure that all risks and hazards (operational, legal, process, occupational environment, and engineering) are constantly identified, analyzed, and known by all to reduce accidents, potential losses due to liability, and legal exposure.

Reported injuries and incidents are investigated by a committee comprising the Safety team, the Internal Accident Prevention Committee (CIPA), and representatives from the departments involved, who convene to determine the causes of the incident and agree on actions to be taken to prevent recurrence.

CBA provides training on safety protocols, induction training for all employees and contractors, as well as statutory training. Training topics and frequency are determined according to identified needs and include all necessary training for tasks involving critical risks. In total, more than 39,000 hours of training were provided at Alumíno (SP), Sorocaba (SP) and mine operations in the year.

CBA's 2030 ESG Strategy establishes two safety-related targets:

- Zero fatalities or severe injuries[1] in operations
- Achieve an injury frequency rate[2] lower than 1

*Note 1: Fatal accident or injury that generates permanent disability (level V and VI).*
*Nota 2: Base 1 million MHW. Includes employees and contractors.*

# Health and Safety Management System Tools

Preventive action ◀ ▶ Corrective action

## Prevention Tools

- Preliminary Risk Analysis (PRA)
- *Fale Fácil*
- Pre-Use Checklist
- Hazard identification and assessment of OHS risks and opportunities
- Duty of Refusal
- Permit to Work (PtW)
- PO + PG Procedures
- Critical Risk Protocols

## Supporting Tools

- Sector-specific SDOs
- Safety Induction
- Internal Accident Prevention Committee (CIPA)
- Integrated SDOs
- Safety Training
- Internal Occup. Accident Prevention Week (SIPAT)

## Safety Management

- Tone from the Top
- Planned Task Observation (PTO)
- Consequence Management Committee
- Mentor Program
- Change Risk Management
- OHS Audit
- Environmental & Occupational Risk Management
- Regulations, regulatory standards, etc.
- Occupational Risks Assessment (ORA)
- Safety Committee
- Golden Rules
- Management Inspection
- Management Cockpit
- Recognition
- Technical Safety Inspections
- Safety Management System KPIs
- Safety KPIs
- Fatality Prevention

## Consequence Mitigation

- Accident Investigation
- Accident Coverage
- Emergency Response Plan

Employees at Itapissuma (PE) plant

CLICK HERE
Learn more about these tools in the Additional Disclosures Supplement

# Health and Safety Management System Model

### LEARNING

At this stage of the system it is **time to think about the future**, what must be done to improve and innovate, so that the system is constantly updated in the face of the market and challenges.

Internal and external benchmarking practices, exchange of good practices and innovations in the face of challenges will be addressed ensuring the effectiveness and improvement of the system.

### REVIEW

Operationalized controls: it is time to evaluate their effectiveness, i.e. check whether the expected results are being achieved, what can be done to maintain the results or to revert to better results.

Critical analysis identifying the Whys supports accurate decisions for application in the system.


### PLANNING

**RISK MANAGEMENT** is carried out, ensuring that all risks are identified, evaluated and appropriate control techniques are established for their continued reduction.

### IMPLEMENTATION

This part comprises tools that are applied for a wide range of operational situations (normal, abnormal, emergency, deviation, incidents and other situations).

At this stage, **controls are deployed** and their implementation and effectiveness are assessed.

### Reduction in injury frequency rates

The Company's safety investments and tools saw continued momentum in 2023. The Fatalities Prevention Program launched in 2022 was one of the key focus areas during the year, alongside efforts to enhance training and provide behavioral guidance.

Safety indicators showed positive progress over the year, with a notable 22% reduction in the Company's injury frequency rate dropping from 2.26 in 2022 to 1.76 in 2023. The Company continues to have its rate below the national (4.39) and international (3.40) rates for the aluminum sector[1].

All injuries reported during the year were investigated, and proposed actions in response were implemented, verified, and regularly monitored by the Leadership team.

Note 1: According to data from the Brazilian Aluminum Association (ABAL) from 2022 and the International Aluminium Institute (IAI) from 2022.

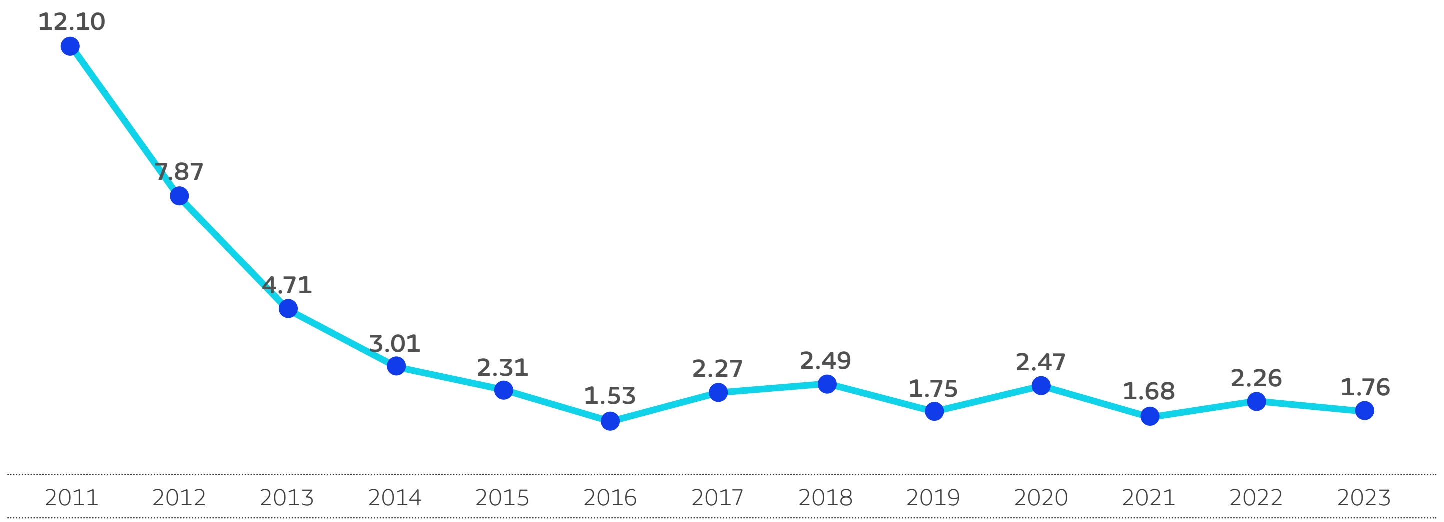
### ISO 45001:2018 certification for the Alumínio (SP) plant

**GRI 403-1**

In 2023, CBA completed the process for certification to ISO 45001, an international standard on Occupational Health and Safety Management Systems. To ensure compliance with the standard, the Company conducted a scenario analysis to identify gaps and underwent both internal and external audits. Of the more than 170 items reviewed, only 21 required adjustments to meet the standard, all of which were addressable. The Company successfully obtained certification in December 2023. The audit preceding certification underscored how deeply ingrained CBA's safety culture is among the 6,800 people at the plant, including employees and contractors.

Reduction of **22%** **in the Company's** injury frequency rate in 2023 comparison

### Lost-time and no-lost-time injury frequency rate per 1 million hours worked GRI 403-9




*Note: The data are for direct and third party employee only.*

### Safety initiatives in 2023

During the year, CBA undertook several initiatives aimed at enhancing workplace environments and promoting the safety of its employees, with notable efforts including:

- **Rudimentary Tasks Program:** transforming rudimentary tasks into more advanced and mechanized processes, thereby reducing exposure to chemical, physical, and mechanical risks.
- **Hazard and risk management overhaul:** CBA developed an app for managing hazards and risks and user-friendly access to risk data and necessary control measures.
- **Safety initiatives in operations:** these included various campaigns, safety workshops to enhance risk awareness, cross-department safety inspections, risk perception training, among other initiatives.

CLICK HERE
Read more in the Additional Disclosures Supplement

Jefferson Pereira de Andrade Silva, Electromechanical, Metalex (SP)

## Health and safety highlights from 2023

**R$ 18 million**
invested in adapting machinery and equipment to enhance employee's health and safety in compliance with Regulatory Standards

**5,068 flu vaccine**
doses administered to employees free of charge

**1,406 people**
participated in sporting events organized by the Company

**27,169 behavioral**
observations as part of the Workplace Risk Observation (ORT) program

**Weekly managerial inspections** at all operations departments, carried out by members of the CIPA, EHS and Leadership teams

**Quarterly Safety Management System** audits at all operations departments

Arts workshop held at AACAA (Association of Support for Children and Adolescents), Alumínio (SP)

# Community relations

**GRI 3-3 (Local development and Transparency and stakeholder engagement), SASB EM-MM-160a.1, EM-MM-210b.1**

Aluminum solutions that transform lives: this is CBA's purpose and what drives all of the Company's activities. To truly be an agent of social transformation, the Company seeks to be socially active both within its operations and in the communities where it is present.

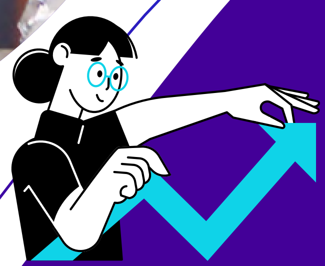
Consistent with its 2030 ESG Strategy and the Sustainable Development Goals (SDGs), CBA undertakes initiatives that build a social legacy based across the following pillars:

- Education
- Public management support
- Economic development
- Community development
- Rights advocacy

Topics such as circular aluminum (recycling), climate change, and diversity, equity, and inclusion—three important levers of the Company's strategy—are considered in the development of long-term social action plans for the communities where the Company operates, along with the local social challenges identified in the process.

Projects are carried out in partnership with the Votorantim Institute, charities, associations, cooperatives, community leaders, and the Executive and Legislative branches. The Company seeks to build win-win relationships by establishing communications channels and partnerships with communities.

Social investment is planned and implemented by CBA's Corporate Social Responsibility team with the involvement of different Company departments and support from the Votorantim Institute.



## Social projects in 2023

**R$ 9.7 million** invested

**60 initiatives**

**54 thousand people** benefited

**28 municipalities** benefited

## CBA's social legacy

Transforming people and communities where it operates is part of **CBA**'s mission. Therefore, the Company develops projects in five pillars of operation. The social initiatives are integrated with its **ESG Strategy** 2030 and aligned with the United Nations Sustainable Development Goals.

In **2023**, CBA invested **R$ 9.7 million** in **60 social initiatives**, benefiting **54,000 people** in **28 cities**.

### 1. Public Management Support

Through training for managers and partnerships establishment, CBA supports municipalities in the development and implementation of public policies.

- In Healthcare, CBA provides mentoring to develop structured reporting practices and enhance services to citizens. In 2023, **13 initiatives** benefited **338,000 people** in **10 cities**.
- In Climate Action, CBA will support municipal governments guided by a checklist that assesses the main vulnerabilities of cities in relation to climate challenges and will provide support for the adoption of adaptation measures for fragile issues.

### 2. Education

Within this pillar of action, CBA has **18 ongoing programs** reaching more than **28,000 people** in **17 cities**. One of the key initiatives within this pillar is Partnership for Education (PVE), a collaborative effort to accelerate age-appropriate school achievement and reduce education inequalities. In addition to PVE, CBA has an Environmental Education Program (PEA) that supports municipal education departments in incorporating environment and sustainability-related content in the school curriculum, in line with the Brazilian National Curriculum (BNCC) and the National Policy for Environment Education (PNEA).


### 3. Economic Development

One of the overarching goals of CBA's social strategy is advancing economic inclusion and income opportunities in local communities. For example, in 2023 our *Empreende Mulher* ("Women Entrepreneurs") program in Alumínio (SP) provided mentoring to **30 participants** to improve their business skills and business plans. After completing the program in 2023, five aspiring women entrepreneurs were selected to receive seed capital and continue mentoring in 2024.

### 4. Community development

Society evolves when citizens are more participative in public management and aware of their rights and duties. CBA's civic engagement program, Cidadania, empowers the new generations to tackle local challenges. In 2023, **77 young people** in **8 cities** participated in the initiative.

Strong and active social organizations also contribute to the development of communities.

In Alumínio (SP), **eight organizations** were trained in technical and financial aspects, resource mobilization, management, and sustainability.

### 5. Rights advocacy

Advocacy for the rights of children and adolescents and initiatives around diversity and human rights are also part of CBA's social strategy. During the year, **16 initiatives** within this pillar raised over **R$143,900** for local projects.

One example is the Votorantim Program for Childhood and Adolescence (VIA), currently rolled out in **five cities**, offering capacity building and support to Municipal Councils for the Rights of Children and Adolescents (CMDCA) and Social Protection Networks.

## Education

This is currently one of CBA's primary pillars of social impact. The Company believes in the transformative power of education and operates through various initiatives to support public education. In 2023, 18 projects were implemented in this area, benefiting a total of 28 thousand people.

One of the flagship initiatives within this pillar is **Partnership for Education (PVE)**, a collaborative effort to accelerate age-appropriate scholastic performance and reduce education inequalities among public schools and students in elementary education.

Since its establishment, PVE has conducted five impact assessments, and according to the results, it has contributed to accelerating the progress of participating municipalities in the Basic Education Development Index (Ideb) from 30% to 45%.


Program Action "Chega mais Comunidade!" ("Come here, community!), part of the Mining Sites Environmental Education Program

## PVE in 2023

Over **26 thousand students**

**145 schools**

**13 municipalities**
Alumínio (SP), Araçariguama (SP), Barro Alto (GO), Caçu (GO), Chavantes (SP), Divinolândia (SP), Ibiúna (SP), Itapissuma (PE), Juquitiba (SP), Matias Barbosa (MG), Niquelândia (GO), Pinhal da Serra (RS) and São Sebastião da Vargem Alegre (MG)

**312 school principals**

**272 hours** of training and mentoring

**2 municipalities** presented with the **PVE Award** (Caçu-GO and Itapissuma-PE)

## PVE Award-winning projects

The PVE Award, a Votorantim Institute initiative, recognizes projects that contribute to transforming municipal public schools participating in the program. The 6th edition of the award revolved around the theme "Innovating today to transform tomorrow," recognizing PVE partner municipalities that are effectively improving the learning process in the classroom. The ceremony, held in São Paulo, brought together education secretaries and public school staff from 38 municipalities participating in the PVE program.

Itapissuma (PE) was among the winning municipalities in 2022, securing the award in the Educational Management Practices category for its *Fortalecimento Escolar* ("School Enhancement") project. The goal of the project was to help students catch up and enhance their learning across various areas, including reading and writing, extra-school classes, participation in competitions, external assessments, and student admission to college.

Caçu (GO) also earned recognition in the Mobilization category for its *Amigos da Escola - Clube de Leitura* ("School Friends – Reading Club") project. This initiative supported public school students to develop and enhance their reading skills by creating discussion groups facilitated by volunteers, as well as various activities aimed at fostering a culture of reading.

CLICK HERE

**Read more about the PVE Award (available only in Portuguese)**

PVE Project, Partnership for Education

CBA also works to raise environmental awareness through the **Environmental Education Program (PEA) at Schools**. This initiative helps to institutionalize environmental education with a focus on local biomes, social and environmental challenges, and regional diversity, as a way to enhance learning. Besides providing training to school principals, coordinators, and teachers, the project encourages student engagement and empowerment to address local social and environmental issues, bridging the gap between the community, school, and environment.

**The project encourages student engagement and empowerment to address local social and environmental issues**

## Environmental Education Program at Schools in 2023

**28 teachers**

**16 school principals**

**9 municipalities:**
Alumínio, Araçariguama, Canitar, Chavantes, Ibiúna, Jacarezinho, Ourinhos and Ribeirão Claro, in the state of São Paulo, and Caçu, in Goiás

**10 schools**

**484 students**
directly involved

Program Action “Chega mais Comunidade!” (“Come here, community!), part of the Mining Sites Environmental Education Program

## Public management support

**GRI 3-3 (Climate strategy)**

In collaboration with the Votorantim Institute, CBA works with the municipalities where it operates to design and implement public programs, through activities spanning from personnel training to partnership building.

One area of action within this program is **healthcare**—CBA works to enhance primary healthcare services and funding while improving access and quality of care in participating cities. Throughout the program's lifecycle, initiatives are implemented to organize and expand the coverage of primary healthcare providers within the municipality, align them with the current Federal Government funding program, and ensure ongoing follow-up and treatment adherence by users over time, based on disease prevention and protection principles, as well as broadening the scope of epidemiological surveillance.

Another area of public management support is **climate change**. In 2023, a Climate Action Initiative was launched in collaboration with the Votorantim Institute and the Itaúsa Institute, with a goal of advancing practical strategies to tackle climate change.The initiative was presented at COP28 (Conference of the Parties on Climate Change) held in Dubai.

CLICK HERE

**Read more about these initiatives in the Climate Adaptation Checklist (only in Portuguese)**

## Public management support – Healthcare in 2023:

**12** **initiatives**

**338** **thousand** residents benefited

**85** **participating** technicians

Around **120** **hours** of mentoring

**9** **municipalities:** Alumínio (SP), Apiúna (SC), Ibirama (SC), Igarassu (PE), Itapissuma (PE), Juquitiba (SP), Lontras (SC), Miraí (MG) and Niquelândia (GO)

CLICK HERE

**Read more about the Climate Vulnerability Index (only in Portuguese)**

As part of this initiative, a **proprietary indicator framework** has been developed to identify and target efforts to the most affected regions. These indicators were designed to highlight the most vulnerable populations and the ways in which they are affected. The vulnerability calculation analyzes six main risks: floods and flash floods; landslides; water stress (drought); wildfires; reduction or prevention of agriculture; and increased climate-linked health problems, all based on public data.

Adding to the program's initiatives, a **Climate Adaptation Checklist** has also been developed for municipal governments. The checklist helps municipal governments assess structural challenges and skills gaps in municipal administration, and identify priority initiatives on a crisis and emergency basis.

Both the indicator framework and the checklist are publicly available and can serve as guides for formulating climate adaptation strategies and creating roadmaps for climate mitigation in Brazilian municipalities.

The third pillar within the initiative is **Public Management Support – Climate Action**, which aims to enhance institutional and planning capacity to address climate impacts, as well as improving climate adaptability and resilience in participating cities.

Through mentoring and technical support, the program assists municipal governments in identifying key climate risks and affected populations, structuring appropriate governance for short- and long-term climate management, and developing plans and strategies. In 2024, the method will be launched in selected municipalities.

## Economic Development

Supporting business formalization, income generation, and the development of entrepreneurial skills has long been one of CBA's key areas of focus within this pillar. In 2023, the Company organized the inaugural edition of ***Empreende Mulher***, an initiative aimed at individuals who identify as women in the city of Alumínio (SP).

Through group training sessions and individual mentoring, the program aims to enhance entrepreneurial skills, refine business models, and connect participants to support networks over a two-year cycle. Starting in 2023, 30 aspiring women entrepreneurs participated from various sectors such as beauty, food, fashion, retail, and automotive services.

“You know that boost of energy in business? Well, you gave me plenty of it. Thank you.”

**Bruna Rafaela de Abreu Martins, participant of the *Empreende Mulher* program**


Dirce Bueno Oliveira, participant of the *Empreende Mulher* program

## *Empreende Mulher*

The training track of the first year addresses content structured into 4 modules. A competencies assessment is applied at the start and end of the program

| Module 1 | Module 2 |
|---|---|
| Entrepreneurial Traits | Strategic Planning |
| **Module 3** | **Module 4** |
| Financial Planning | Business Communication |

"Visibility and recognition of my service for clients seeking architecture professionals without needing to go to neighboring cities."

**Bárbara de Jesus Ferreira Gonçalves regarding her expectations about the Program results**

"The program was valuable in so many ways, both personally and in terms of business ideas and management. It was great to have people to exchange ideas with and learn from."

**Giselle dos Reis B. Moreira an *Empreende Mulher* program participant**

## *Empreende Mulher* by the numbers

**110** **registrations**

**30** **available spots**

**30** **business plans developed**

Approximately **180** **hours** of mentoring and meetings

**5** **women entrepreneurs** selected to receive seed capital

In the final stage, external women experts and leaders at CBA formed an evaluation panel to select five aspiring entrepreneurs with the best business plans to receive seed capital as an investment for their ventures, as well as continued mentoring in 2024.

Another initiative supporting economic development is a financial education program offered in the Zona da Mata region of Minas Gerais, where the company operates bauxite mines. A pilot project called ***Finanças do Campo: cultivando sonhos* ("Farm Finances: Cultivating Dreams")** provided practical advice to farmers in the region on budgeting, expense control, goal setting, and investment options. The aim was to empower farmers to better manage their funds and make more strategic financial decisions, thereby expanding opportunities for growth and sustainable development in rural communities.

The content was shared digitally with the support of a local facilitator, conveying financial management concepts in plain language. Upon completion of the course, 92% of participants reported adopting two or more financial education practices learned, particularly regarding separating farm finances from household finances or income from other sources. Through the learning assessment, participants demonstrated a greater understanding of the importance of saving and felt more confident to initiate personal investments, as well as reporting better planning for crisis management and avoiding debt.


"Participating in the project allowed me to do different things and still feel secure about my finances. A farmer's life can be challenging, but I managed to separate my coffee-growing expenses from my own and my wife's expenses. We started the year by making plans and I even took risks making small investments. I would recommend this course to other farmers, and I am grateful to CBA."

**João Varisi, participant of the Farm Finances project**

## Farm Finances in 2023

**14**
**farmers**

**98%**
**of classes completed**

**92%**
**of participants** reported improvement in two or more financial management practices

Participant in a social project supported by CBA in Niquelândia (GO)

**Community development**

CBA believes that the sustainable development of local communities also relies on the involvement and engagement of citizens and representatives from the third sector. The Company supports the formation and growth of networks and alliances, encouraging social dialogue and increased civic participation from communities and businesses.

Through the ***Cidadania Program*** ("Civic Engagement") in partnership with the Votorantim Institute, CBA fosters civic engagement among youth in their communities. Using a hands-on approach, this social initiative addresses the concepts of responsibilities and rights in public administration.

Over the course of three years, program activities helped to develop new skills, knowledge, and mindsets among the young participants across five dimensions of civic engagement:

1. Political awareness
2. Cooperation and social solidarity
3. Openness for dialogue
4. Empowerment and leadership
5. Program mobilization

## *Cidadania* Program in numbers

**77** **young** participants

**86** **partnerships**

**7** **initiatives,** including 2 Youth Parliaments (Muriaé and Rosário da Limeira, in Minas Gerais)

**8** **municipalities:** Miraí, Muriaé, Rosário da Limeira and São Sebastião da Vargem Alegre, in the state of Minas Gerais, and Alumínio, Araçariguama, Mairinque and São Roque, in São Paulo

In Minas Gerais, program initiatives included the establishment of a Youth Parliament in the municipal councils of Muriaé and Rosário da Limeira, the inclusion of a youth sector with five seats in the Municipal Board of Sustainable Rural Development (CMDRS) in São Sebastião da Vargem Alegre, and the creation of a Permanent Forum on Culture in Miraí.

The Youth Parliament serves as a platform to engage youth in politics and spark their interest in the democratic process, while also promoting civic engagement and critical thinking. Participants have the opportunity to experience

"The program was a turning point in my life. Since joining, I have expanded my network, secured an internship, gained confidence, and established connections with government representatives. In addition to personal development, together we implemented various initiatives in the city, such as the *Meu pequeno Miraí* project, where we delivered lectures in municipal schools and organized contests to raise awareness about our city's history."

**Agatha Pereira, a youth leader in Miraí (MG)**

"The Civic Engagement program underscored the need to discuss and address environmental issues in our city. This has directly influenced public policymaking, strengthening municipal initiatives and partnerships, and even leading city managers to allocate a larger portion of property tax to environmental protection."

**Eduardo Almeida, a project supporter in São Sebastião da Vargem Alegre (MG)**

a simulated election process and term in office, in which they develop, present, debate and then implement proposed city improvements. The projects and proposals presented in the Youth Parliament may be adopted by municipal council members to enhance policy initiatives.

In the São Paulo region, initiatives included the establishment of a Culture Forum in Alumínio, a Youth Council project in São Roque, and a Youth Parliament in Mairinque.

Recognizing the importance of civil society organizations for the development of the communities where they operate, in 2023 CBA organized a capacity building program involving eight organizations in the municipality of Alumínio (SP). Through training and individualized support, each organization implemented its development plan focusing on sustainable management, fundraising, partnerships, and communication. At the end of the program, the participating organizations came together to share experiences.

## Organizational Empowerment in 2023

**8**
**local organizations**

Approximately
**84 hours**
**of mentoring and training**

**24**
**participants**

**62%**
reported improvement above expectations

"The Civic Engagement program offers an opportunity for young people to be active and for their voices to be heard in the municipal government and in society. It also teaches political and teamwork skills and self-awareness. When I joined the project, I used to keep my opinions to myself, but the program helped me understand myself and my worldview."
**Gabriele Thais de Souza, a youth leader from São Roque (SP)**

"This is a significant opportunity for youth empowerment and political engagement. Youth learn how politics is everywhere and the importance of actively participating in shaping public policies. The Civic Engagement program is leaving a huge legacy for Alumínio, such as the establishment of an Integrated Culture Board, which will provide much greater autonomy. We have clearly seen increased growth in cities participating in the project, and this evolution will continue for future generations."
**Fernanda Machado, a project supporter in Alumínio (SP)**

***Engaja***

Launched in 2017 at CBA's Mines in the Zona da Mata region in Minas Gerais, the Company's *Engaja* ("Engage") program was created to manage and monitor social and environmental risks and opportunities in relationships with farmers whose land will host CBA mining operations, while also enhancing engagement with these stakeholders.

In 2023, in addition to engagement-related activities, other initiatives included: the development of a medium-term Engagement Plan, behavioral training for stakeholder-facing operators, and development of a communication plan to support strategies and actions for prioritized stakeholders. A roundtable discussion on Water Resources Conservation was also organized, facilitated by Professor Herly Dias from the Department of Forest Hydrology at the Federal University of Viçosa (MG), one of CBA's partners in the mine rehabilitation process.

## *Engaja* in 2023

**14**
**land owners** identified and interviewed

**6**
**home visits,** with CBA's participation

**53**
**CBA employees** trained on engagement

**10**
**farmers** participating in one discussion session on Water Resource Conservation

Henrique Ferreira Sene and Carlos Roberto Celestino, Itamarati de Minas (MG) Mining Site

## Rights advocacy

CBA advanced 16 social projects related to the rights of children and adolescents during 2023. One of the flagship initiatives is the **Votorantim for Childhood and Adolescence (VIA)** program, which seeks to contribute to better quality of life for children and adolescents, guided by the Federal Constitution and the Brazilian Child and Adolescent Statute (ECA). The program provides technical training and support to the Municipal Councils for the Rights of Children and Adolescents (CMDCA) and the Social Protection Networks in the cities served.

In Alumínio (SP), VIA reported significant results in 2023. The Social Protection Network achieved meaningful progress in 2023, especially in sectoral coordination and the organization of integrated initiatives such as the municipality's first campaign marking National Day against Sexual Exploitation of Children and Adolescents. The campaign also ran internally at CBA, with the support of 8 contractors, reaching 1,700 third-party employees.

VIA training addressed the responsibilities of each sector and the cooperation needed to safeguard the rights of children and adolescents. Internal organization at child protection services was improved through the development of a high-level workflow and task-specific workflows. Training on children and adolescent rights and social services was also enhanced. Furthermore, under a CMDCA Resolution, a Collective Management Committee was established for joint case assessments.

In 2023, VIA also received funds raised through *VIA Solidária*, a campaign by the Votorantim Institute in partnership with its portfolio companies to raise awareness about safeguarding children's and adolescents' rights and strengthening a culture of donation to Municipal Boards in the cities where portfolio companies operate.

Debora de Oliveira Rizzati, CBA's Environmental Engineer, and participants in the *Viva ao Esporte* project, Divinolândia (SP).

## Votorantim Program for Childhood and Adolescence in 2023

**5 municipalities:** Alumínio (SP), Araçariguama (SP), Barro Alto (GO), Chavantes (SP) and Muriaé (MG)

**258 hours of training**

**42,134 children and adolescents** impacted

**R$ 454 thousand** allocated to funds via tax-deduced funding and donations

**182 participants**

**R$ 143.9 thousand** raised by the *VIA Solidária* campaign, with the participation of 68 CBA donors

## Municipal indicators 2023

| | Amounts contributed to funds | Total number of training hours | Total participants |
|---|---|---|---|
| Alumínio (SP) | | 118 | 93 |
| Araçariguama (SP) | R$ 178 thousand | 35 | 23 |
| Barro Alto (GO) | R$ 196 thousand | 30 | 16 |
| Chavantes (SP) | | 40 | 22 |
| Muriaé (MG) | R$ 80 thousand | 35 | 28 |

### Municipal Highlights

**Aluminío (SP)**

1. Created a committee for children and adolescents who have experienced or witnessed violence
2. Referral workflows for established violence cases

**Araçariguama (SP)**

1. Achieved double the Company's target for the year
2. Successful management transition of CMDCA
3. Identified main human rights violations in the municipality

**Barro Alto (GO)**

1. Successful management transition of CMDCA
2. Regularized the Children and Elderly Fund
3. Updated the CMDCA Charter
4. Professionalized internal management

**Chavantes (SP)**

1. Provided technical training spanning the entire Social Protection Network, including counselors elected in 2023
2. Refined Social Assistance workflows

**Muriaé (MG)**

1. Exceptional performance against program targets
2. Updated the CMDCA Charter
3. Prepared technical plan for applying Children and Adolescent Fund disbursements

Michele Santos, Mirella Martins and Rayssa Gabriely, Participants of the Volunteering Challenge, Alumínio (SP) plant

**Volunteering Challenge**

From July to October, CBA employees participated in another edition of the Volunteer Challenge. Organized by the Votorantim Institute, this initiative encourages volunteer activities benefiting communities across Brazil. It fosters solidarity through a healthy competition among Votorantim portfolio companies and aims to strengthen connections between employees and the local community, supporting the growth of non-profit organizations and public schools. The theme for the 9th edition in 2023 was "Courage to Transform."

## CBA recognized in Volunteering Challenge

In 2023, CBA's high level of engagement around the Volunteer Challenge earned recognition for four sites:

**Medium-sized Category**

- Mining site Miraí (MG) – 2nd place
- Legado Verdes do Cerrado (GO) – 3rd place

**Small-sized Category**

- Mining Site Barro Alto (GO) – 1st place
- Mining Site Poços de Caldas (MG) – 2nd place

## The Volunteering Challenge in 2023

**111 initiatives**
carried out to support organizations in various sectors, including education, poverty and hunger alleviation, health and well-being promotion, and arts and culture

**593 volunteers**

Over
**8,300 individuals and**
**55 institutions**
benefited

# Environmental protagonism



*Legado das Águas* Reserve, Reservas Votorantim (SP)

**SDGs related to this chapter:**


**Material topics related to this chapter:**

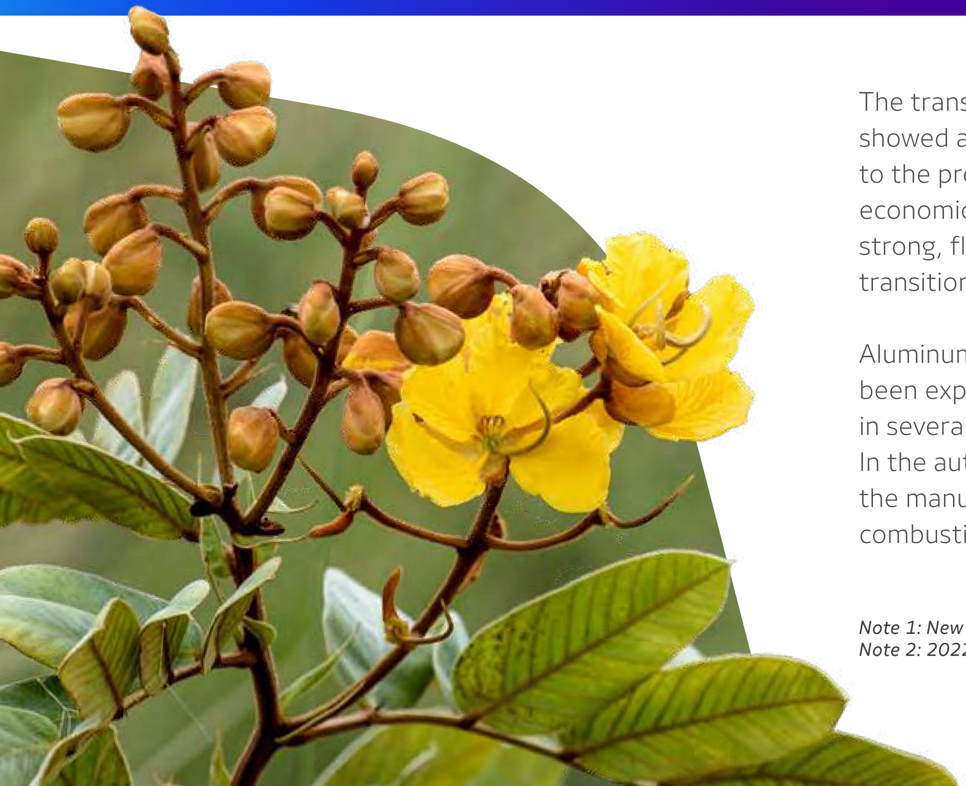
- Biodiversity and ecosystem services
- Circular aluminum
- Renewable energy and energy efficiency
- Climate strategy
- Water and wastewater management
- Waste management
- Dam safety management
- Innovation, technology, and business resilience

**Global Compact Principles addressed in this chapter:**

7. Businesses should support a precautionary approach to environmental challenges.
8. Businesses should undertake initiatives to promote greater environmental responsibility.
9. Businesses should encourage the development and diffusion of environmentally friendly technologies.

# Climate change and CBA's role in decarbonization

**GRI 3-3 (Climate strategy), SASB EM-MM-110a.2, IF-EU-110a.3**



The transition to a low-carbon economy is a global reality—a recent study[1] showed a 31% increase in energy transition investments in 2022 compared to the previous year. Aluminum can play a central role in efforts to achieve economic development coupled with emissions reductions. As a lightweight, strong, flexible, and infinitely recyclable metal, it is ideally suited to support transition efforts.

Aluminum has been the material of choice for various industries and has been explored in energy transition studies as a key decarbonization enabler in several sectors, such as wind and solar generation and transmission. In the automotive segment, up to 40 times more aluminum is used in the manufacturing of electric and hybrid vehicles than in conventional combustion-powered vehicles, according to a study[2].

*Note 1: New Energy Outlook 2022, by BNEF.*
*Note 2: 2022 edition of the Aluminum Content in Passenger Vehicles (Europe) report.*

**2030 ESG Strategy levers related to this chapter:**

- *Renewable energy*
- *Climate change*
- *Dams*
- *Natural resources*
- *Circular aluminum*

Beyond serving as a staple material for the automotive market, CBA's aluminum is an industry benchmark for sustainability. It is produced using 100% renewable and traceable electricity, with the lowest carbon emission intensity in the world at the refinery stage, and 3.5 times lower emissions than the global average in primary aluminum production.

CBA's aluminum is also a top performer in several different ratings, indexes, and certification frameworks (learn more on pages 33 and 34). Information about the Company's sustainable aluminum is embedded in CBA's new Alennium label, which certifies the material's low-carbon nature. Customers can use the label and digital passport to advertise their products' sustainable aluminum content.

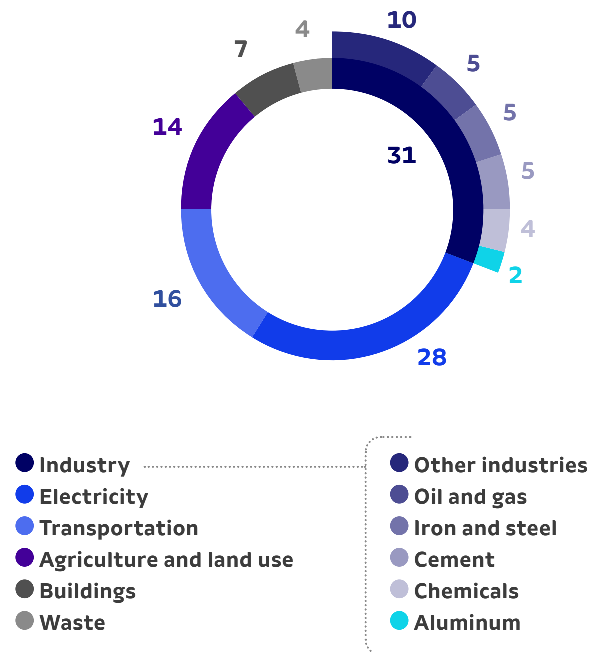
alennium

**100%**

**renewable and traceable**

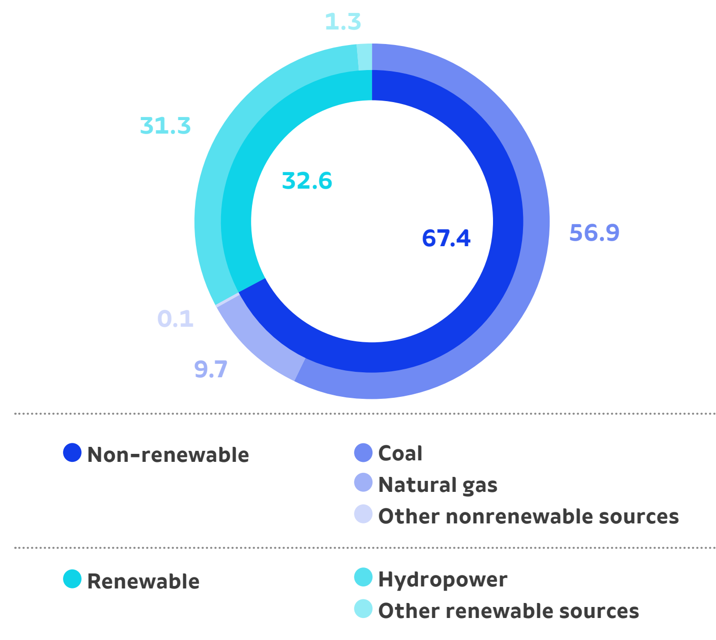
electrical energy in the aluminum production

## Global GHG emissions by industry (%)




*Source: adapted from Rhodium Group (2023) and Global Efficiency Intelligence (2022).*

## Global primary aluminum production by energy source (%)




*Source: IAI, 2021. Available at: https://international-aluminium.org/statistics/primary-aluminium-smelting-power-consumption/*

## CLIMATE STRATEGY

The climate agenda holds significant importance for the aluminum industry. Aluminum manufacturing accounts for 2% of global greenhouse gas (GHG) emissions and consumes 5% of global energy output in the production of primary aluminum, according to the International Aluminum Institute (IAI). Therefore, CBA sees this issue as strategic and is actively working to further reduce its emissions, despite already having one of the lowest carbon footprints in the sector. As part of its 2030 ESG Strategy, the Company has set a goal to decrease emissions intensity in its cast products by 40% by 2030 and achieve Net Zero emissions by 2050.

Beyond mitigation efforts, CBA recognizes the current and potential future impacts of climate change on its operations and society, and therefore also engages in action on climate adaptation. In recent years, CBA has conducted climate assessments to explore the effects of climate change and develop strategies for its business. In 2023, CBA updated and refined its climate adaptation plans and risk and opportunity mapping, and extended them to the Energy Business and Alux, newly acquired by CBA in 2022. In addition, CBA has begun evaluating future climate projections for transition risks alongside physical risks. Concurrently, the Company has developed a roadmap of climate opportunities encompassing all sites, outlining potential initiatives for future implementation. For more details on CBA's risk and opportunity mapping practices, see the Company's Climate Report.

Furthermore, CBA is actively engaged around various commitments, movements, and working groups related to climate action. These include the Global Compact, the Net Zero Ambition Movement, the Brazilian Business Council for Sustainable Development (CEBDS), the São Paulo Agreement, the Science Based Targets initiative (SBTi), the Task Force on Climate-related Financial Disclosures (TCFD), the First Movers Coalition, and Aluminium Stewardship Initiative (ASI) working groups.

Reduce

**40%**

**of carbon emissions**

in cast products (from mine to casting) $tCO_2e/t$ Al*

26.0% **Goal: 40%**

## Decarbonization commitments

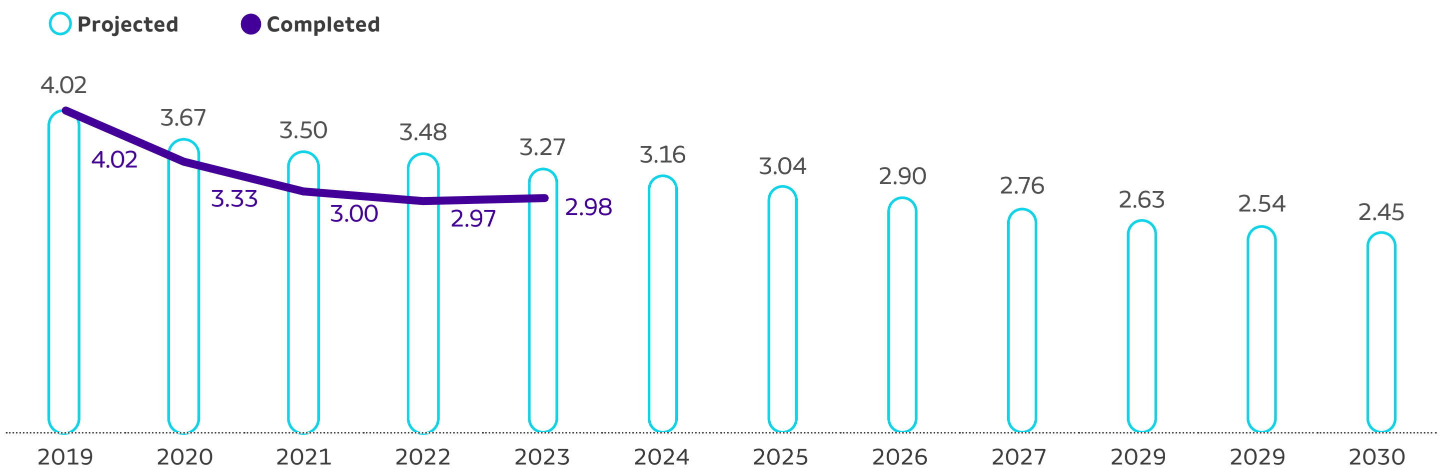
As part of its 2030 ESG Strategy, CBA's Climate Mitigation and Adaptation Program sets five climate-related targets:

- Reduce emissions by 40% (on average for cast products, cradle-to-gate)
- Offer customers a carbon-neutral product range
- Create a roadmap to becoming emissions neutral by 2050
- Develop a climate change adaptation plan
- Provide public management support in mitigating and adapting to climate change

Other levers of the Company's 2030 ESG Strategy also resonate with the climate agenda, such as renewable energy and circular aluminum levers.

### Emission intensity in cast products (from mine to casting) - $tCO_2e/t$ Al)*

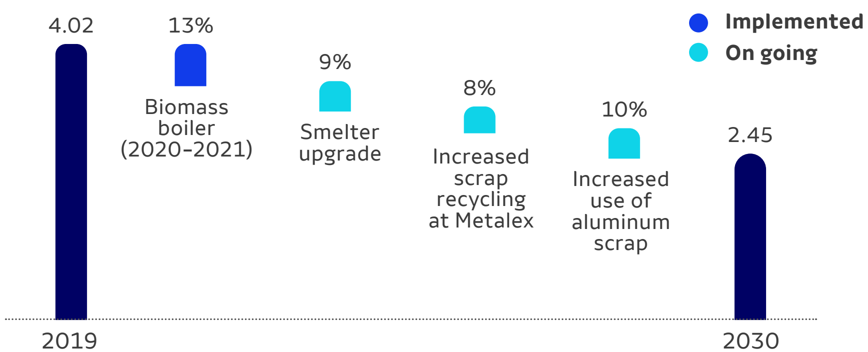
GRI 305-4, SASB EM-MM-110a.2, SASB IF-EU-110a.3




** Considering Scopes 1 and 2 of GHG emissions from all the aluminum chain (mining, alumina refinery, smelters, casting and support areas) and Scope 3 from purchase of ingots used at Metalex and Alux plants.*


Eduardo Raupp, Production operator, Alux do Brasil (SP) plant

## Emissions reduction 2030 roadmap ($tCO_2e/t$ Al)




*Note: Considering Scopes 1 and 2 of GHG emissions from all the aluminum chain (mining, alumina refinery, smelters, casting and support areas) and Scope 3 from purchase of ingots used at Metalex and Alux plants.*

# GREENHOUSE GAS EMISSIONS MANAGEMENT

To ensure the Company's climate efforts are well managed and outcomes are transparently reported, CBA publicly discloses its emissions inventory annually on the Brazilian Public Emissions Registry (PER) platform, using the GHG Protocol methodology. CBA has been awarded Gold reporting status from the program since 2018 for the completeness and third-party verification of its inventory.

CBA's emissions management process covers each of its production sites. All high-emissions processes and decarbonization-critical process stages have associated reduction targets linked to employees' variable compensation. For instance, stages like the Refinery (alumina production) and Smelters (liquid aluminum production) account for nearly 90% of CBA's carbon emissions. Casting, including at Metalex and Alux, also have assigned GHG reduction targets as they handle aluminum recycling, which significantly contributes to reducing the carbon footprint of CBA's products. The newly established Metals division within the Supply Chain department has a decarbonizing roadmap for its sourced materials. Progress toward these targets is periodically monitored by CBA's Executive Board.

CBA's Refinery boasts the world's lowest emissions per metric ton of alumina according to consulting firm CRU's Emissions Analysis Tool. One of the key technologies behind this achievement is the use of biomass as a substitute for natural gas and fuel oil previously used in boilers. This biomass consists of eucalyptus wood chips from reforested areas, wood waste, or fruit peels. With this change, CBA's Refinery is one of the first in the world to use primarily biofuel-generated steam.

Emissions from primary products from the Smelters account for 78% of the Company's total emissions. In 2023, CBA continued to stand out on the global stage, with an indicator 3.5 times lower than the global average for the aluminum industry of 11.3 $tCO_2e/t$ aluminum, considering IAI data from 2022 for Scopes 1 and 2 for electrolysis and anode production. Compared to 2022, the indicator shows a slight increase due to temporary operational instability at this stage of production in 2023. The following aspects explain the result: an increase of 0.206 $tCO_2e/t$ liquid aluminum compared to the previous year; 0.005 $tCO_2e/t$ Al given the higher consumption of anode paste; and 0.197 $tCO_2e/t$ Al due to occurrences of anodic effects.

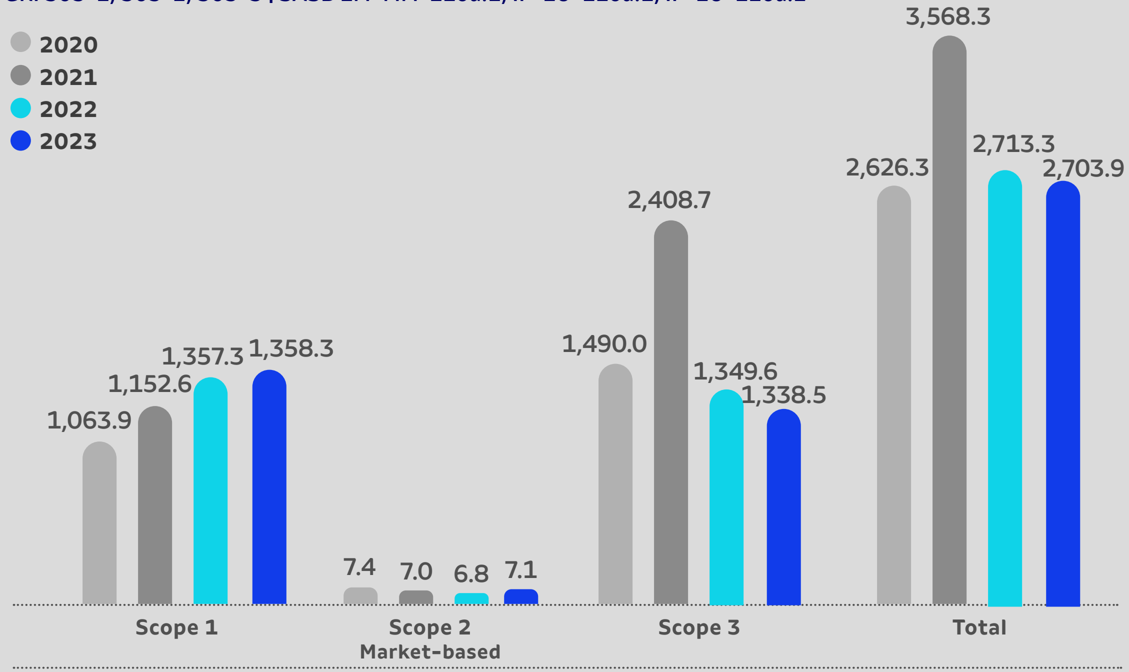
In the second half of 2023, with the normalization of the situation, emissions once again showed an improvement curve, and the final result keeps the Company among the low-carbon aluminum producers in the world. In 2024, a complete stabilization of this scenario is expected.

In relation to emissions from the wider aluminum value chain, CBA remains firm in its goal to reduce emissions from cast products by 40% across the mining, refinery, smelting, and casting stages (Alumínio, Alux and Metalex). This target includes Scope 1 and 2 emissions from each of these processes and Scope 3 emissions only for aluminum sourced for non-vertically integrated operations, using the same criteria. As of 2023, CBA has achieved a reduction of 26% in these emissions from a 2019 baseline. The outcome surpassed expectations, as demonstrated in the graph on page 122.

Furthermore, the Company aims to produce 100% of Metalex billets with greenhouse gas emissions below 1.4 $tCO_2e/t$ of product by increasing scrap consumption by 2030.

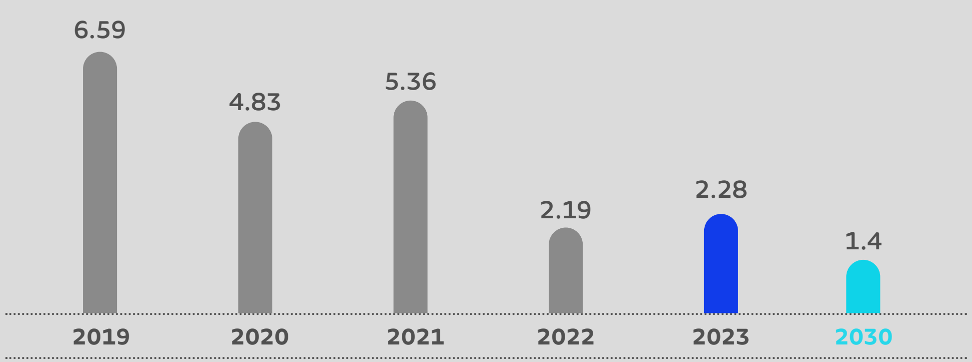
## Direct and indirect emissions (in thousands of metric tons of $CO_2e$)

GRI 305-1, 305-2, 305-3 | SASB EM-MM-110a.1, IF-EU-110a.1, IF-EU-110a.2




*Note 1: All greenhouse gases are included in the calculation ($CO_2$, $CH_4$, $N_2O$, HFCs, PFCs, $SF_6$, $NF_3$).*
*Note 2: The consolidation approach for emissions was operational control.*
*Note 3: Sorocaba facility, Corporate Office and Caxias do Sul (RS) Distribution Center and SSC have not been included in the scope of this disclosure, as their emissions are negligible.*
*Note 4: The total value for 2020 has been reviewed.* GRI 2-4

## Metalex emissions per product ($tCO_2e/t$ billets)




*Note: In 2023, there was a reduction in ingot consumption from CBA in Metalex production, resulting in an increase in Scope 3 emissions from this plant.*

## Greenhouse gas (GHG) emissions intensity ($tCO_2e$/t of product)

GRI 305-4

| | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|
| Mines (processed bauxite) | 0.01 | 0.01 | 0.01 | 0.01 |
| Alumínio plant (finished products) | 3.50 | 3.03 | 3.39 | 3.61 |
| Metalex (billets) | 0.27 | 0.26 | 0.25 | 0.28 |
| Itapissuma (semi-fabricated aluminum) | 1.01 | 0.96 | 0.91 | 0.93 |
| Alux (cast aluminum) | NAv | NAv | 0.31 | 0.27 |

*Note 1: Includes Scope 1 and 2 emissions. All greenhouse gases are included in the calculation ($CO_2$, $CH_4$, $N_2O$, HFCs, PFCs, $SF_6$, $NF_3$).*
*Note 2: Alux was acquired in 2022 and therefore no data is available from prior years.*

## Greenhouse gas (GHG) emissions intensity at Alumínio plant ($tCO_2e$/t Al)

GRI 305-4

| | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|
| Production of cast products (cradle to gate) | 3.08 | 2.63 | 3.25 | 3.23 |
| Production of semi-fabricated aluminum products (cradle to gate) | 4.67 | 3.81 | 3.87 | 4.80 |
| Smelters – molten aluminum (single stage) | 2.66 | 2.56 | 3.03 | 3.23 |

*Note: All greenhouse gases are included in the calculation ($CO_2$, $CH_4$, $N_2O$, HFCs, PFCs, $SF_6$, $NF_3$). The emissions intensity calculation is based on Scope 1 and 2 GHG emissions across the value chain (Mines, Refinery, Smelters, Casting, Downstream and Support Áreas).*

**CBA is the world's top performer in Refinery emissions, at 0.22 $tCO_2e$/t alumina in 2023, according to consulting firm CRU**

"Being at the top of the supply chain, supplying a metal that is crucial for the energy transition, is how we transform lives through aluminum."

**Alexandre Vianna, Primary Products VP**

Biomass boiler, Alumínio (SP) plant

*Legado Verdes do Cerrado*
Reserve (GO)

# The first
## primary aluminum producer
to have SBTi approved targets

## SBTI

**GRI 3-3 (Climate strategy), SASB EM-MM-110a.2**

In addition to CBA's consolidated emissions reduction goal under its 2030 ESG Strategy, the Company has three targets approved by the Science Based Targets initiative (SBTi), two for Scope 1 and 2 emissions and one for Scope 3.

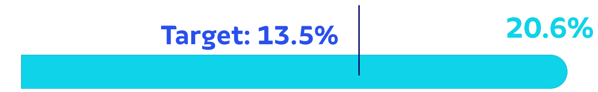
SBTi is a collaborative effort of the CDP, the Global Compact, the World Resources Institute (WRI), and WWF aiming to develop science-based climate targets aligned with the global commitments under the Paris Agreement. CBA was the first primary aluminum producer in the world to have targets approved by SBTi, demonstrating its alignment with scientific principles in target-setting and its commitment to tackling climate change.

**The Company's SBTi targets are to:**

- Reduce emissions intensity (Scopes 1 and 2) by 40% in the refining and smelting stages from a 2018 baseline
  **Percent reduction as of 2023:** 0%


- By 2030, reduce absolute Scope 1 and 2 emissions from other operations (Mines, Casting and Downstream) by 35% from a 2018 baseline
  **Percent reduction as of 2023:** 7.4%


- By 2030, reduce Scope 3 emissions (categories 1, 3, 4 and 9) by 13.5% across all business units from a 2019 baseline
  **Percent reduction as of 2023:** 20.6%



## GREENHOUSE GAS MITIGATION PROJECTS

### Smelter technology upgrade
Since 2018, CBA has been implementing a project to upgrade its Smelters to a new automated point feeder technology that will reduce greenhouse gas emissions by 20%. The most recent upgrade was in 2022, at Pot Room 3. So far, with the conversion of 150 out of 1,118 electrolysis pots planned for conversion, the project has avoided aggregate emissions of 42.9 thousand $tCO_2e$. The initiative also enables significant energy savings in the production process as well as water savings, as gas scrubbing systems can be deactivated.

### Higher recycled content
Recycling is one of CBA's priorities and directly contributes to its decarbonization goals. Alux, a secondary alloys company acquired in 2022, has significantly expanded CBA's aluminum recycling capacity. Metalex, meanwhile, commissioned a new Sidewell furnace in 2021, increasing its production capacity, and in 2023 started operation of a new scrap treatment line. CBA also created its first Processing and Recycling Center in the year.

CLICK HERE
Read more in the "Recycling is essential" chapter

### Carbon Capture, Storage, and Utilization (CCUS)
In 2023, CBA expanded its research into carbon capture through the Company's Technology department. New research programs on the use of Tecno-solo (enhanced topsoil), activated carbon, and zeolites, as well as new product applications for captured $CO_2$, were added to the Company's research pipeline in the year.

Billets, Metalex (SP)

### Traceable ingot sourcing
This year, CBA has implemented a more efficient traceability system for externally sourced aluminum ingots. This will support more responsible sourcing of low-carbon products for operations requiring these inputs, as well as a pathway for progressive decarbonization of sourced ingots by 2030. Alongside this initiative, a target has been set for employees in the Metals division within the Supply Chain department to achieve gradual reductions in upstream carbon emissions.

### Railcar mover
In 2023, CBA acquired a new railcar transportation asset for its Alumínio (SP) plant. Called a railcar mover, this machine replaces old shunting locomotives and is capable of moving on both tracks and roads, using exclusive technology to consume less fuel with low maintenance costs.

Furthermore, as it is much lighter than a traditional locomotive, the mover uses less fuel, resulting in an expected reduction of carbon emissions by up to 30% compared to the previous equipment.

## CLIMATE RISKS

GRI 201-2, SASB EM-MM-110a.2, SASB IF-EU-110a.3

CBA has established a robust framework for mapping and monitoring climate risks, detailing risks and opportunities in accordance with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), a climate reporting framework structured around four thematic areas: governance, strategy, risk management, and metrics and targets.

The Company's risk mapping process covers both physical and transition risks, all linked to specific incidents, which can be either one-off or recurrent. Physical risks resulting from climate change can be event-driven (acute) or longer-term shifts (chronic) in climate patterns. The assessment approach also classifies risks depending on the likelihood and magnitude of impacts.

Some identified risks include reduced electricity generation (hydroelectric powerplants), regulatory developments, shortages of critical inputs, increased incidence of fires, and power system overloads. For all identified risks, management measures have been established to control the risk and robust action plans have been developed to mitigate their impact and reduce their likelihood of occurrence.

This comprehensive approach to assessing risks affecting the business, and especially climate-change risks, enables CBA to create robust and more effective mechanisms for anticipating issues, making the Company more resilient to climate change.

CLICK HERE
View the report here

*Legado Verdes do Cerrado Reserve (GO)*

### Climate Agenda Report

In 2023, CBA launched its first Climate Agenda Report, related to 2022 and aligned with the TCFD recommendations, a climate reporting methodology that is divided into four pillars: climate governance, strategy, risk and crisis management, and metrics and goals.

## CBA AT COP28 IN DUBAI

CBA participated in the United Nations Climate Change Conference (COP28 UAE) held in Dubai, United Arab Emirates. Leandro Faria, Chief Sustainability, Safety, and Environment Officer, attended two panels: one discussing the significant role of aluminum in the transition to a net-zero economy, in partnership with Global Compact Brazil, and another held in collaboration with the Brazilian Aluminum Association (ABAL), highlighting the potential climate benefits from Brazil's low-carbon aluminum.

During the event, the Company also formalized its support for an initiative launched by the International Aluminium Institute (IAI) to track greenhouse gas (GHG) targets in the aluminum industry.

Following COP28, CEO Luciano Alves was invited to a panel organized by Brazilian business magazine Exame to discuss the main topics addressed during the climate conference and actions needed to accelerate the 2030 Agenda, as well as CBA's contributions to the environment and society.


Leandro Campos de Faria, Chief Sustainability, Safety, and Environment Officer at COP28

## CBA AT THE BRAZIL CLIMATE SUMMIT AND SDGS IN BRAZIL CONFERENCE IN NEW YORK

On invitation from the UN Global Compact, CBA participated in two events in the lead-up to Climate Week in New York. CEO Luciano Alves took part in a panel titled "Integrity in the value chain: why is mobilizing the value chain so challenging?", where he shared the Company's good governance practices with a global audience during the SDGs in Brazil conference, at the invitation of the Global Compact 100% Transparency Movement, of which the Company is a signatory.

Concurrently, CBA's Chief Sustainability, Safety, and Environment Officer, Leandro Faria, was one of the panelists in a webinar, also organized by the Global Compact during Climate Week, on the "Business sector decarbonization journey: paths towards a new net-zero economy," discussing CBA's efforts to reduce emissions in its processes.

This panel was organized by the Net Zero Ambition Movement, of which CBA is a member, which assists companies in establishing science-based climate commitments aligned with Sustainable Development Goal 13 (Climate Action) and the Paris Agreement. The Company is also actively involved in Race to Zero, a global campaign led by the United Nations Global Compact to combat climate change.

## CLIMATE ACTION INITIATIVE

**GRI 3-3 (Climate strategy)**

Aligned with the goal under CBA's 2030 ESG Strategy of providing public management support in climate adaptation and mitigation, CBA, in partnership with the Votorantim Institute and the Itaúsa Institute, a methodology to support climate management for municipalities participating in the Initiative. The aim is to guide cities towards best practices in this area, supporting the development of municipalities and their resilience capacity in the face of climate change.

For more details about this program, see page 109.


Rebeca Lima, CDP's Latin America Executive Director, Raquel Martins Montagnoli, CBA's Sustainability Manager, and Leandro Faria de Campos, CBA's Chief Sustainability, Safety and Environment Officer at the A-List Award event

CDP A LIST 2023 CLIMATE

### CDP Climate Change

For the second consecutive year, CBA was included on the A List of the CDP, a not-for-profit charity that runs the global environmental disclosure system, evaluating and recognizing the efforts of companies to mitigate the environmental impacts from their operations.

CBA was recognized for its leadership in transparency and performance around climate change. In 2022, the Company became the first and only primary aluminum producer in the world to receive an "A" rating from the CDP, reaffirming its industry leadership.

## FIRST MOVERS COALITION (FMC)

CBA is a member of the First Movers Coalition, a global initiative that brings together companies from seven industrial sectors to accelerate the transition to a low-carbon economy by generating demand and promoting the supply, financing, and deployment of innovative emerging climate technologies.

In addition to CBA's commitment within the aluminum industry, in 2023 the Company was one of a selection of companies invited to participate in the First Suppliers Hub pilot, comprising suppliers close to achieving low-carbon production.

# Renewable energy and energy efficiency

**GRI 3-3 (Renewable energy and energy efficiency), 302-1, 302-4**

Renewable energy and energy efficiency are crucial from both an environmental and a financial perspective, allowing CBA to produce more with less and thereby reduce the Company's energy requirement, the use of natural resources and greenhouse gas (GHG) emissions.

In energy efficiency, CBA has launched several initiatives to optimize energy management, such as energy consumption monitoring, and in 2024 the Company will focus on further developments in this area. At the Alumínio plant, two projects completed in 2023 resulted in savings of approximately 4 MW per year: the installation of high-performance compressors in the Alumina Refinery, and motor replacement and installation of new variable frequency drives in the Casting and Refinery areas. These initiatives are part of a strategic roadmap detailing key activities required to transition from CBA's current-state energy management approach to a new energy efficiency management model. The roadmap covers processes, technology, personnel, and identifying and implementing initiatives.

The Itapissuma rolling mill is incrementally purchasing electricity from alternative sources, such as wind power, to expand its options for clean sources. Meanwhile, Alux has reduced its natural gas consumption by installing an oxy-combustion system—the two furnaces now runs on oxygen (70%) and natural gas (30%), resulting in a 40% decrease in gas consumption compared to the previous combustion system. Collectively, the initiatives at Alumina, Itapissuma and Alux have resulted in an aggregate reduction of 94,674 GJ in energy consumption within the Aluminum Business.

In the Energy Business, CBA's commitment to the environment is evidenced by its clean and renewable power generation capabilities, which contribute to mitigating climate-change impacts. Water is the primary resource used in the hydropower plants, which harness energy from flowing river water. Recognizing its role in water stewardship, CBA has ongoing initiatives to preserve springs, native forests, and biodiversity. The Company also consistently engages with stakeholders, including governmental and non-governmental organizations, to ensure the optimal utilization of water resources.

As part of its energy governance practices, the Company has a management standard for purchasing Renewable Energy Certificates (RECs), with 2023 marking the third consecutive year of purchasing certificates as necessary to achieve 100% renewable energy.

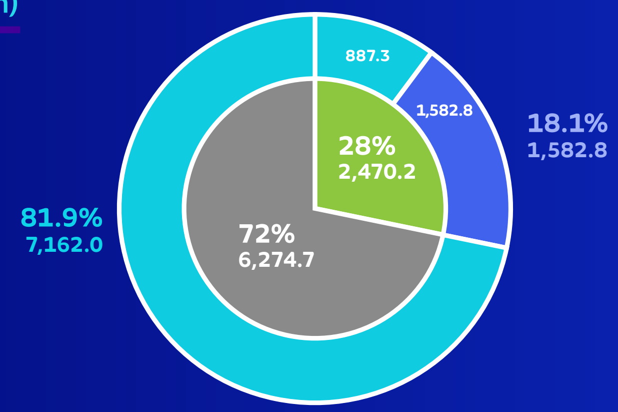
**Energy consumption in 2023:**

- 31.5 million GJ of energy consumed (electricity and fuels) in production processes
- 72% of energy consumption comes from electricity, with 95% being self-generated

Wind Park
*Ventos do Piauí*

## Energy Consumption (thousands of MWh)

SASB EM-MM-130a.1




## Energy consumption within the organization, per source (thousands of GJ) GRI 302-1

| | 2020 | | | 2021 | | | 2022 | | | | 2023 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Aluminum Business | Nickel Business | Total | Aluminum Business | Nickel Business | Total | Aluminum Business | Nickel Business | Energy Business | Total | Aluminum Business | Energy Business | Total |
| Renewable fuel energy consumption | 2,709 | 1 | **2,710** | 3,193 | 1 | **3,194** | 3,039 | 1 | 1 | **3,041** | 3,193 | 1 | **3,194** |
| Electricity consumption (100% renewable) | 19,409 | 34 | **19,443** | 22,026 | 30 | **22,056** | 22,746 | 21 | 145 | **22,913** | 22,387 | 202 | **22,589** |
| **Total renewable energy consumption (fuel and electricity)** | **22,118** | **35** | **22,153** | **25,219** | **31** | **25,250** | **25,785** | **22** | **146** | **25,954** | **25,580** | **203** | **25,783** |
| Non-renewable fuel energy consumption | 5,035 | 7 | **5,042** | 5,146 | 11 | **5,157** | 5,844 | 15 | 3 | **5,862** | 5,694 | 4 | **5,698** |
| **Total energy consumption within the organization (renewable and non-renewable)** | **27,153** | **42** | **27,195** | **30,365** | **42** | **30,407** | **31,629** | **37** | **149** | **31,816** | **31,274** | **207** | **31,481** |

*Note 1: The input data is the same as that used in the $CO_2e$ emission calculations of the GHG Protocol tool. The conversion factors available in each year were used.*
*Note 2: In 2022, the Energy Business sold 2,040 thousand MWh of surplus energy and, in 2023, it sold 4,310 thousand MWh.*
*Note 3: In 2022, total self-generated electricity consumption was 17,384 thousand GJ and represented 76% of electricity consumption. In 2023, it was 21,480 thousand GJ (95% of total electricity consumption).*
*Note 4: 100% of the electricity consumed is of renewable origin guaranteed through self-declarations and renewable energy certificates (RECs).*

Billet, Metalex (SP)

CLICK HERE
Learn more in the Additional Disclosures Supplement

## Energy intensity (GJ/t) GRI 302-3

| | 2020 | | | 2021 | | | 2022 | | | 2023 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Electricity | Fuels | Total | Electricity | Fuels | Total | Electricity | Fuels | Total | Electricity | Fuels | Total |
| **Mines (processed bauxite)** | 0.02 | 0.12 | **0.14** | 0.02 | 0.12 | **0.14** | 0.02 | 0.04 | **0.07** | 0.02 | 0.13 | **0.15** |
| **Smelters (molten aluminum)** | 56.68 | 0.23 | **56.91** | 55.76 | 0.21 | **55.97** | 57.32 | 0.28 | **57.60** | 59.69 | 0.34 | **60.03** |
| **Alumínio plant (finished products)** | 63.68 | 21.99 | **85.67** | 58.51 | 19.49 | **78.00** | 58.82 | 20.07 | **78.89** | 61.62 | 21.34 | **82.96** |
| **Metalex (cast aluminum)** | 0.23 | 4.67 | **4.90** | 0.24 | 4.56 | **4.80** | 0.27 | 5.08 | **5.35** | 0.31 | 5.62 | **5.94** |
| **Alux do Brasil (cast aluminum)** | NAv | NAv | **NAv** | NAv | NAv | **NAv** | 0.35 | 6.20 | **6.55** | 0.28 | 5.46 | **5.74** |
| **Itapissuma (semi-fabricated products)** | 5.56 | 14.50 | **14.50** | 6.35 | 16.77 | **23.12** | 6.60 | 17.94 | **24.54** | 6.60 | 18.38 | **24.98** |

*Note 1: Smelter consumption is considered for Alumínio plant consumption, but also presented separately for greater transparency.*
*Note 2: Finished products take into account the production of Primary and Downstream products minus the transfer of products between businesses.*
*Nota 3: The energy intensity of Alux do Brasil was taken into account in the Report in 2022, which is why historical data is not available.*

# Biodiversity and ecosystem services

**GRI 3-3 (Biodiversity and ecosystem services), CBA-31**

CBA plays an active role in forest and biodiversity protection. By integrating these initiatives into its management practices, the Company works to mitigate the environmental impacts of its operations through soil recovery, local vegetation restoration, and raising environmental awareness among its employees and the communities it serves.

CBA's approach to managing biodiversity and ecosystem services is governed by the Company's Integrated Management Policy, Code of Conduct, and Biodiversity and Protected Areas Action Plan. In addition, the Company has a related Management Standard containing an Environmental Aspects and Impacts Assessment Matrix that identifies and classifies biodiversity impacts, rates them on criticality, and establishes recommended control measures.

This Management Standard (MS) establishes minimum requirements to be met in biodiversity management, supporting preventive action and continuous improvement across CBA's operations (Alumínio, Miraí, Itamarati de Minas, Poços de Caldas, Barro Alto, Itapissuma, Metalex, Alux, and the Hydroelectric Power Plants) and ensuring safe and effective management of biodiversity within and surrounding Company sites. In these operations, the requirements in the MS apply to a total of 27,263.94 hectares.

*Legado Verdes do Cerrado* Reserve (GO)

Most operations conduct an assessment of the ecosystem services on which they depend or which they impact and determine priority services, risks, opportunities, and mitigation measures. This assessment is based on "The Corporate Ecosystem Services Review – Guidelines for Identifying Business Risks & Opportunities Arising from Ecosystem Change – Version 1.0," developed by the World Resources Institute (WRI).

Some of the prioritized ecosystem services include freshwater supply, natural resource supply, air quality regulation, water regulation, erosion regulation, and water purification regulation and waste treatment.

Biodiversity is also addressed in CBA's 2030 ESG Strategy, with two related targets:

- Create/expand 1 hectare of ecological corridors for every 10 hectares of mined and rehabilitated land
- 10% of key suppliers and customers co-investing in forest and biodiversity programs

To achieve these targets, CBA is focusing its efforts on forest conservation in its operational regions, aiming to minimize environmental impacts. These efforts include soil recovery, reforestation, and raising awareness among local communities.

## Habitats protected or restored (km²) GRI 304-3

| | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|
| **Total areas protected** | 360.5 | 364.3 | 679.0 | 687 |
| **Total areas restored** | 0.5 | 0.01 | 5.7 | 2 |
| **Total** | **361** | **364** | **685** | **689** |

## Habitats protected or restored, by biome (km²)

| | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|
| ***Cerrado*** | 275 | 275 | 276 | 275 |
| **Atlantic Forest** | 361 | 364 | 409 | 414 |
| **Total** | **636** | **639** | **685** | **689** |

*Note: Alux does not have areas protected and restored. Metalex is not included in this disclosure. This disclosure considers data from the* Legado das Águas *and* Legado Verdes do Cerrado *reserves.*

As of 2023, CBA had 687 km² of protected habitats and 2 km² of areas restored.

CLICK HERE
**Learn more in the Additional Disclosures Supplement**

*Legado das Águas Reserve (SP), Reservas Votorantim*

## PROTECTED AREAS

**GRI 304-1**

CBA's Itapissuma rolling mill in northeastern Brazil is nested within a protected area (Santa Cruz), and CBA's Mining Sites each have their own Private Natural Heritage Reserve (PNHR): São Lourenço, in Itamarati de Minas (MG), Boa Esperança, in Descoberto (MG), and Morro Grande, in Caldas (MG).

The França (SP), Fumaça (SP), Barra (SP), Porto Raso (SP), and Juruparã (SP) hydroelectric power plants are located within the Jurupará State Park (PEJU), with the Alecrim (SP) and Serraria (SP) hydropower plants situated in its buffer zone. The Salto do Iporanga (SP) hydropower plant is located within the buffer zone of Carlos Botelho State Park. The Itupararanga (SP) hydroelectric reservoir is located in the Itupararanga protected area.

CBA also owns *Legado Verdes do Cerrado* and is a co-founder of *Legado das Águas*, two private reserves that combine conservation with profitable business activities.

CLICK HERE

**Learn more in the Additional Disclosures Supplement**

Employee Letícia Felix and participants from the Open Doors Program, *Legado Verdes do Cerrado* Reserve (GO)

## *LEGADO VERDES DO CERRADO*

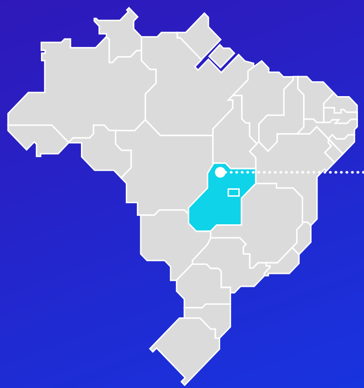
*Legado Verdes do Cerrado*, owned by CBA and managed by Reservas Votorantim, is a Private Sustainable Development Reserve (RPDS) covering 32 thousand hectares. It includes the Engenho and Santo Antônio da Serra Negra sub-divisions in Niquelândia, located in the northern region of Goiás State.

Operating on a sustainable model, *Legado Verdes do Cerrado* supports biodiversity protection by integrating traditional agricultural (20% of the area consists of pastures and cropland) with new economy activities (80% of the area is covered by highly conserved *Cerrado* biome native vegetation), promoting local social and economic development through research, innovation, and shared value creation.

Significant new-economy activities on the reserve include:

- A Biodiversity Center with a capacity to produce 250,000 native Cerrado seedlings for restoration and sustainable landscaping projects
- The REDD+ *Cerrado* program, covering 35% of the area, which recently completed the sale of its inaugural carbon credits (learn more on page 140)
- Legal Reserve offsets
- Carbon offsets through reforestation
- Agroforestry incorporating native fruit tree cultivation
- Environmental education activities and events offering unique experiences in the Cerrado to communities and customers
- Scientific research via direct and indirect partnerships, alongside the development of sustainable projects

# *Legado Verdes do Cerrado*



***Legados Verdes do Cerrado***

Located in Niquelândia, northern Goiás, less than 300 km from Goiânia and Brasília

**32,000** hectares of opportunities

**20%**
used for conventional economic activities employing practices that are symbiotic with the surrounding nature

**80%**
of the area is highly preserved *Cerrado*, devoted to new economy business activities

**Nature-based solutions with new economy business activities:**

- Carbon credits
- Legal reserve
- Production of native plant species for forest restoration projects
- Scientific research

**Conventional economic activities employing practices that are symbiotic with the surrounding nature:**

- Agriculture
- Cattle

**With an innovative management model that generates:**

- Shared value
- A positive impact on local development
- Conservation of Brazilian biodiversity
- Contribution to climate change mitigation
- Contribution to national and global sustainable development targets

There are 32 thousand hectares, approximate the size of the city of Belo Horizonte (MG), divided into Nuclei Engenho and Santo Antonio da Serra Negra, located in Niquelândia, in the north of the state of Goiás.

*Legado Verdes do Cerrado* Reserve (GO)

## Agribusiness on the reserve

Agricultural activities within the *Legado Verdes do Cerrado* reserve are integrated with biodiversity, yielding benefits for crops. Grain crop yields, for example, are improved through no-tillage farming, which helps to preserve soil structure, maintain microbiological equilibrium, reduce greenhouse gas emissions, as well as retaining moisture via mulching and enhancing plant nutrition by improving soil fertility.

Multiple, integrated crop management techniques are employed, including biological control using bacteria, fungi, and other microorganisms alongside other bio-inputs derived from oils and plant extracts.

Integrated Crop-Livestock Systems (ICLS) have been implemented across most crop areas within the *Legado Verdes do Cerrado* reserve. In this model, post-cultivation, animals graze on crop residues and their manure provides nutrients for the subsequent crops. Preserved *Cerrado* areas integrated with cropland increase yields by maintaining a natural ecological equilibrium.

*Cerrado* Biodiversity Center, *Legado Verdes do Cerrado* Reserve (GO)

In 2023, the *Legado Verdes do Cerrado* reserve reported the sighting of a bush dog (*Speothos venaticus*), one of the rarest animal species in the wild. This was the first sighting of this species on the reserve and one of the few in the state of Goiás. The species is classified as "endangered."

Other notable sightings in 2023 included jaguar with melanism (*Panthera onca*) and jaguarundi (*Puma yagouaroundi*).

## *Cerrado* Biodiversity Center

The *Legado Verdes do Cerrado* Biodiversity Center plays a vital role in enhancing biome conservation and biodiversity and ecosystem services. With a production capacity of 250,000 native seedlings annually and a seed bank housing nearly 2 million units of diverse species, the center makes an important contribution to safeguarding regional genetic diversity and biome resilience.

Strategically distributing these plants in reforestation programs not only restores disturbed land but also helps to form wildlife corridors connecting fragmented habitats. In 2023, a partnership was established to serve the sustainable landscaping market, with species demonstrating potential already undergoing trials for commercial scaling.


Wesley Dourado Fernandes, Engineer, *Legado Verdes do Cerrado* Reserve (GO)

## Research on the *Legado Verdes do Cerrado* reserve

Research on the reserve supports innovation and the development of new economy and bioeconomy activities.

**During the course of six years of research, the Reserve has documented:**

**1,670**
**species,** including:

**1,500**
**plant species**

**90**
**wildlife species**

**80**
**microalgae species**

These figures underscore not only the rich local biodiversity but also the potential for new discoveries that can stimulate the bioeconomy. With over 20 partnerships established with education and research institutions, 11 research programs have been undertaken, involving 107 dedicated researchers.

In 2023, a call for new research projects was launched in a collaboration with the Government of the State of Goiás, through the Goiás State Research Funding Foundation (FAPEG). The selected research projects, initiated in 2023, will span two years and will focus on caves, water resources, and innovation in vertebrate mapping through proxy insect DNA analysis.

Children participating in the Open Doors Program, *Legado Verdes do Cerrado* Reserve (GO)

## Offsetting emissions from the 29th EnCafé fair

A partnership between CBA and the Brazilian Coffee Industry Association (ABIC) offset the carbon emissions from the 29th EnCafé fair, held in November 2023 in Alagoas. The five-day event brought together approximately 500 participants, including coffee farmers, roasters, baristas, buyers, suppliers, exporters, and other coffee industry professionals. Fair-related activities, including air travel, produced approximately 9.92 t$CO_2$e in emissions.

These omissions were offset by planting 2,624 native seedlings on the Legado Verdes do Cerrado reserve from December 2023 to January 2024, covering an area of 2.64 hectares forming a wildlife corridor. Native species seedlings were planted to revegetate the area and facilitate the movement of local wildlife.

Reservas Votorantim, the reserve manager, was responsible for developing the offsets project design, overseeing all phases through to implementation on the reserve. Carbon capture per tree is estimated at 3.78 kg $CO_2$/year. The area will receive ongoing maintenance for two years.

## Public visitation

The *Legado Verdes do Cerrado* reserve in Niquelândia (GO) remained open to the public in 2023, receiving 356 visitors throughout the year. Visitor activities on the reserve included cycling, landscaper meetings and the second edition of the reserve's Open Doors Program, which provided guided tours to state and municipal schools from Niquelândia and surrounding areas.

These initiatives have helped to strengthen engagement with the community and to communicate the work being done on the reserve to preserve the Cerrado while supporting local development.

## REDD+ *Cerrado* Program

2023 marked the first year since the successful certification of CBA and Reservas Votorantim's first REDD+ Cerrado Program. It covers an area of 11.5 thousand hectares on the Legado Verdes do Cerrado reserve, with 374.8 thousand metric tons of carbon already certified for the period of 2017-2023. To date, 20% of certificates have been sold and an additional 294.9 thousand credits are available for sale. Project launch in 2022 was preceded by more than two years of studies to adapt the methodology –originally designed for the Amazon– to the *Cerrado.*

In 2024, the Company anticipates strong market demand for available credits. Prices vary according to the vintage of issue.

The project has pointed to new possibilities for Cerrado conservation while supporting the goals within the Company's 2030 ESG Strategy as well as the UN Sustainable Development Goals.

## LEGADO DAS ÁGUAS

*Legado das Águas* is the largest private Atlantic Forest reserve in Brazil, covering an area of 31 thousand hectares in the municipalities of Juquiá, Miracatu and Tapiraí, in Brazil's southeastern state of São Paulo. CBA is a co-founders of the reserve, and 37% of its hydroelectric power plants are located in the *Legado das Águas* territory (Jurupará, Fumaça, Barra, Porto Raso, Alecrim and Serraria plants) and supply energy directly to the Alumínio (SP) plant. The reserve reconciles forest protection with scientific reserach and new-economy activities such as native plant production and ecotourism. The reserve is at an advanced stage of conservation like few other areas in Brazil, with the Company aiming to establish a new private protected area model where hosted activities generate social, environmental, and economic benefits—sustainably.

*Legado das Águas* Reserve (SP), Reservas Votorantim

### Local research and development

Legado das Águas combines research with local development to deliver positive impacts. In 2023, the reserve supported a project, called "Intelligent Forests", developed at the Facens University Center in collaboration with the Newton Paiva Institute (MG) and the Pará University Center (CESUPA), with support from the Dom Bosco University Center (UNDB).

In 2023, the initiative worked to advance family farming and bioeconomy activities in Atlantic Forest formations by developing innovative solutions to enhance yields, added value, quality, and sustainability in local agriculture. The project developed prototypes that have since been deployed and are being monitored by finalist teams, such as a solar-powered rainwater harvesting system for irrigation and machinery for processing ginger and ground turmeric.

Another research project in the year was developed in collaboration with São Paulo State University (UNESP) in Registro (SP). This project is developing new varieties of sweet potatoes high in vitamin A, via genetic selection and improvement. In 2023, the first organic high-vitamin A sweet potatoes were sold at local street markets.

Both projects were developed in collaboration with members of the Rural Community Association for Human Development and Environmental Preservation in Tapiraí (SP).

## Unprecedented method for generating carbon credits in Atlantic Forest formations

*Legado das Águas* was the first Atlantic Forest area to undergo an assessment using the PSA Carbonflor method, a new framework for measuring Payments for Ecosystem Services (PES), including carbon capture, developed in a collaboration between Reservas Votorantim and ECCON Soluções Ambientais.

Credits generated within the PSA Carbonflor framework, designated as C+, are priced based on the value of ecosystem services provided by conservation, their contribution to human welfare and climate-change mitigation, as well as their social component (co-benefits) and its contribution to the global sustainable development agenda.

**CLICK HERE**
**to learn more about the framework (available in portuguese only)**

*Legado das Águas* Reserve (SP), Reservas Votorantim

## Flora and fauna

Since 2012, fauna and flora monitoring on the *Legado das Águas* reserve have sighted 1,832 species in the area. Of these, 876 are wildlife species, of which 38 are in some level of extinction risk. Bird species diversity is especially noteworthy, with more than 350 species documented in the area, many of them endemic to Atlantic Forest areas. Identified flora species numbered 956, with 22 of them endangered to some degree.

## Progress at the Atlantic Forest Biodiversity Center (CBMA)

In 2023, the CBMA team supported Reservas Votorantim in carrying out nine forest restoration projects, including offset planting and maintenance covering 126 hectares in the municipalities of Salto de Pirapora (SP) and Votorantim (SP); and continued reforestation of 160 hectares as part of projects within the Jurupará State Park in Ibiúna (SP). In addition to these projects, the CBA team worked with Reservas Votorantim on thematic ecological restoration projects covering 200 hectares.

Also in 2023, CBMA secured a license from the environmental regulator to implement a conservation plan for ferns (*Cyathea hirsuta, Cyathea atrovirens and Cyathea delgadii*), three important bioindicators in dense broadleaf forests, such as the Atlantic Forest, which often occur alongside roads within the reserve. Under the license, CBMA will retrieve individuals in high-risk locations for cultivation in nurseries.

## Tourism and events

During the course of 2023, 2,352 people visited the *Legado das Águas* reserve on different occasions, helping to establish Vale do Ribeira as a tourist destination. The presence of birdwatchers has increased, now accounting for almost 30% of visitors to the reserve in the birdwatching season.

The reserve also organized various events, including the 4th *Rota de Aventura* Workshop for cycling enthusiasts, a course on Herpetofauna Sighting and Observation in collaboration with the Butantan Institute, and a Trail Signposting Seminar for training tour guides.

*Legado das Águas* Reserve (SP), Reservas Votorantim

## REFLORA

In 2023, CBA continued its *Reflora* program, launched in 2022, aimed at restoring disturbed land within legal reserves or protected areas on properties owned by small and medium-sized rural land owners. This initiative assists them in rehabilitating their protected areas by providing seedlings, inputs, and labor for implementing the restoration project on their lands.

The program was developed in collaboration between CBA, the Votorantim Institute (which was responsible for identifying land owners) and Reservas Votorantim (responsible for property assessments, supplying seedlings and other inputs, and implementing the project, drawing on its expertise in seedling production and reforestation).

After identifying and profiling land owners registered in the previous year, program teams conducted site visits for final verification and contract signing. A total of 200 hectares will be rehabilitated in the states of Minas Gerais, Goiás, and São Paulo. Planting activities are slated to occur between January and March 2024.

The Company anticipates that, in the medium to long term, these restored areas will serve as providers of ecosystem services, such as climate regulation, increased spring flow, protection of local biodiversity, formation of wildlife corridors, and carbon sequestration, generating increasingly substantial and enduring social and environmental benefits in host regions. Reflora aligns with the goal under the Company's 2030 ESG Strategy to support the development of communities where CBA operates by positively impacting the entire aluminum value chain while helping to address climate change and potentially generating carbon credits to offset the Company's emissions in the process.

## MEASURING ENVIRONMENTAL RISKS

CBA is a Forum member of the Taskforce on Nature-related Financial Disclosures (TNFD), an entity which has the aim of developing a common standard so that financial institutions and corporates can measure and disclose nature-related risks. In 2023, the Company participated in TNFD member forums and surveys, as well as discussions held by the Biodiversity Working Group of the Brazilian Business Council for Sustainable Development (CEBDS), an association responsible for discussing TNFD recommendations in Brazil.

CBA also made its debut in a CEBDS pilot project called Action for Nature Platform, where leading consultancies will provide support to members in developing ecosystem services assessments within their companies and subsequently consolidating the results at the national level.

Lastly, the Company conducted a compliance assessment against the final document published in September 2023 to chart its next steps on related topics.

CLICK HERE
**Learn more about CBA's TNFD compliance**

## SUSTAINABLE MINING

CBA operates a sustainable end-to-end aluminum value chain, beginning with bauxite mining and processing in the Zona da Mata region of Minas Gerais, on the Poços de Caldas plateau (MG), and in Barro Alto (GO). CBA's Sustainable Mining approach has a strong social and environmental orientation that has been consistently refined through value-added innovation partnerships, such as the Company's 15-year research and development collaboration with the Federal University of Viçosa (UFV) as part of the Environmental Education Program (PEA).

In the Company's mines in the Zona da Mata and in Poços de Caldas, both in the state of Minas Gerais, bauxite is mined from small layers over a short space of time, typically a few months. In this process, the topsoil—which is rich in organic matter, microorganisms, and seed banks that are needed in post-closure rehabilitation—is carefully removed. CBA's bauxite mines are short-cycle, localized, open-cast operations without the use of blasting, excavation of pits, intervention in springs, or groundwater lowering. This allows the terrain to be re-contoured to its pre-mine state, complete with its original vegetation cover and agricultural activities.

Following rehabilitation, CBA returns the mine site to the land owner in the same or better condition and with added environmental and productivity benefits, reintegrating the site into the surrounding landscape.

In CBA's mines in Barro Alto (GO), bauxite is mined from larger and deeper ore bodies than other mines. This requires the excavation of mine pits, but similarly without the use of blasting and without groundwater lowering. Due to these mines' larger scale, rehabilitation will be mostly conducted after the mine is exhausted.

CBA operates in accordance with international standards to preserve customary rights, access to water and other natural resources, subsistence activities and the free prior and informed consent of indigenous peoples and people of traditional communities, when applicable.

Socio-environmental technologies have been extensively developed since 2008 via three permanent lines of research and development in collaboration with UFV: Environmental Rehabilitation (Soil), Forest Restoration (Forests) and Water Stewardship (Forest Hydrology).

CLICK HERE
**Learn more about CBA's Sustainable Mining process**

## Environmental Rehabilitation and Forest Restoration

CBA has forest restoration programs aimed at expanding Atlantic Forest cover on mined land, helping to form ecological corridors that attract wildlife and enhance biodiversity.

At CBA's Mining Site in Poços de Caldas (MG), a master's thesis evaluated the effects of environmental rehabilitation on mined land in terms of water infiltration and soil quality. The findings from the study showed that overall soil quality in rehabilitated areas was higher than in non-mined land. This indicates that mine reclamation has the potential to not only restore but also improve overall soil quality post-mining, ensuring that ecological processes are restored and mining activities are sustainable.

Fauna and flora studies were also conducted in the vicinity of the Poços de Caldas Mining Site and in the Morro Grande Private Natural Heritage Reserve (PNHR) to assess local biodiversity and inform decision-making on environmental management.

In the Miraí and Itamarati de Minas Mining Sites, a research project called "Forest Restoration and Bauxite Mining in Southeastern Minas Gerais" synthesized significant findings from monitoring bioindicators across vegetation, soil, and wildlife, as well as new developments in forest restoration between 2014 and 2023.

As another practice, CBA plants tall seedlings of native Atlantic Forest species in its reforestation programs. These serve as perches for birds, facilitating seed dispersal and enhancing biodiversity in the region. In 2023, 6,864 tall seedlings were planted in areas designated for environmental offsets.

This initiative was run in partnership with UFV and local nurseries in the Dona Eusébia (MG) region. Currently, the seedlings are largely being planted around the Itamarati de Minas (MG) Mining Site, forming a large wildlife corridor connecting the Boa Esperança and São Lourenço Private Natural Heritage Reserves (PNHRs) and other private protected areas. These 304 hectares connect to other areas preserved as part of the Company's forest restoration programs. In the future, these efforts will contribute to the formation of the largest single expanse of Atlantic Forest in the state of Minas Gerais, making it one of the most significant in the country from both a biological and landscape perspective.

**121.6 hectares**

have been planted in forest restoration programs since 2016, with over 135 thousand Atlantic Forest seedlings

Boa Esperança PNHR, Itamarati de Minas (MG) Mining Site

The **"Forest Restoration and Bauxite Mining in Southeastern Minas Gerais"** project received an award at V REFOREST, a major Brazilian event on forest restoration

In 2023, CBA's Private Natural Heritage Reserves (PNHRs) in Itamarati de Minas (MG) raised **R$ 137,833.35**, in allocations of property tax, with R$ 33,334.33 allocated to Descoberto (MG) and R$ 104,499.02 to Itamarati de Minas, as reported in Fundação João Pinheiro's statement

## Hydrological Studies Program

CBA's Hydrological Studies Program in mining areas in the Zona da Mata region of Minas Gerais covers ten headwater areas in the municipalities of Miraí, Muriaé, Rosário da Limeira, and São Sebastião da Vargem Alegre, in the state of Minas Gerais. The aim of the project is to study headwater basins containing bauxite ore bodies and compare their pre- and post-mining conditions.

According to research findings in 2023, average infiltration capacity is 309 mm/h in post-mine rehabilitated areas, compared to 148 mm/h in non-mined areas. Reclaimed land had an average water repellency of 1.5%, compared to 6.2% in undisturbed land. Thus, the data demonstrates increased water infiltration into the soil and reduced repellency in post-mining rehabilitated areas. Repellency refers to a material or surface's ability to resist water penetration and has an impact on the likelihood of erosion. Efficient infiltration retains water in the soil, replenishes groundwater, and supports healthy ecosystems.

In summary, CBA's post-bauxite mining reclamation methods, including recontouring, soil aeration, and the use of green and organic fertilizers, has been shown to improve soil wettability by over 400%.

The initiative is also collaborating with rural land owners in the study areas. Based on research findings, CBA and UFV provide them with information on crop management, the importance of spring preservation, and the benefits from environmental rehabilitation of mined land. The research is also capturing insights into water dynamics and its relationship with the mining and rehabilitation processes, providing inputs into future sustainability initiatives by the Company and UFV.

## Mobile beneficiation

In collaboration with equipment suppliers, CBA made continued progress in 2023 in the development of mobile beneficiation capabilities, with the deployment of the first pilot plant at a mine face. This disruptive, circular mining project is designing a compact, semi-mobile facility for bauxite concentration.

Placing the concentration process in close proximity to the mine face reduces haulage distances and eliminates the generation of tailings, and thus the need for tailings dams. In this innovative approach, clay minerals are separated from bauxite and processed within the plant to produce enhanced topsoil—dubbed "Tecno-solo." This topsoil can then be readily used in mine rehabilitation, providing significant environmental and productivity benefits. The "Tecno-solo" was developed in partnership with the Federal University of Viçosa (UFV).

Over an eight-month operational period, the plant has produced 3,000 metric tons of washed bauxite alongside dewatered clay, which will serve as an input for further Tecno-solo research. In 2024, the plant processes will be refined based on the outcomes of this pilot project.

With the production of Tecno-solo through the bauxite concentration process, agricultural and reforestation operations will benefit from improved soil quality, potentially resulting in increased carbon sequestration during environmental rehabilitation.

The Company anticipates that the new mobile beneficiation technology will attract investment over the coming years, facilitating the transition from the traditional mining model to this innovative approach. This project aligns directly with CBA's goal of eliminating tailings disposal and dams, a key commitment outlined in its 2030 ESG Strategy.

Mobile beneficiation, Miraí (MG)

*Legado das Águas* Reserve (SP), Reservas Votorantim

# Water stewardship

**GRI 3-3 (Water and wastewater management), 303-1, SASB IF-EU-140a.3**

Water is one of the primary inputs in aluminum production. As a vital natural resource for both society and the planet, water and wastewater management sit high in CBA's 2030 ESG Strategy. To mitigate the impact of water stress and ensure sufficient water availability for production processes, CBA has set a target to achieve a 20% reduction in water withdrawal intensity per metric ton of molten aluminum at the Alumínio plant by 2030, from a 2019 baseline. The Alumínio plant accounts for 87.1% of the Company's entire water withdrawals volume. Progress toward this target is tracked monthly and action plans are developed as needed.

As part of its efforts to minimize potential risks and meet established targets, the Company has ongoing programs to reduce consumption, improve water efficiency, and expand water reuse. These initiatives include employee awareness campaigns, leak detection, maintenance operations, and engineering interventions.

Recognizing the importance of water stewardship, CBA actively disseminates knowledge to communities and other water users through educational initiatives, including the Environmental Education Program (PEA). In addition, the Company proactively engages in relevant committees and councils, such as the Watershed Committees (CBHs) in each region hosting the Company's mines and hydroelectric power plants, as well as the São Paulo State Council for Water Resources (CRH).

Furthermore, CBA provides inputs into technical discussions and the development of best practices through its participation in related working groups, such as the Brazilian Business Council for Sustainable Development's (CEBDS) Water Working Group. These forums explore water-related topics and evaluate the impact and opportunities stemming from water stewardship investments and initiatives by the business sector.

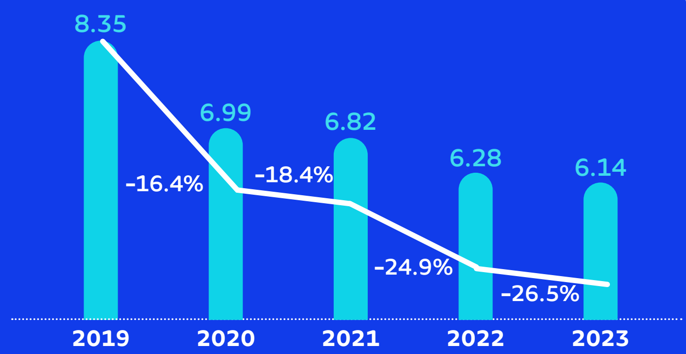
CBA's water stewardship practices are guided by the following policies and practices:

- **Integrated Management Policy:** guidelines on environmentally responsible and sustainable operations and on identifying risks to eliminate or mitigate environmental impacts.
- **Water Policy:** establishing guidelines on managing water-related matters across the Company with a goal to improve water eco-efficiency (consumption, reuse, discharge, and alternative sources) and support sustainable development and environmental preservation in CBA's areas of operation.
- **Water and Wastewater Management Standard:** applicable to all sites, including existing operations and greenfield projects.

Besides internal management guidelines, CBA ensures compliance with applicable laws and regulations, ASI certification and ISO 14001 requirements, and industry best practices.

## Water intensity

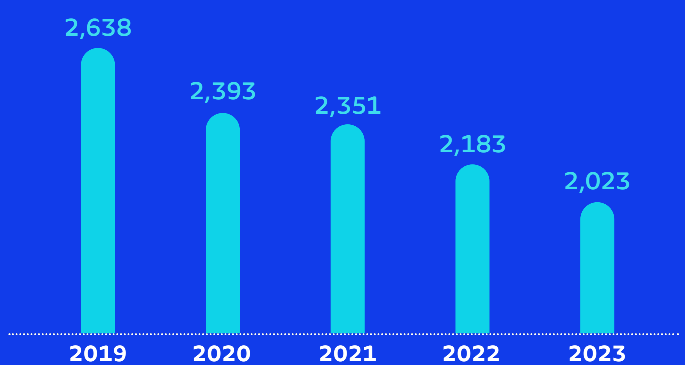
(m³/t of molten aluminum)




*Note: The water intensity reduction was based on the 2019 baseline (established in the ESG Strategy 2030). For the indicator, data on water intake from the Alumínio (SP) plant and liquid aluminum production (Smelters) are considered.*

## Water consumption at the Alumínio plant

(megaliters)




*Note: For this indicator, it is considered freshwater withdrawal at the Alumínio (SP) plant.*

## Total water consumption (megaliters) GRI 303-3, 303-4, 303-5

| | 2023 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Aluminum Business | | | Energy Business | | | Total | | |
| | Area without water stress | Area with water stress | Total | Area without water stress | Area with water stress | Total | Area without water stress | Area with water stress | Total |
| Water withdrawal | 2,076 | 229 | **2,305** | 17 | 0 | **17** | 2,093 | 229 | **2,322** |
| Water discharge | 3,027 | 165 | **3,192** | 15 | 0 | **15** | 3,042 | 165 | **3,207** |
| Water consumption | -951 | 64 | **-887** | 2 | 0 | **2** | -949 | 64 | **-885** |

## Water intensity (m³/t) CBA-11

| | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|
| **Mines (processed bauxite)** | 0.06 | 0.06 | 0.05 | 0.05 |
| **Alumínio plant (finished products)** | 7.91 | 6.33 | 5.72 | 5.64 |
| **Metalex (billets)** | 0.79 | 0.84 | 0.63 | 0.69 |
| **Itapissuma (rolled products)** | 4.71 | 5.44 | 5.97 | 5.13 |
| **Alux (cast aluminum)** | NAv | NAv | 0.36 | 0.43 |

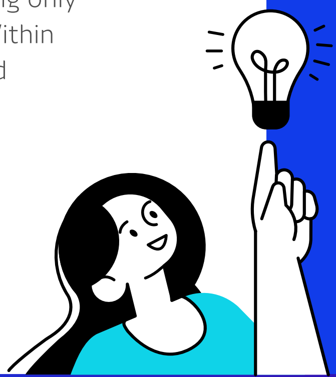
*Note 1: Alux was acquired in 2022 and therefore no data is available from prior years.*

CLICK HERE
Learn more in the Additional Disclosures Supplement

## WATER STRESS

In addition to initiatives to monitor, assess and mitigate potential impacts from its operations on water resources, CBA has dedicated programs in place to protect headwater areas. The Company assesses water stress risks in its operational sites using tools such as Aqueduct Water Risk Analysis, WWF, Water Risk Filter, Brazilian Institute for Space Research (INPE) tools, and methods outlined by the Intergovernmental Panel on Climate Change (IPCC).

In 2023, the water stress assessment was revised to include the Energy Business and Alux operations; the revised results were consistent with those of the 2022 assessment. Only Itapissuma (PE) and Metalex (SP) are situated in areas of water stress (medium to high risk). Despite being in water-stressed areas, the water consumption of these operations is low, representing only 9.9% of the Company's total water consumption. Within the Energy Business, the Fumaça, Itupararanga, and Jurupará hydroelectric power plants were classified as low to medium risk, with no changes anticipated in the future. The remaining 19 operations were categorized as low risk.



## WATER STEWARDSHIP IN THE ENERGY BUSINESS

Water is the primary input for power generation in the hydroelectric plants operated by CBA's Energy Business. The Company's hydroelectric power plants use one of two methods: river water is either stored in reservoirs, in the case of storage-based dams, or channeled through reservoirs operating at constant water levels, in the case of run-of-river dams. In both cases, the flowing water is used to turn turbines to generate electricity. The water passing through the turbines then returns entirely to the watercourse without any alteration in quality (learn more about CBA's Energy Business operations in the infographic on page 31).

Given that water resources are sensitive to climatic variations and subject to regulatory oversight, adequate water management, conservation, and monitoring are highly critical for CBA's business. In 2023, the Company transformed its former Water Resilience Working Group, established in 2022, into a Water Resilience Committee, which convenes monthly to align strategy and action plans—including preventive measures for scenarios such as floods and droughts—and to provide oversight of CBA's environmental initiatives and projects.

The main challenges in water resource management include the management of shared reservoir water uses, flow control water withdrawals and power generation, and reservoir bank preservation.

CDP
DISCLOSURE INSIGHT ACTION

### CDP Water Security

For the second consecutive year, CBA received a "B" rating for its CDP Water Security questionnaire - above the global Metal smelting, refining & forming average score of C. CDP is one of the main sustainability ratings in the world and this result reflects the Company's commitment to water stewardship and preserving water resources.

# Waste management and co-products

**GRI 3-3 (Waste management), 306-1, 306-2, SASB EM-MM-150a.10**

Compliant waste management is a key element of CBA's sustainability strategy. The Company conducts regular exercises to identify and assess impacts from waste across its various business units and works to develop optimal disposal routes.

Waste is treated compliantly and in accordance with the Brazilian National Waste Policy. CBA repurposes some industrial waste for internal consumption, improving process efficiency. All recyclable materials are sent to specialized partner firms, where they are transformed into marketable products. Special focus is given to hazardous waste, which undergoes rerefining, co-processing, and, as a last resort, disposal in controlled landfills. Non-hazardous waste that cannot be reused or recycled is directed to licensed sanitary landfills.

Depending on the criticality of the process, partner firms undergo environmental audits, and waste destinations are tracked via Waste Waybills, enabling waste traceability to final disposal. As part of the conventional procurement approval process, waste management partners undergo compliance assessments. Assessment results is determinant for the decision on whether to establish or maintain a commercial relationship with the firm.


Co-products,
Alumínio (SP) plant

## Total weight of waste generated, by composition (in metric tons) GRI 306-3, SASB EM-MM 150a.7

| | 2020 | | | 2021 | | | 2022 | | | | 2023 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Aluminum Business | Nickel Business | Total | Aluminum Business | Nickel Business | Total | Aluminum Business | Nickel Business | Energy Business | Total | Aluminum Business | Energy Business | Total |
| Hazardous waste (Class I) | 6,821 | 2,858 | **9,679** | 8,909 | 589 | **9,497** | 10,307 | 10 | 23 | **10,341** | 7,417 | 12 | **7,429** |
| Non-hazardous waste (Class II) | 1,256,206 | 393 | **1,256,599** | 1,443,052 | 165 | **1,443,218** | 1,658,828 | 29 | 1,147 | **1,660,005** | 1,395,455 | 474 | **1,395,929** |
| Non-inert waste (Class II A) | 1,247,636 | 227 | **1,247,863** | 1,437,189 | 64 | **1,437,253** | 1,651,730 | 29 | 796 | **1,652,555** | 1,382,729 | 445 | **1,383,174** |
| Inert waste (Class II B) | 8,570 | 165 | **8,735** | 5,863 | 102 | **5,964** | 7,098 | 0 | 351 | **7,449** | 12,725 | 29 | **12,755** |
| **Total** | **1,263,027** | **3,251** | **1,266,278** | **1,451,961** | **754** | **1,452,715** | **1,669,136** | **40** | **1,170** | **1,670,347** | **1,402,872** | **486** | **1,403,358** |

Co-products, Alumínio (SP) plant

Waste management practices are governed by a corporate Management Standard that establishes minimum requirements to be met in waste management as well as preventive and continuous improvement processes to ensure safe and effective waste management. Another important governance document is the Company's Waste Management Plan (PGRS), which ensures that waste generated by the Company's operations is compliantly segregated, stored, collected, and disposed of in a controlled manner, based on well-defined operational procedures. All operation sites prepare inventories of the quantities of waste generated, stored, transported, and disposed of in accordance with federal and state environmental regulations.

The most significant environmental impact from waste at CBA is associated with bauxite residue from the Alumínio (SP) Refinery process and tailings from the beneficiation at the Miraí Mining Site in Minas Gerais. Bauxite residue accounts for approximately 73% of the waste volume generated at Alumínio (SP) and is currently disposed of at the Palmital (SP) dam. To mitigate this impact, CBA has invested in a dry waste disposal project (learn more on page 158) that aims to improve residue properties, develop alternative disposal technologies, and eliminate disposal in residue dams by 2030.

For the tailings from bauxite processing, the Company is developing a mobile beneficiation project to eliminate disposal in tailings dams (learn more on page 146).

One of the goals CBA has set in its 2030 ESG Strategy is to send 100% of red mud residue from the Refinery for use in cement production and other applications. In 2023, the Company continued its project to repurpose this waste, which is typically stored in dams, to produce cementitious materials such as pozzolana.

CLICK HERE

**For further information about waste management at CBA, see the Additional Disclosures Supplement**

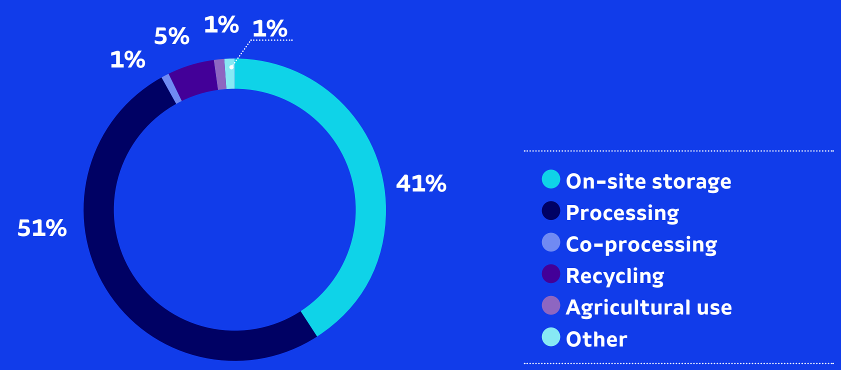
## Total weight of non-mineral waste, tailings, waste rock and hazardous waste generated (in thousands metric tons)

SASB EM-MM 150a.4, EM-MM 150a.5, EM-MM 150a.6

| | 2020 | | | 2021 | | | 2022 | | | 2023 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Alumínio plant | Mining sites | Total | Alumínio plant | Mining sites | Total | Alumínio plant | Mining sites | Total | Alumínio plant | Mining sites | Total |
| Tailings | 110 | 0 | **110** | 106 | 0 | **106** | 106 | 0 | **106** | 78 | 0 | **78** |
| Non-mineral waste | 457 | 610 | **1,067** | 525 | 727 | **1,252** | 511 | 941 | **1,452** | 499 | 699 | **1,198** |
| **Total** | **567** | **610** | **1,177** | **631** | **727** | **1,358** | **617** | **941** | **1,558** | **577** | **699** | **1,276** |

*Note: CBA does not generate waste rock in its production process.*

## Type of waste disposal




Co-products,
Alumínio (SP) plant

## WASTE AS A CO-PRODUCT

**GRI 306-1, 306-2**

By definition, waste encompasses anything not utilized in human activities, originating from industrial operations, businesses, and households. In industrial operations, waste can either incur costs or generate revenue, depending on the disposal method. Co-products are desirable materials generated in the manufacturing of the main product and are intended to provide additional revenue streams for the manufacturer.

CBA has a team with extensive expertise in managing co-products, including experts from the Environmental, Procurement, Engineering, and Technology departments. The co-product team works to enhance value from co-products by either selling or repurposing waste materials internally. These initiatives, enabled by cross-department collaboration, not only support cost reduction but also generate positive environmental impacts and drive partnerships supporting a circular economy and sustainability across the value chain.

Co-product initiatives are guided by a strategy based on six pillars: management of roles and responsibilities; decision-making; engagement with suppliers and customers; monitoring indicators, systems, and infrastructure; expansion of marketable co-products; and identification of opportunities.

### Sales growth

Expansion of co-product portfolio, which now accounts for

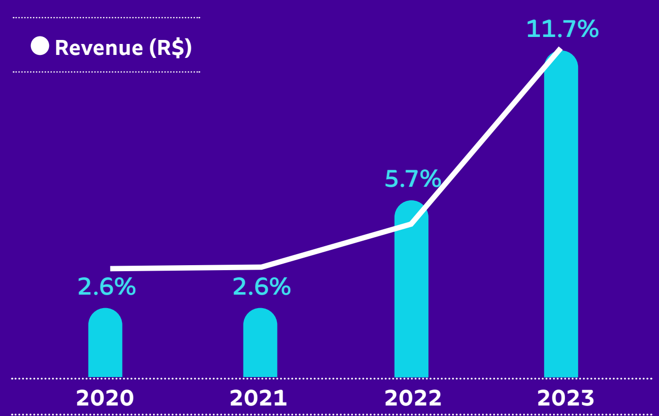
**33%**
**of total generated waste**

**Revenue streams from co-products increased by**

**272.4%**

in 2023 compared to 2022, thanks to ongoing efforts and initiatives in this area

### Progress of co-products sale




*Note: The percentage of co-products was calculated according to the total waste generated at the Alumínio (SP) plant each year.*

Co-products, Alumínio (SP) plant

## Co-products team objective

To be a benchmark for internal waste management (segregation) and maximize value from co-products generated in operations.

**CHANGE OF MINDSET:** co-products as value-adding opportunities

### PILLARS

**1** Effective management of roles and responsibilities supports clear and efficient communication among the teams involved and ensures tasks are allocated efficiently.

**2** Governance plays a crucial role in decision-making and project selection in order to maintain competitiveness and expand the Company's portfolio of marketable co-products.

**3** It is crucial that the Company strategically and comprehensively expand its commercial footprint to drive business growth and diversification. Routine assessments of customers and suppliers are conducted to identify opportunities for improvement and strengthen partnerships.

**4** This department uses software-based monitoring of project outcomes to track indicators at all stages of waste and co-product management.

**5** CBA generates 102 types of waste in its processes, with 34 already classified as marketable co-products.

**6** Ongoing exploration of new business ventures and partnerships helps to drive continued improvement of business results. In 2023, department efforts were primarily focused on calcium carbonate waste from the refinery, refractories from furnaces, and secondary alumina from Smelters. These efforts helped to eliminate disposal costs and create new revenue streams.

**Co-products Department**

- Collaboration with other departments
- Decision-making governance
- Customer/ supplier assessments
- Internal Management
- Intensify development
- Sales

# Dam safety management

**GRI 3-3 (Dam safety management), SASB EM-MM-540a.2, EM-MM-540a.3**

CBA manages various dam systems within its operations: residue dams, mine tailings dams, water impoundments at mine sites, and hydroelectric dams in the Energy Business (Hydroelectric Power Plants – HPPs, Small Hydroelectric Power Plants – SHPPs, and Micro Hydroelectric Power Plants – MHPPs).

These dams are managed through a robust safety system that aligns with local and international best practices and is strictly compliant with dam safety regulations in each state. The Company's responsibilities include routine monitoring and instrument readings, inspections, periodic reviews, and the development and implementation of emergency action plans.

An independent geotechnical firm performs periodic dam assessments vis-à-vis the data from monitoring, controls, and routine inspections. Periodic reports are issued as required by applicable laws and regulations, supporting a comprehensive assessment of each dam's condition. In 2018, the Company created a Dam Safety Committee which meets regularly to perfect dam safety protocols and ensure the effectiveness of dam safety practices.

Barra HPP (SP)

Anny Maryelle Farago Batista, Apprentice
at Casting area, Alumínio (SP) plant

Dams are also periodically inspected by the appropriate government agencies and have valid dam safety certificates as required by law. In both Aluminum and Energy Businesses, all dams are monitored based on:

- Periodic Safety Reviews (PSR)
- Dam Safety Plans (DSP)
- Emergency Response Plans (ERP)

Each operation and hydropower plant has a dedicated ERP, which is regularly updated and audited by specialized firms in compliance with legal requirements. An ERP identifies and classifies hazards posing a risk to dam integrity and outlines emergency actions to minimize risks of human losses, protect the environment, and safeguard cultural heritage. In 2023, tabletop drills and practical emergency drills were conducted as required under each dam's Emergency Response Plan. Practical drills were held at all Aluminum Business dams and, in the Energy Business, at the Itupararanga (SP), Santa Helena (SP), and Votorantim (SP) hydroelectric power plants. These drills involved multiple stakeholders, including CBA employees and contractors, local community members, municipal and state civil defense authorities, fire departments, road police, environmental police, and the municipal guard, as well as various municipal government departments.

Periodic dam safety training and drills are designed to train and raise awareness among people residing in self-rescue zones (SRZ) about the emergency response actions outlined in the ERP, clarify the dam's safety status, and provide instructions on how to respond in an emergency. Monthly tests are also performed of the alert system sirens at all sites.

The Energy Business's dam safety practices for hydroelectric facilities are based on three pillars: routine instrument readings and inspections; operation procedures for hydrological safety; and structural safety assessments. CBA's Dam Management Plan outlines rules and procedures for company-managed dams that are consistent with the Brazilian Dam Safety Policy. This policy outlines dam safety standards and requirements to minimize the risk of dam breaches and their consequences for downstream residents. Dam Safety Forms (DSF) are a tool used annually to classify hydroelectric dams based on their hazard category and associated potential damage.

CBA's dam safety and management practices have associated strategic goals, and performance against those objectives is factored into variable remuneration.

## EMERGENCY DRILL PARTICIPANTS

**CBA-3**

Dam emergency drills held in 2023 engaged a total of 3,001 participants, an increase of approximately 63% compared to 2022 and over 600% compared to 2021. The increase reflects the inclusion of hydroelectric dams in the Energy Business since 2022, constraints during the Covid-19 pandemic in 2020 and 2021, and efforts to strengthen CBA's safety culture in the regions where it operates.

### Participants in emergency drills by site

| | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|
| **Alumínio plant** | 588 | 364 | 1,157 | 2,569 |
| **Mining Sites** | 29 | 25 | 154 | 156 |
| **Niquelândia** | 29 | 28 | 57 | 55 |
| **Energy Business** | NA | NA | 474 | 221 |
| **Total** | **646** | **417** | **1,842** | **3,001** |

*Note 1: The Energy Business was merged into CBA in 2022. Prior-year data are therefore not applicable (NA).*
*Note 2: Data for this disclosure were compiled from forms completed directly by participants during the drills.*


Marcus Vinicius
Vaz Moreno, CBA
Environment Manager

## GEOTECHNICAL MONITORING CENTER

In December 2023, CBA initiated operations at its new Geotechnical Monitoring Center (GMC) in Itamarati de Minas (MG).

Designed to enhance dam safety management, the GMC features a purposefully designed, well-structured, and dedicated environment exclusively for the Company's mining dam systems, equipped with state-of-the-art technology and staffed by specialized technical personnel.

Instruments and systems installed on the dam structures continuously collect data 24 hours a day. The GMC provides a single, centralized location for dam supervision, enabling synergistic real-time management of dam structures while freeing up local teams for assessments and monitoring, further enhancing operational safety.

Geotechnical Monitoring Center, Itamarati de Minas (MG)

## DRY RESIDUE DISPOSAL

CBA will initiate, in 2024, dry residue disposal—as opposed to wet disposal—following the installation of filter presses at the Palmital dam in Alumínio (SP).

These filter presses will remove a portion of liquid from the residue before it reaches the dam. Consequently, the proportion of solids will increase from 45% to 75%, reaching a point where the material exhibits the properties of dry waste. This will extend the life of the dam and lead to a tangible reduction in associated damage potential. CBA plans to invest approximately R$ 500 million in the project over the course of five years.

While the filter press is being installed, the Company is mitigating the impacts of the dam by employing a technology that treats water from within the dam for subsequent reuse in the Refinery. First implemented in 2018, the new system has reduced the volume of water within the dam by 81%.

# Recycling is essential

- > Recycling and circular aluminum
- > Increased use of scrap
- > New Processing and Recycling Center
- > The social benefits of recycling
- > ReAl project nears completion
- > Metalex
- > Alux
- > DigitALL Program in recycling

Marco Tardelli Silva Damasceno,
Alumina production engineer,
Alumínio (SP) plant

Scrap,
Metalex (SP)

# Recycling and circular aluminum

**GRI 3-3 (Circular aluminum)**

**SDGs related to this chapter:**


**Global Compact Principles addressed in this chapter:**

7. Businesses should support a precautionary approach to environmental challenges.
8. Businesses should undertake initiatives to promote greater environmental responsibility.
9. Businesses should encourage the development and diffusion of environmentally friendly technologies

**2030 ESG Strategy levers related to this chapter:**

- *Sustainable value chain*
- *Circular aluminum*
- *Social legacy*

**Material topics related to this chapter:**

- Circular aluminum
- Innovation, technology, and business resilience
- Sustainable supply chain

Aluminum recycling is a key enabler of the circular economy. Aluminum is infinitely recyclable, offering numerous economic and environmental benefits.

Despite the market headwinds in 2023, CBA maintained its investment in recycling capabilities as a cornerstone of both its business and 2030 ESG Strategy. Recycling is one of the major avenues for the company's sustainable development. According to projections by the International Aluminium Institute (IAI), the global aluminum market is expected to grow by 50% by 2050, with recycling as a primary driver of this expansion.

From an ESG standpoint, aluminum recycling offers a wide range of benefits: it saves 95% of the energy used in primary aluminum production, significantly reduces greenhouse gas emissions, and decreases the use of raw materials and other inputs.

Circular aluminum is a core lever of CBA's 2030 ESG Strategy, and is supported by two dedicated programs revolving around four strategic goals:

- Increase the ratio of aluminum recycled from industrial and end-of-life scrap at Metalex to 80%
- Increase the ratio of aluminum recycled from industrial and end-of-life scrap in billet production at the Alumínio (SP) plant to 50%
- Increase the ratio of scrap collected from external sources for recycling
- Recycle 40,000 metric tons of cartons and flexible packaging per year

From a financial perspective, recycling offers cost-saving benefits by requiring fewer processing steps and is also a more resilient activity that is less susceptible to external market fluctuations.

# Recycling capabilities at every CBA plant

## Recycling at CBA

As an infinitely recyclable metal, aluminum can be a strategic lever in advancing more sustainable production. Recycling saves 95% of the energy used in primary aluminum production, significantly reduces greenhouse gas emissions, and decreases the use of raw materials and other inputs, such as master alloys.

CBA invests continuously in recycling as a key avenue for sustainable business growth.

### Recycling efficiency

CBA is the only Brazilian company in the segment with the capabilities to process all types of aluminum scrap. The Company uses scrap from two primary sources:

- **Internal scrap:** 94.4 kt of scrap generated and consumed across CBA's four plants.
- **External scrap:** 95.0 thousand metric tons from a wide range of sources, both domestic and overseas.

### Strengthening cooperatives and creating social impact

In Brazil, recycling cooperatives play an important role in solid waste materials management in Brazil. CBA's Processing & Recycling Center will receive incoming materials collected by cooperatives. In 2024, the Company will launch a dedicated program to help strengthen cooperatives, improve their revenues, and reduce the social vulnerability of cooperative members. Read more on page 165.


### Metalex (Araçariguama, SP)

This facility produces secondary billets with a higher content of scrap. With its recently commissioned scrap treatment line, Metalex can now supply scrap to all other CBA operations. Learn more about this project here.

- 67% average consumption of recycled (internal and external) aluminum in 2023.

### Processing & Recycling Center

In 2023, CBA started operation of its first Processing & Recycling Center, co-hosted at this facility, with a capacity to process over 6,000 metric tons of aluminum scrap per year. This scrap will be supplied to Metalex plant as well as to CBA's Alumínio, Itapissuma and Alux facilities. Learn more here.

### Alux (Nova Odessa, SP)

Alux operates in the secondary alloys segment. Using a circular-economy model, this facility produces ingots and consumes dross from the casting process at Alumínio plant and Metalex.

- 93% average consumption of recycled (internal and external) aluminum in 2023.

### Alumínio plant (SP)

The Alumínio plant uses scrap as an input in the production of cast products.

- 19% average consumption of recycled (internal and external) aluminum in 2023.

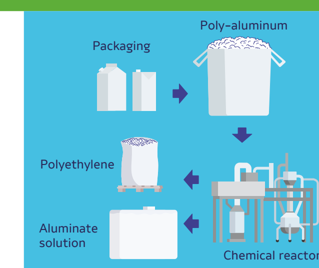
### Itapissuma plant (PE)

This facility uses scrap from the Alumínio plant as well as externally sourced scrap. The material is used in the production of sheet and foil.

- The volume of scrap used at this facility increased by 14% in 2023.

### ReAl technology

CBA's proprietary ReAl technology enables flexible and carton packaging containing aluminum to be fully recycled. Learn more about this breakthrough technology here.



# Increased use of scrap

**GRI 301-1, 301-2, SASB EM-MM-000.A, CBA-8**

In 2023, CBA expanded by 10% the use of processing scrap in the Downstream Business, where 100% of internally generated scrap was recycled, in addition to externally sourced scrap. In 2023, the Itapissuma (PE) rolling mill focused on increasing recycled content, reporting a 14.1% expansion of scrap usage in its products, achieving a record volume of 7,400t of external scrap. The percentage of total scrap, both internal and external, used in manufacturing the Company's primary products stood at 32%, with 16% sourced from external scrap and 16% from internal scrap.

To improve recycling performance, CBA provided training to its teams and optimized existing operational methods.

## RECYCLING EFFICIENCY

In 2023, the Company reconfigured its scrap feed processes to direct scrap both to the plant and to the most appropriate production process, according to its composition, aiming to reduce master alloy consumption. For instance, scrap with a higher silicon content are used for billet production, which require this raw material.

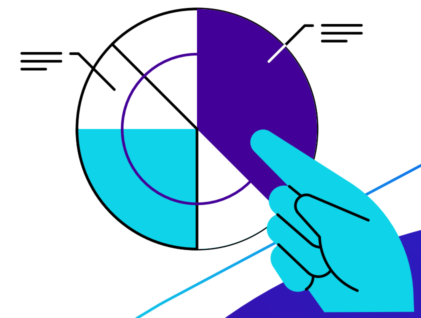
## ONGOING RESEARCH

CBA has continued to advance research to incrementally incorporate recycled content into its products while maintaining high standards of quality. This helps to reduce carbon emissions from its products and those of its customers, whilst generating positive social impact across the value chain.

## NEW METALS DIVISION WITHIN THE SUPPLY CHAIN DEPARTMENT

To meet anticipated demand from recycling operations, in 2023 CBA established a Metals division within its Supply Chain and Procurement department. Employees in the new division are tasked with setting strategy and implementing scrap sourcing plans across Brazil and globally, utilizing multiple modes of transportation. They also oversee primary metal and scrap sourcing to ensure the proper metal volumes and specifications are sourced for each application. The carbon emissions of sourced products are also considered prior to placing an order. The new division collaborates closely with the Company's planning and logistics teams.

In 2023, the division sourced an additional 30,000 metric tons of scrap from both domestic and international markets and moved another 30,000 metric tons between CBA sites (Alumínio, Itapissuma, Alux, and Metalex).



**CBA aspires to become the Brazilian industry leader for aluminum scrap sourcing and processing, with a target to expand the volume of externally sourced scrap to**

**160**

**kt by 2028**

## Overall recycling rate (Raw materials or recycled materials used, including internal scrap materials consumed) CBA-8, GRI 301-1, 301-2, SASB EM-MM-000.A

| | 2020 | | | | 2021 | | | |
|---|---|---|---|---|---|---|---|---|
| | Alumínio | Metalex | Itapissuma | Total | Alumínio | Metalex | Itapissuma | Total |
| Internal scrap consumed (t) | 62,525 | 7,234 | 29,774 | **99,533** | 77,432 | 8,198 | 34,232 | **119,862** |
| External scrap consumed (t) | 18,331 | 42,840 | 2,459 | **63,630** | 13,314 | 45,164 | 948 | **59,426** |
| Total raw materials consumed (t) | 386,087 | 76,837 | 70,770 | **533,694** | 444,470 | 85,068 | 77,899 | **607,437** |
| Percentage internally sourced scrap (%) | 16% | 9% | 42% | **19%** | 17% | 10% | 44% | **20%** |
| Percentage externally sourced scrap (%) | 4% | 56% | 4% | **12%** | 3% | 53% | 1% | **10%** |
| Percentage of total scrap use (%) | 21% | 65% | 46% | **31%** | 20% | 63% | 45% | **30%** |

| | 2022 | | | | | 2023 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Alux | Alumínio | Metalex | Itapissuma | Total | Alux | Alumínio | Metalex | Itapissuma | Total |
| Internal scrap consumed (t) | 0 | 80,715 | 7,803 | 32,228 | **120,746** | 975 | 55,955 | 7,582 | 29,903 | **94,416** |
| External scrap consumed (t) | 26,908 | 9,864 | 45,598 | 764 | **83,133** | 25,836 | 24,461 | 36,987 | 7,726 | **95,011** |
| Total raw materials consumed (t) | 29,595 | 437,989 | 82,069 | 71,036 | **620,688** | 28,713 | 424,833 | 66,612 | 68,390 | **588,549** |
| Percentage internally sourced scrap (%) | 0% | 18% | 10% | 45% | **19%** | 3% | 13% | 11% | 44% | **16%** |
| Percentage externally sourced scrap (%) | 91% | 2% | 56% | 1% | **13%** | 90% | 6% | 56% | 11% | **16%** |
| Percentage of total scrap use (%) | 91% | 21% | 65% | 46% | **33%** | 93% | 19% | 67% | 55% | **32%** |

*Note: Variations in Alumínio's plant values are due to the global macroeconomic scenario. Alux was acquired in 2022, so it was not reported in previous years.*

# New Processing and Recycling Center

CBA's leadership at the launch event of the new Processing and Recycling Center, in Araçariguama (SP)

CBA took a significant step forward in expanding its recycling capabilities with the establishment of its first Processing and Recycling Center in Araçariguama (SP), at the Metalex plant. Spanning 1,500 m², the facility has the capacity to process an average of 400 metric tons of material per month. Construction began in April 2023, and operations commenced within the same year.

Scrap sourced from nearby cities is processed at the new facility and then delivered not only to the Metalex (SP) plant but also to Alumínio (SP), Itapissuma (PE), and Alux in Nova Odessa (SP).

To ensure maximum transparency, the Company has implemented compliance tools addressing tax issues and scrap supplier screening, among other measures.

Under the Company's strategic plan, this initiative will be further expanded by building new Recycling Centers.

The startup ceremony for Metalex's Scrap Treatment Line and CBA's first Processing and Recycling Center was held on October 3, 2023 and attended by 80 scrap suppliers as well as major customers in the market.

Capacity to **process, on average, 400t/ month** of scrap

# The social benefits of recycling

There is significant potential for social transformation through recycling, as the waste management model in Brazil involves multiple stakeholders, including independent waste pickers, cooperatives and recycling associations, many working informally, in poor conditions and earning low incomes.

To support the formalization of the recycling value chain, CBA has developed a program for including cooperatives in the recycling ecosystem. The goal is to make a significant and just contribution to the development of these workers, creating social impact transparently. This initiative will work to strengthen recycling cooperatives, especially by improving pay, reducing the social vulnerability of recycling workers, an increasing the volumes of aluminum scrap sourced from these partners.

In addition, through the Company's Sustainable Procurement Program, CBA will engage scrap suppliers to raise awareness about labor and human rights and support them in improving sustainability practices.

The Company is committed to sourcing scrap with the assurance that all parties involved in the recycling value chain will be treated ethically and paid a fair value for their materials.

**Contribute**
**to strengthening recycling cooperatives**
in Brazil

**CLICK HERE** and read more in the "Sustainable value chain" chapter


José Cilon Costa Lage at the launch event of Metalex's new scrap treatment line and creation of CBA's Processing and Recycling Center

Project ReAl works

# ReAl project nears completion

In 2024 CBA's ReAl project will enter its final stages. The new facility will have the capability to recycle flexible and carton packaging containing aluminum. The breakthrough technology behind the plant has been developed and patented by CBA.

Previously, only the paper layer of carton packaging was separately recyclable. The plastic and aluminum were reprocessed together to create new materials with less added value. Flexible packaging, another multilayered material, is non-recyclable with current technologies and is typically disposed of in landfills as there is currently no developed value chain for recycling these materials.

The ReAl process uses an alkaline solution that can isolate the aluminum from the plastic. The aluminum reacts back into its aluminum oxide state and is returned to the production process, and can be reused as aluminum foil in new packaging. Plastic does not react in an alkaline solution and can therefore be cleanly removed from the process and then recycled and used in more expensive applications, generating environmental, social, and economic benefits post-consumption.

**Recycle**
**40,000 metric tons**
of cartons and flexible packaging per year

# ReAl: pioneering recycling

Leveraging a breakthrough technology developed and patented by CBA, the ReAl (Recycling Aluminum) project enables flexible and carton packaging to be fully recycled. The new technology is able to chemically separate the plastic from the aluminum components of the packaging, so that the two materials can be recycled into new products with higher added value, within a circular economy concept.

1. ReAl uniquely enables the recycling of everyday items such as milk or juice cartons containing aluminum, as well as flexible packaging utilized for chocolates, toothpaste, coffee powder, and more.

2. Post-consumer packaging is shipped to CBA from two different sources: consumer-separated waste collected by waste pickers' cooperatives, or recycling companies.

3. Packaging containing cellulose pulp (paper) undergoes an additional processing step at CBA's partner recycling company, where an equipment called Hydrapulper separates the paper from the rest of the packaging. The separated material is a mixture of aluminum and plastic (PolyAlu), the main input for the ReAl process.

4. Upon delivery at CBA, the PolyAlu packaging material is thoroughly washed. It is also shredded to an appropriate size before being sent to the chemical separation plant.

5. At the ReAl chemical separation plant, the PolyAlu material is fed into a reactor with an alkaline solution at an optimal concentration of caustic soda, which separates the aluminum from the polymer. In the process, green hydrogen is produced as a byproduct—a clean energy source with zero $CO_2$ emissions, which can be used on site in replacement of fossil fuels.

6. After undergoing separation and washing, the polymer material is shipped to plastic recycling companies for use in new applications.

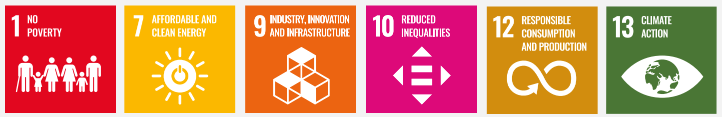
7. The aluminum separated in the reactor goes to the CBA's Refinery and returns to the production process as liquid aluminum. It can then be cast into primary products, such as ingots or rods, or used to produce downstream products, such as foil and sheet.

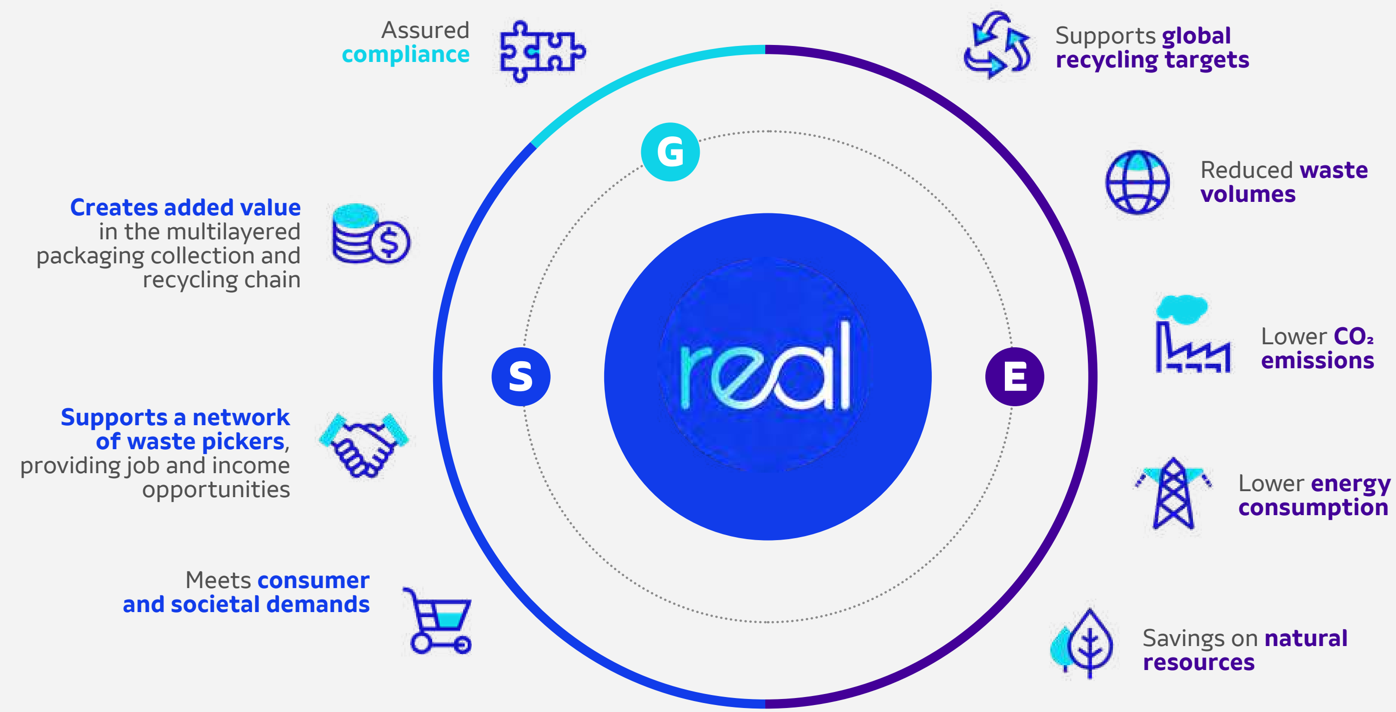
Carton recycling capacity of 1.3 billion items per year, or around **38,000 metric tons**.

Tetra Pak, one of CBA's business partners, **recognized** CBA in the company's global supplier award (Tetra Pak Supplier Sustainability Award 2023) for its **sustainable performance** throughout the year.

ReAl is designed to integrate opposite ends of the waste collection and recycling value chain. It is one more effort, among many others, that are part of this process in Brazil, helping to expand waste collection and improve incomes for waste pickers and recycling cooperatives.

## ReAl Tecnology




"We are delighted to offer this recognition to CBA for its strong commitment to sustainability and its proven expertise and leadership in this area. CBA has demonstrated a robust and integrated approach to sustainability, as well as tangible results across all pillars of our "Join Us in Protecting the Planet'" initiative: climate, nature, circular economy, and leadership."

**Marco Martelli, Supplier Management VP**

# Metalex

CBA's Metalex operation is dedicated to aluminum recycling and transformation. Based in Araçariguama, state of São Paulo, Metalex produces a wide range of standard, special and premium alloys for several different industries. The company recycles aluminum scrap generated internally as well as scrap purchased externally or supplied by customers and partners.

The company has a production capacity of 90,000 metric tons, now expanded since the installation of a dedicated sidewell melting furnace for recycling in 2021. The technology enables increased metal yield from scrap, which consequently reduces dross.

One of the significant developments at Metalex in 2023 was the installation of a new scrap processing line. With a capacity to process 100,000 metric tons per year, the new line will increase scrap content in billets from 60% to up to 80%. The new line's unique advantage is the ability to separate out iron, rubber, plastic, wood, and construction waste, yielding a higher purity recycled material. The new process will also reduce the requirement for new raw materials, energy consumption and the company's overall carbon footprint.

# Alux

CBA's acquisition of Alux in 2022 marked the Company's entry into the secondary alloys segment, which primarily serves the automotive, two-wheeler and auto parts sectors.

Located in Nova Odessa (SP), and with a production capacity of 46,000 metric tons per year, the facility offers a portfolio comprising liquid aluminum, ingots (produced in the quantities and to the specifications requested by customers), and recycling services (re-melting of customer scrap).

In 2023, Alux produced 23.5 thousand metric tons of product, with it being 16.4 thousand metric tons of ingots and 7.1 thousand metric tons of liquid aluminum.

## MORE EFFICIENT AND SUSTAINABLE

In 2023, Alux achieved a 20% reduction in natural gas consumption in the production process compared to 2022. This reduction followed the replacement of its rotary furnaces with newer, more efficient combustion equipments. In addition, an initiative was launched for receiving and processing dross from the Alumínio (SP) and Metalex plants. This project not only lowered costs for these plants but also increased Alux's metal yield. In addition, the project directly supports the Company's circular aluminum and carbon footprint reduction efforts, essential for both the industry and CBA.

## SAFETY – ZERO INJURIES

Since CBA took over operations, Alux has not reported any occupational injuries. Through the joint efforts of the Safety and Human and Organizational Development teams, a culture of safety has been effectively and consistently disseminated within the company.

- Alux has held ISO 9001 and 14001 certifications since 2006

Molten aluminum

# DigitALL Program in recycling

**GRI 3-3 (Innovation, technology, and business resilience)**

CBA's DigitALL Program (see more on pages 36 to 41) introduced important innovation in the company's recycling operations in 2023. This involved several recycling-specific PODs:

- **Recycling:** digital planning tools help to optimize recycling processes at CBA. Within the plant, a smelter continuously supplies liquid aluminum to various production lines. Recycled materials are fed into the process as an additional feedstock, with varying compositions and with no contamination allowed. Through planning, the distribution of recycled metal is optimized.

- **Scrap video analytics:** this tool uses artificial intelligence to identify quality patterns in scrap delivered to the scrap processing line at Metalex and CBA's Processing and Recycling Center. The technology is groundbreaking: a scanner meticulously maps the contents of each truck-load of scrap and not only identifies the materials but also learns and improves its accuracy over time. The video analytics automatically correlates the type of scrap with its metal yield, which determines the value of the incoming aluminum. For each ton of scrap that arrives at the Processing and Recycling Center, the system can precisely predict the expected metal yield.

- **Smart Metals Intake:** With a projected annual benefit of R$ 100.8 million, this POD is developing a roadmap of initiatives to significantly increase recycled content. It establishes short and medium-term plans for metal intake to maximize profitability by optimizing the balance between liquid metal, scrap, and alloys. Activities within this project include structural, operational, and technological initiatives, such as optimizing consumption efficiency, operational enhancements, and identifying opportunities for external scrap sourcing.

- **Alux DigitALL Operations:** operational monitoring powered by data and artificial intelligence to evolve procedures, identify issues, and assist in decision-making processes in industrial operations at Alux. The estimated benefit ranges from R$ 7.4 to R$ 12.3 million annually.


Marcos Roberto Stefani Cubello, Procurement analist, Metalex (SP)

# Robust financial governance



From left to right: Vitor Samuel da Silva Ferro and Ana Carolina Marum de Goes França, Corporate Office (SP) employees

Diane Martins Bueno,
Tax consultant,
Corporate Office (SP)

# Summary financials

**SDG related to this chapter:**

8 DECENT WORK AND ECONOMIC GROWTH

**Material topics related to this chapter:**

- Transparency and stakeholder engagement

**2030 ESG Strategy levers related to this chapter:**

*ESG ownership*

**Aluminum sales volume of 458,000 metric tons**
(–3% YoY)

**Net revenue of R$ 7.3 billion**
(–17% YoY)

**Net loss of R$ 810 million**
(vs. net income of R$ 957 million in 2022)

**Adjusted EBITDA of R$ 307 million**
(–81% YoY)

**Adjusted EBITDA margin of 4%**
(–14 p.p. YoY)

# Aluminum market overview


The year 2023 was marked by the volatility of aluminum prices on the LME, a cooling of aluminum demand, and Chinese supply issues. Elsewhere, geopolitical factors also exerted pressure on the price, supply and demand of the metal throughout the year.

The global demand for aluminum predominantly comes from three sectors: transport, construction and packaging, responsible for 29%, 22%, and 16% of the global demand in 2023, respectively. With China being the main player in the construction sector, the crisis in the Chinese real estate market had a direct impact, not only on the country's banking system but also on global aluminum demand. Despite attempts by the government to revive the economy through consumer incentive policies, demand has not yet reached the pre-pandemic levels it was expected to. For the rest of the world, rising inflation in the United States and Europe, and the consequent interest rate hikes, also affected aluminum demand. However, China's "green" demand exceeded expectations last year and offset some of the volume lost due to the slowdown in other sectors. Between 2022 and 2023, there was a 1.14% increase in the consumption of primary aluminum, with the electric vehicles and solar energy sectors being two of the main drivers of Chinese demand during the year.

On the supply side, despite the resumption of certain operations shut down during the high-cost period in 2022, there were also production stoppages in China in 2023. Yunnan's capacities started the year partially closed due to the 2022 drought (80% of its energy matrix is hydroelectric). Contrary to most analysts' expectations, the local government announced the resumption of this capacity mid-2023, but in November, the closure of ~1.16 Mt of capacity was again announced. Adding Shandong and Guizhou to the equation (which had closures for other reasons), the reduced capacity in the country reaches almost 3 Mt.

In these market conditions, the LME averaged USD 2,249/t in 2023, 17% below the 2022 average of USD 2,703/t. The decline in market confidence in China undermined both the LME and SHFE (Shanghai Futures Exchange) prices for 2023.

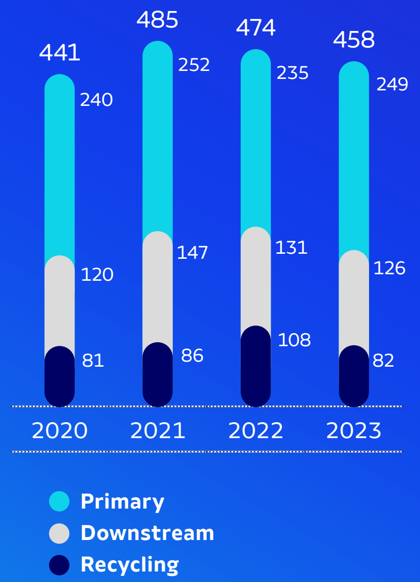
Premiums also fell; the Rotterdam Duty Unpaid premium ended 2022 averaging USD 407/t, falling to an average of USD 224/t in 2023.

In broader terms, 2023 started with China ending its Covid-Zero policy and with positive macro prospects, but it ended with uncertainties around global economic growth and weakened demand in key regions. Despite the end of the post-pandemic destocking cycle, 2023 ended with a market surplus of 0.6 million tons (Mt) and inventory levels at 51 days of consumption, the lowest since 2007. This indicates that, despite a more pessimistic outlook, the aluminum market remained balanced with low overall inventory levels.

# CBA's Performance

## Aluminum sales volume
(thousand metric tons)

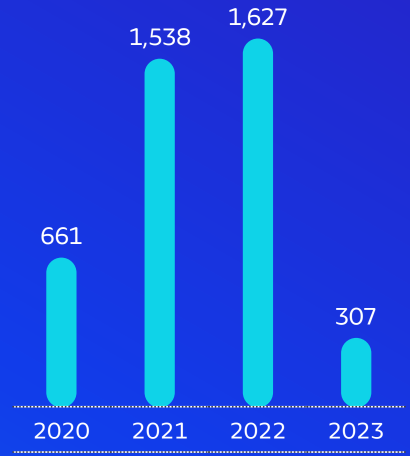
**-3%**
YoY




## Adjusted EBITDA
(R$ million)

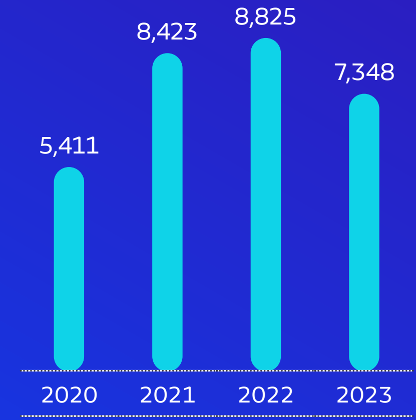
**-81%**
YoY

**Adjusted EBITDA margin**
**4%**
**(-14 p.p. YoY)**



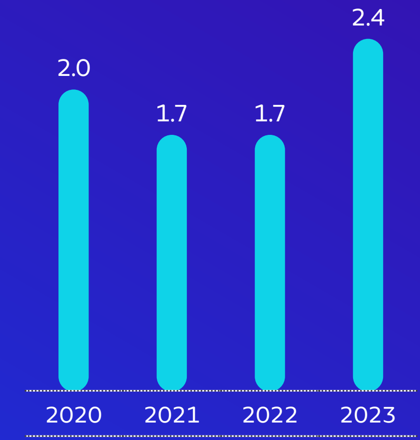

## Net revenue
(R$ million)

**-17%**
YoY




## Net debt
(R$ billion)

**Leverage of**
**7.70x**
**(1.05x in 2022)**



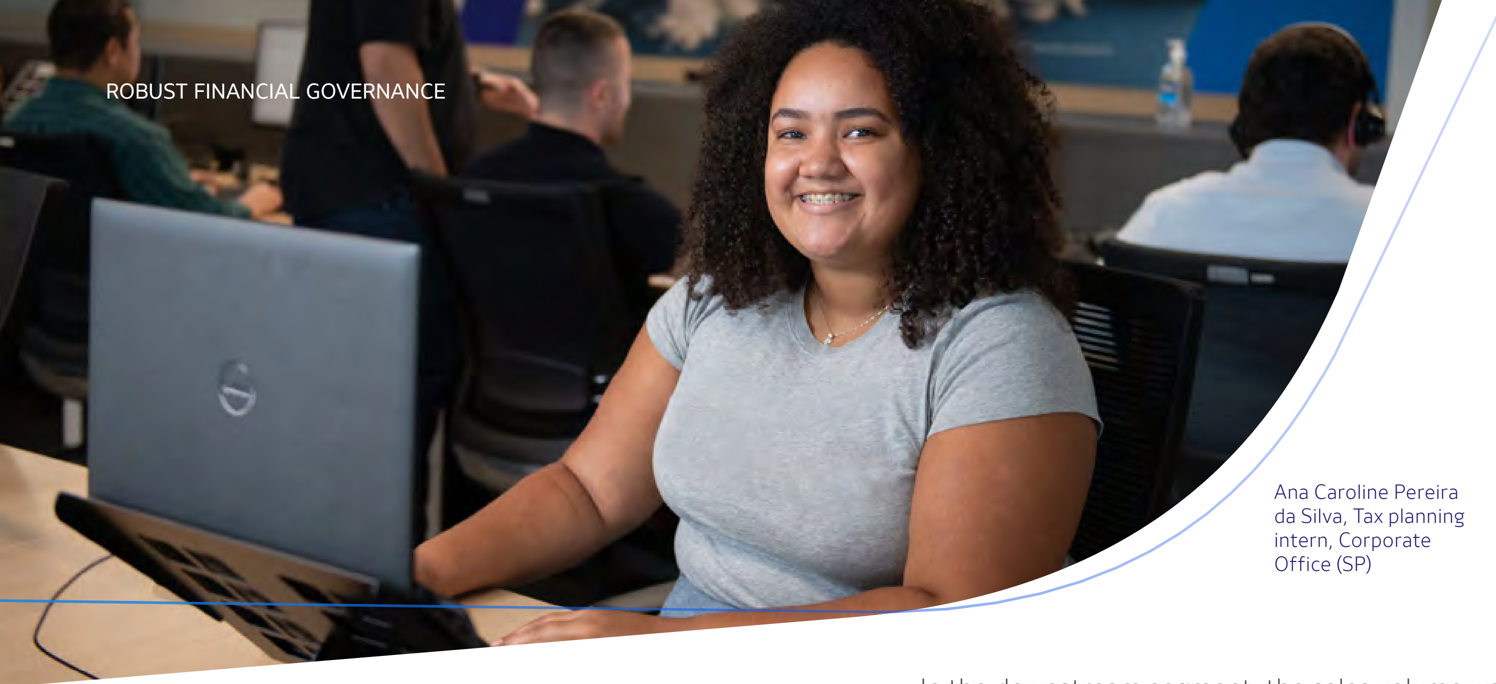


Beatriz Gomes de Andrade, Smelters production operator, Alumínio (SP) plant

## Financial performance

| R$ million | 2023 | 2022 | 2023 vs. 2022 |
|---|---|---|---|
| **Aluminum sales volume (thousand metric tons)** | **458** | **474** | **-3%** |
| Primary | 249 | 235 | 6% |
| Downstream | 126 | 131 | -4% |
| Recycling | 82 | 108 | -24% |
| **Net revenue** | **7,348** | **8,825** | **-17%** |
| **Aluminum** | **6,956** | **8,557** | **-19%** |
| Primary | 3,244 | 3,969 | -18% |
| Downstream | 2,557 | 3,140 | -19% |
| Recycling | 707 | 982 | -28% |
| Other | 1,062 | 1,233 | -14% |
| Strategic hedge | - | (139) | - |
| Eliminations | (613) | (627) | -2% |
| **Energy** | **538** | **634** | **-15%** |
| **Energy eliminations[1]** | **(164)** | **(388)** | **-58%** |
| **Nickel** | **18** | **21** | **-17%** |
| **Cost of goods sold** | **(7,272)** | **(7,175)** | **1%** |
| **Operating expenses** | **(437)** | **(454)** | **-4%** |
| **Selling** | **(47)** | **(49)** | **-4%** |
| **General and administrative** | **(390)** | **(405)** | **-4%** |
| **Other operating expenses** | **(592)** | **(49)** | **1,109%** |
| **Depreciation, amortization and depletion** | **571** | **540** | **6%** |
| **Other additions and exceptional items** | **689** | **(61)** | **-** |
| **Adjusted EBITDA[2]** | **307** | **1,627** | **-81%** |
| **EBITDA Margin** | **4%** | **18%** | **-14p.p.** |

[1] *Elimination of energy sales for the aluminum business are also included in the COGS above.*
[2] *Adjustments reflect equity income and non-recurring events in profit and loss, including the Marking-to-Market (MtM) of energy futures contracts.*



Ana Caroline Pereira da Silva, Tax planning intern, Corporate Office (SP)

## ALUMINUM SALES

CBA's total aluminum volume sold was 458,000 tons in 2023, showing a slight decrease of 3% compared to 2022.

In 2023, the primary aluminum segment recorded sales of 249,000 tons, a 6% increase compared to the previous year. This growth stemmed primarily from the sale of higher-value-added products, aligning with the Company's strategy to focus on VAP (value-added products). Despite the decline in demand in the construction sector in the Brazilian market, at the end of 2023 the market showed signs of improvement, which helped to boost billet sales in the second half of the year, as did easier credit automobile purchases, which spurred the sales of aluminum-silicon ingots. Notably, CBA managed to increase its market share in 2023 in the billet and rod markets.

In the downstream segment, the sales volume was 126,000 tons, about 4% lower than in 2022. Sales of sheet and foil fell, especially in the consumer goods and semi-rigid packaging sectors. The cooling demand in the packaging sector was due to the post-pandemic resumption of demand for services and the resurgence of in-store consumption, leading to a downturn in the consumption of packaged goods and consumer products compared to pandemic levels. However, there was an increase in market share for other types of packaging, such as flexible and aseptic packaging, due to lower imports. Sales of extruded products increased by about 17%, attributed to the heating up of civil construction and CBA's effective response to the demand for medium- and high-standard buildings, benefiting the business's profitability.

Recycling sales fell 24% compared to the previous year, totaling 82,000 tons. In 2023, a contraction in the European market impacted some of Alux's export-facing clients. Meanwhile, Metalex experienced a significant decline in sales volumes in the first half of the year, influenced by the poor performance of the DIY segment (or residential renovations), combined with low scrap availability in the market.

## NET REVENUE

CBA's consolidated net revenue was R$ 7.3 billion compared to R$ 8.8 billion in 2022, a 17% decline. This decrease was primarily due to lower revenues in the aluminum business, which totaled R$ 7.0 billion in 2023, down from R$ 8.6 billion in 2022.

The decline in aluminum revenue was observed across all segments, mainly due to lower market prices. This reduction was influenced by the lower aluminum price on the LME, which fell by 17% year-over-year (from USD 2,703 per ton in 2022 to USD 2,249 per ton in 2023), and by lower market premiums. Additionally, the downstream and recycling segments experienced lower sales volumes, as detailed in the previous chapter. These effects were partially offset by higher sales volumes in the primary segment, with a better sales mix, as explained earlier, and by the termination of the strategic hedging operation in June 2021. Derivative contracts related to this hedging strategy remained active until May 2022, with a negative impact of R$ 139 million in 2022.

In the Energy Business, net revenue declined by 15% to R$ 538 million in 2023 from R$ 634 million in 2022, primarily due to the deconsolidation of equity income from Enercan, which occurred in December 2022, therefore, with effect for the entire year of 2023.

## COST OF GOODS SOLD

The cost of goods sold remained practically unchanged in 2023 (R$ 7.3 billion) vs. 2022 (R$ 7.2 billion).

The Aluminum Business cost decreased by 3% between the compared years, proportional to the drop in the volume sold, ending 2023 at a cost of R$ 6.5 billion vs. R$ 6.8 billion in 2022.

However, the Energy Business cost increased by 14% in the compared years, due to the higher surplus of energy available for sale, 224 MWm in 2023 vs. 114 MWm in 2022. This effect was partially offset by an 18% decrease in the average cost of contracts, in 2023 vs. 2022, due to the carrying out a swap in an energy swap contract in 1Q23.

Regarding the average production cost of molten aluminum, it rose slightly by 4% in 2023 vs. 2022, mainly due to a 21% increase in variable costs and 31% in fixed costs, due to operational instability of the smelters, which impacted production costs in the first half, but began falling in the second half. The average production cost of alumina and anodic paste increased by 4% and 2%, respectively, also falling in the second half of 2023. The increase in these costs was partially offset by a 20% decrease in the year in the average cost of energy for the production of molten aluminum, due to higher energy generation in 2023 (756 MWm) vs. 2022 (654 MWm).

## ADJUSTED EBITDA

The adjusted EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization) in 2023 was R$ 307 million vs. R$ 1.6 billion in 2022, with EBITDA margins in the respective periods of 4% and 18%. The decline is mainly justified by a reduction of R$ 1.6 billion in net revenue from the Aluminum Business, due to the lower average LME aluminum price between the compared years, lower market premiums, and lower sales volume in downstream and recycled products.

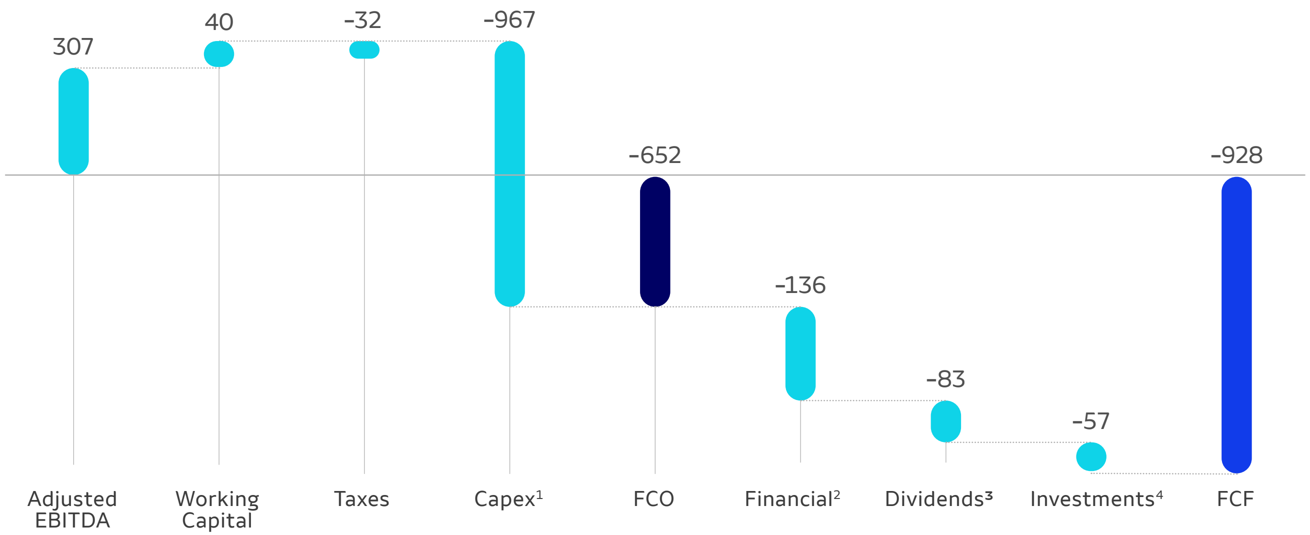
Additionally, in 2023 there was a balance of R$ 123 million in dividends received from Enercan, whose results ceased to be consolidated in December 2022.


Natalia Gualberto Ribeiro Loureiro and Jeferson Delfino Dias da Silva, Miraí (MG) Mining Site

## NET INCOME

The Company reported a net loss of R$ 810 million in 2023 vs. net income of R$ 957 million in 2022. The result for 2023 is primarily due to the negative net value of R$ 588 million referring to the loss of fair value on the energy surplus determined in the energy balance in the coming years, due to lower electricity consumption than originally budgeted due to the postponement of the investment plan with consequent significant delay in entry into operation of the Smelters. This effect was partially reduced by a positive variance in income tax and social contribution of R$ 360 million (R$ 170 million in 2023, mainly due to the effect of deferred taxes on MtM against -R$ 190 million in 2022 due to the effect of deferred taxes on the fair value of energy). Additionally, impairment was recorded on CBA Itapissuma's assets of R$ 97 million, net of taxes R$ 64 million. Finally, another relevant effect in 2023 was the reversal of the impairment of the Niquelândia unit of R$ 134 million, as a result of the announcement of the sale of the unit on April 12, 2023.

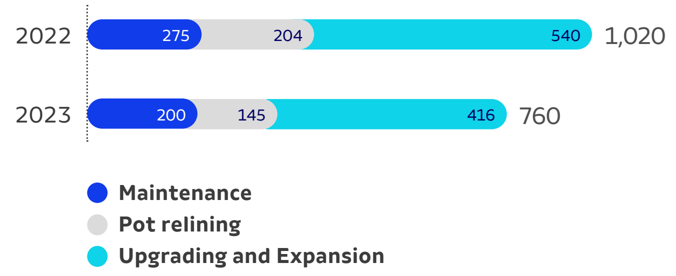
## Free cash flow (R$ million)




[1] Accrual basis CAPEX.
[2] Acquisition, sale of assets and net interest.
[3] Distribution of dividends from CBA's Energy Business to investees.
[4] Machadinho Incorporation, increase in Alunorte invested capital and payment of installment for the acquisition of Alux.

Itapissuma (PE) plant employees

## CAPITAL EXPENDITURE (CAPEX) (R$ MILLION)




In 2023, total Capex (cash basis) was 25% lower than in 2022, with 55% of Capex represented by CBA's upgrading and expansion projects, 26% concentrated in maintenance and 19% in pot relining.

The CAPEX reduction in the year, primarily in the upgrading and expansion project, is due to the initiatives to adjust the schedule of projects, which are multi-year and have the flexibility to be reviewed according to operational cash flow and market conditions.

In 2023, it was announced the extension to expansion project schedules, with the expected completion of some projects moving. The main delays are the restart of Pot Room 1 and the technological upgrade of Smelters.

Currently ongoing projects include:

- **Dry waste disposal project:** in the final phase of electromechanical assembly, on schedule. Commissioning and start-up in the first half of 2024.
- **Incremental production of recycled aluminum (ReAl):** in the final phase of electromechanical assembly, on schedule. Commissioning and start-up in the first half of 2024.

## INDEBTEDNESS AND LIQUIDITY

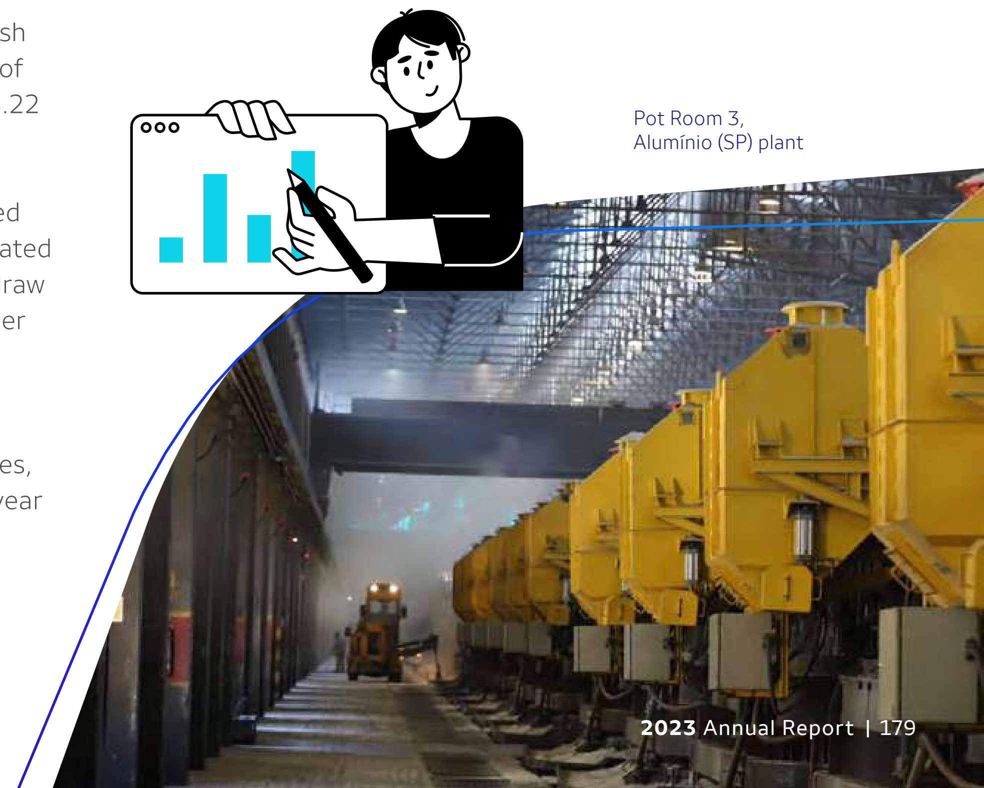
In December 2023, CBA's gross debt was R$ 4.3 billion, 46% higher when compared to December 2022 (R$ 3.0 billion), mainly due to the fundraising carried out in the period totaling R$ 1.7 billion aimed at financing CAPEX and cash replenishment, partially offset by the 7% appreciation of the Brazilian Real against the US dollar, from USD/R$ 5.22 to USD/R$ 4.84 at the end of the period.

Cash equivalents and short-term investments amounted to R$ 1.7 billion in December 2023, with 57% denominated in Reais. CBA also has a revolving Credit Facility it can draw on in immediately in the total of USD 100 million, further reinforcing its liquidity, which it has never been drawn.

As of December 2023, net debt, including cash, cash equivalents, derivative financial instruments, and leases, totaled R$ 2.4 billion, a 38% more than the previous year (R$ 1.7 billion).

Financial leverage, measured as the ratio of net debt to last-twelve-month adjusted EBITDA, rose from 1.05x in December 2022 to 7.70x in December 2023, reflecting EBITDA decrease in the year coupled with the increase in gross debt, despite the R$ 540 million increase in the Company's cash position in December 2023.

Importantly, CBA has a long-term debt profile with an average maturity of 4.93 years and no significant concentration of maturities until 2027, with an average debt-service cost in US dollars of 6.15% p.a.



Pot Room 3, Alumínio (SP) plant

# Economic recovery strategy

The efficiency and dedication of CBA's workforce were pivotal in navigating the economic headwinds in 2023. Amid challenging conditions in the aluminum industry and issues in primary aluminum production at CBA, the Company responded promptly with a successful recovery plan.

Over 100 initiatives were designed and implemented as part of the Company's Competitiveness Management process. These initiatives, which will continue into 2024, can be categorized into three main areas:

### Strengthening operational performance and financial results

- Smelter operational stability
- Optimization of the production and supply portfolio
- Reduction of working capital through measures such as inventory reduction, improvement of payment terms, and development of logistics solutions to mitigate the impact of increased ICMS credits
- Monetization of non-operational assets, including the disposal of real estate and the Niquelândia (GO) operation
- Adjustments to the Company's CAPEX plan

### Leverage management and financial health

- Recovery of structural cost competitiveness
- Debt management aimed at strengthening cash reserves and extending debt maturities

### Review of growth plan and initiatives

CBA's CAPEX structure is highly modular, allowing for greater flexibility in scheduling, as was seen in 2023 with adjustments made to reduce disbursements related to growth projects announced during the IPO. Reflecting operational cash flows and market conditions, the Company extended the timeline for expansion projects, postponing the expected completion dates of certain projects from 2025 to 2027. Key postponements include the restart of Smelter 1 and technological upgrade of Smelters.

CBA's portfolio management tool will enable faster prioritization if the situation changes anew.

## DISPOSAL OF CBA'S NIQUELÂNDIA OPERATION

In line with its strategy to focus on its core Aluminum Business, CBA officially announced its intention to sell its Niquelândia operation in Brazil's Midwest in April 2023, with subsequent approval from the Brazilian antitrust authority, CADE, in June. The contract signed with the company Wave Nickel Brasil, controlled by the global technology company New Wave, has a total value of R$ 20 million, with the closing of the operation subject to compliance with the conditions precedent.

Founded in 1981, the Niquelândia facility had been curtailed since 2016 due to market conditions. The sale includes both the nickel mine and the processing plant. In the event Wave Nickel Brasil resumes production in Niquelândia, CBA will receive 3% of the company's net operating revenue in royalties, limited to US$D 10 million per year. The decommissioning of the Jacuba Dam remains CBA's responsibility.

## CAPITAL MARKET

In 2023, with the aim of preserving its capital structure and bolstering its cash position, CBA announced a capital increase through a private placement, with the possibility of utilizing declared dividends to be paid by the Company. A total of 55,239,364 shares were subscribed and fully paid, representing 100% of the shares placed in the capital increase, at an issuance price of R$ 3.73 per share, totaling R$ 206,042,827.72.

On January 18, 2024, the Company's Board of Directors approved the capital increase initiated on November 8, 2023, consolidating the increase in subscribed and paid-in capital in the shareholders' preemptive rights, as well as the apportionment of surplus shares.

The Company's share capital increased from R$ 4,749,459,728.46, divided into 595,833,333 shares, to R$ 4,955,502,556.18, divided into 651,072,697 shares. Votorantim S.A. now holds 68.6% of CBA's shares, with a current free-float of 31.4%.

*Legado Verdes do Cerrado*
Reserve (GO)

# Sustainable finance

In 2023, CBA raised R$657 million through Sustainability-Linked Loans, in which debt service costs are linked to annual emissions performance. As part of these transactions, the Company has set annual targets for reducing greenhouse gas emissions in primary aluminum production, in line with its 2030 ESG Strategy. This year, the Company also secured additional disbursements under facilities obtained in 2022 from the Brazilian Development Bank (BNDES) to finance the scrap treatment line at Metalex, the restart of Pot Room 3, and the technological upgrade of Smelters, as well as a facility from the Brazilian Funding Agency for Studies and Projects (FINEP) to finance an ESG-focused strategic innovation plan and the ReAl project.

As part of its commitment to accountability, the Company annually publishes a green bonds report on its Investor Relations website, detailing progress on green loan-funded projects and the Company's performance against emissions indicators. This document is assured by independent auditors.

With 42% of total debt allocated to fund projects with a positive environmental impact or linked to sustainability performance, CBA reaffirms its commitment to combating climate change and ensuring a continued supply of low-carbon aluminum. In addition, access to sustainability-linked loans provides needed finance under more favorable conditions in terms of debt-service costs and maturities, as well as streamlining the approval process in bank credit committees.

# Shareholder and investor relations

**GRI 2-29, 3-3 (Transparency and stakeholder engagement)**

In 2023, CBA enhanced its communication with investors through a variety of events and engagement channels. Transparency and dialogue remained central to the Company's interactions with shareholders, particularly amid the challenges facing the aluminum industry. The Investor Relations (IR) team engaged closely with investors, addressing inquiries regarding the Company's disclosures and providing commentary on future market trends and the Company's outlook. Shareholder feedback was solicited through regular meetings and CBA-hosted events, as well as through the IR website, email, or the IR team's phone line.

To ensure transparency and accountability towards investors, CBA strictly adheres to the regulations established by capital-market regulators, such as the Brazilian securities commission (CVM) and B3, and follows best practices in corporate governance.

Some of the periodic investor-facing events during the year included:

- Live sessions and events for both retail and institutional investors
- Non-deal Roadshows (NDRs) with institutional investors, featuring discussion rounds facilitated by CBA's partner banks
- Participation of the Investor Relations team, CFO, and CEO in conferences organized by financial institutions
- CBA Day, an annual event, held virtually in this year's edition, to provide investors with insights into the Company's strategy, the outlook for the aluminum market, key projects, and the outlook for the following year
- CBA Dialogues – ESG, an online event that is open to all stakeholders, including retail and institutional investors, aimed at showcasing the Company's sustainability initiatives, with this year's edition focusing on decarbonization efforts.

All relevant Company information is also available on the Investor Relations website.


José Carlos Gomes,
Metalex (SP) employee

# Building a better future

Stock photo

**Aluminum solutions that transform lives.**
This is the purpose that guides everything the Company does. The transformation we aspire to achieve in society spans different fronts, such as offering innovative products produced to high standards of governance, quality, and sustainability; supporting employees' personal and professional development; extending sustainable practices in partnership with suppliers and contractors; and fostering positive impacts on the environment and society through our low-carbon aluminum.

CBA Leadership

These aspirations can only be successfully achieved through our people. This was one of our main highlights from 2023: the strength, commitment, and engagement of our team, united in building the best solutions for our business and the market. To continue to enhance the performance of our workforce, CBA has invested consistently in health and safety, which are non-negotiable.

One of the main avenues for advancing the Company's projects and developing our teams is our DigitALL program. An innovation-friendly culture is crucial for the Company to achieve its business objectives.

As part of our 2030 ESG Strategy, we will continue to prioritize projects to diversify our energy mix, decarbonize, and recycle—three levers supporting our sustainable aluminum offering—as well as diversity, equity, and inclusion, with targets set for gender and racial groups and intersectional identities. We know that a more diverse team is also more dynamic, efficient, and disruptive, all essential, future-ready attributes.

Other projects linked to our Strategy are designed to achieve greater cost savings, efficiency, and operational growth. These projects reflect our belief that the aluminum industry can continue to evolve while adopting best environmental, social, and governance practices.

CBA has taken a leading role in this regard, creating solutions, projects, and innovations that have transformed the market. CBA's industry leadership in ESG has garnered recognition from the market. In 2023, the Company remained for the second consecutive year in the Brazilian Corporate Sustainability Index (B3 ISE) portfolio – among the top ten in the overall ranking – and received a Best in ESG Award from Brazilian business magazine Exame.

In 2024, recycling will remain one of our core investments, helping to advance the circular economy, emissions reduction, reduced consumption of inputs, and increased production. We also believe in the enormous transformative potential that lies in formalizing the scrap value chain.

In the next cycle, two innovative projects will enter their first year of operation: ReAl and dry residue disposal using filter presses. The year ahead will therefore be one of learning, execution, and innovation, and we anticipate important milestones for the Company's future growth.

We will continue to invest in diversifying and expanding our 100% renewable power generation assets to sustain CBA's low-carbon aluminum capabilities.

In over six decades of history, CBA has proven its ability to adapt, stay ahead, deliver significant results, and lead in sustainable growth. This is how we will continue forward—by transforming the business while transforming lives.

**The Executive Board**

# GRI and SASB content index

Flávio Santos Correa,
Industrial Manager,
Alux (SP) plant

# GRI Content index

| | |
|---|---|
| **Statement of use** | CBA has reported in accordance with the GRI Standards for the period January 1 to December 31, 2023. |
| **GRI 1 used** | GRI 1 – Foundation 2021 |
| **Applicable GRI Sector Standard(s)** | - |

| GRI standard/other source | Disclosure | Location/response | Omission | | | Assurance |
|---|---|---|---|---|---|---|
| | | | Requirement(s) Omitted | Reason | Explanation | |
| **General disclosures** | | | | | | |
| | **The organization and its reporting practices** | | | | | |
| GRI 2: General Disclosures 2021 | **2-1** Organizational details | Annual Report: pages 15, 16, 20 | | | | |
| | **2-2** Entities included in the organization's sustainability reporting | Additional Disclosures Supplement: page 3<br>In its Annual Report, CBA publicly discloses environmental and social indicators, and all activities under operational and majority control are covered. | | | | |
| | **2-3** Reporting period, frequency and contact point | Annual Report: pages 10, 12<br>Additional Disclosures Supplement: page 3 | | | | |
| | **2-4** Restatements of information | Annual Report: pages 93, 124<br>Additional Disclosures Supplement: pages 43, 61, 90, 92<br>The reformulations of information are highlighted throughout the Annual Report and Additional Disclosures Supplement with the indicator code. | | | | |
| | **2-5** External assurance | Annual Report: page 10<br>Additional Disclosures Supplement: page 3 | | | | |
| | **Activities and workers** | | | | | |
| | **2-6** Activities, value chain and other business relationships | Annual Report: pages 15, 18, 20, 22, 25, 27, 28, 29, 77<br>Additional Disclosures Supplement: page 4 | | | | |
| | **2-7** Employees | Annual Report: page 88<br>Additional Disclosures Supplement: pages 29, 30 | | | | Disclosure assured |
| | **2-8** Workers who are not employees | Annual Report: page 88<br>Additional Disclosures Supplement: page 31 | | | | Disclosure assured |

| GRI standard/other source | Disclosure | Location/response | Omission | | | Assurance |
|---|---|---|---|---|---|---|
| | | | Requirement(s) Omitted | Reason | Explanation | |
| | **Governance** | | | | | |
| GRI 2: General Disclosures 2021 | **2-9** Governance structure and composition | Annual Report: pages 57, 58<br>Additional Disclosures Supplement: pages 7, 8, 9 | | | | |
| | **2-10** Nomination and selection of the highest governance body | Additional Disclosures Supplement: page 10 | | | | |
| | **2-11** Chair of the highest governance body | Additional Disclosures Supplement: page 11 | | | | |
| | **2-12** Role of the highest governance body in overseeing the management of impacts | Annual Report: page 58 | | | | |
| | **2-13** Delegation of responsibility for managing impacts | Annual Report: page 61 | | | | |
| | **2-14** Role of the highest governance body in sustainability reporting | Additional Disclosures Supplement: page 11 | | | | |
| | **2-15** Conflicts of interest | Annual Report: page 66 | | | | |
| | **2-16** Communication of critical concerns | Additional Disclosures Supplement: page 11 | | | | |
| | **2-17** Collective knowledge of the highest governance body | Annual Report: page 61 | | | | |
| | **2-18** Evaluation of the performance of the highest governance body | Additional Disclosures Supplement: page 12 | | | | |
| | **2-19** Remuneration policies | Annual Report: page 47<br>Additional Disclosures Supplement: page 13 | | | | |
| | **2-20** Process to determine remuneration | Additional Disclosures Supplement: page 13 | | | | |
| | **2-21** Annual total compensation ratio | – | 2-21.a/b/c | Confidentiality restrictions | CBA does not report the indicator because it is considered strategic. | |

| GRI standard/other source | Disclosure | Location/response | Omission | | | Assurance |
|---|---|---|---|---|---|---|
| | | | Requirement(s) Omitted | Reason | Explanation | |
| | **Strategy, policies and practices** | | | | | |
| GRI 2: General Disclosures 2021 | **2-22** Statement on sustainable development strategy | Annual Report: pages 4, 5, 6, 7 | | | | |
| | **2-23** Policy commitments | Annual Report: pages 62, 72, 77<br>Additional Disclosures Supplement: page 14 | | | | |
| | **2-24** Embedding policy commitments | Annual Report: pages 62, 64, 77<br>Additional Disclosures Supplement: page 14 | | | | |
| | **2-25** Processes to remediate negative impacts | Annual Report: pages 62, 67 | | | | |
| | **2-26** Mechanisms for seeking advice and raising concerns | Annual Report: page 67 | | | | |
| | **2-27** Compliance with laws and regulations | Additional Disclosures Supplement: page 15 | | | | Disclosure assured |
| | **2-28** Membership associations | Additional Disclosures Supplement: pages 16, 17 | | | | |
| | **Stakeholder engagement** | | | | | |
| | **2-29** Approach to stakeholder engagement | Annual Report: pages 11, 76, 182 | | | | Disclosure assured |
| | **2-30** Collective bargaining agreements | Additional Disclosures Supplement: page 40 | | | | |
| **Material topics** | | | | | | |
| GRI 3: Material topics 2021 | **3-1** Process to determine material topics | Annual Report: page 11 | | | | Disclosure assured |
| | **3-2** List of material topics | Annual Report: pages 11, 12 | | | | Disclosure assured |
| **Circular aluminum** | | | | | | |
| GRI 3: Material topics 2021 | **3-3** Management of material topics | Annual Report: page 160<br>Additional Disclosures Supplement: page 83 | | | | |
| GRI 301: Materials 2016 | **301-1** Materials used by weight or volume | Annual Report: pages 162, 163 | | | | |
| | **301-2** Recycled input materials used | Annual Report: pages 162, 163 | | | | Disclosure assured |
| | **301-3** Reclaimed products and their packaging materials | Additional Disclosures Supplement: page 83 | | | | |
| CBA disclosure | **CBA-8** Overall recycling rate | Annual Report: pages 162, 163 | | | | |

| GRI standard/other source | Disclosure | Location/response | Omission | | | Assurance |
|---|---|---|---|---|---|---|
| | | | Requirement(s) Omitted | Reason | Explanation | |
| **Climate strategy** | | | | | | |
| **GRI 3: Material topics 2021** | **3-3** Management of material topics | Annual Report: pages 23, 109, 120, 126, 130 | | | | |
| **GRI 201: Economic Performance 2016** | **201-2** Financial implications and other risks and opportunities due to climate change | Annual Report: page 128 | | | | |
| **GRI 305: Emissions 2016** | **305-1** Direct (Scope 1) GHG emissions | Annual Report: page 124<br>Additional Disclosures Supplement: page 53 | | | | Disclosure assured |
| | **305-2** Energy indirect (Scope 2) GHG emissions | Annual Report: page 124<br>Additional Disclosures Supplement: page 54 | | | | Disclosure assured |
| | **305-3** Other indirect (Scope 3) GHG emissions | Annual Report: page 124<br>Additional Disclosures Supplement: page 54 | | | | Disclosure assured |
| | **305-4** GHG emissions intensity | Annual Report: pages 122, 125 | | | | Disclosure assured |
| | **305-5** Reduction of GHG emissions | Additional Disclosures Supplement: page 55 | | | | |
| | **305-6** Emissions of ozone-depleting substances (ODS) | Additional Disclosures Supplement: page 55 | | | | |
| | **305-7** Nitrogen oxides (NOx), sulfur oxides ($SO_X$), and other significant air emissions | Additional Disclosures Supplement: page 55 | | | | |
| **CBA disclosure** | **CBA-24** Perfluorocarbons emissions | Additional Disclosures Supplement: page 55 | | | | |
| **Renewable energy and energy efficiency** | | | | | | |
| **GRI 3: Material topics 2021** | **3-3** Management of material topics | Annual Report: pages 29, 131<br>Additional Disclosures Supplement: page 56 | | | | |
| **GRI 302: Energy 2016** | **302-1** Energy consumption within the organization | Annual Report: pages 131, 132<br>Additional Disclosures Supplement: page 56 | | | | |
| | **302-2** Energy consumption outside of the organization | Additional Disclosures Supplement: 57 | | | | |
| | **302-3** Energy intensity | Annual Report: page 133 | | | | |
| | **302-4** Reduction of energy consumption | Annual Report: page 131 | | | | |
| | **302-5** Reductions in energy requirements of products and services | Additional Disclosures Supplement: page 57 | | | | |
| **CBA disclosure** | **CBA-41** Energy consumption | Additional Disclosures Supplement: page 56 | | | | |

| GRI standard/other source | Disclosure | Location/response | Omission | | | Assurance |
|---|---|---|---|---|---|---|
| | | | Requirement(s) Omitted | Reason | Explanation | |
| **Dam safety management** | | | | | | |
| **GRI 3: Material topics 2021** | **3-3** Management of material topics | Annual Report: page 155<br>Additional Disclosures Supplement: pages 26, 77 | | | | |
| **CBA disclosure** | **CBA-3** Emergency drill participants | Annual Report: page 157 | | | | |
| | **CBA-4** Volume of impounded water removed, by site | Additional Disclosures Supplement: page 81 | | | | |
| | **CBA-33** Emergency and spills response plans | Additional Disclosures Supplement: page 77 | | | | |
| **Biodiversity and ecosystem services** | | | | | | |
| **GRI 3: Material topics 2021** | **3-3** Management of material topics | Annual Report: pages 23, 134<br>Additional Disclosures Supplement: pages 58, 59 | | | | |
| **GRI 304: Biodiversity 2016** | **304-1** Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas | Annual Report: page 136<br>Additional Disclosures Supplement: page 60 | | | | Disclosure assured |
| | **304-2** Significant impacts of activities, products and services on biodiversity | Additional Disclosures Supplement: pages 58, 59 | | | | |
| | **304-3** Habitats protected or restored | Annual Report: page 135 | | | | Disclosure assured |
| | **304-4** IUCN Red List species and national conservation list species with habitats in areas affected by operations | Additional Disclosures Supplement: page 61 | | | | Disclosure assured |
| **CBA disclosure** | **CBA-22** Disturbed and rehabilitated land and sites identified as requiring diversity management plans | Additional Disclosures Supplement: page 52 | | | | |
| | **CBA-31** Biodiversity exposure & assessment | Annual Report: page 134<br>Additional Disclosures Supplement: page 63 | | | | |
| | **CBA-37** Biodiversity risk assessment | Additional Disclosures Supplement: pages 58, 59 | | | | |

| GRI standard/other source | Disclosure | Location/response | Omission | | | Assurance |
|---|---|---|---|---|---|---|
| | | | Requirement(s) Omitted | Reason | Explanation | |
| **Waste management** | | | | | | |
| **GRI 3: Material topics 2021** | **3-3** Management of material topics | Annual Report: page 150<br>Additional Disclosures Supplement: page 72 | | | | |
| **GRI 306: Waste 2020** | **306-1** Waste generation and significant waste-related impacts | Annual Report: pages 150, 153<br>Additional Disclosures Supplement: page 72 | | | | |
| | **306-2** Management of significant waste-related impacts | Annual Report: pages 150, 153<br>Additional Disclosures Supplement: page 72 | | | | |
| | **306-3** Waste generated | Annual Report: page 151 | | | | Disclosure assured |
| | **306-4** Waste diverted from disposal | Additional Disclosures Supplement: pages 73, 74 | | | | Disclosure assured |
| | **306-5** Waste directed to disposal | Additional Disclosures Supplement: pages 75, 76 | | | | Disclosure assured |
| **CBA disclosure** | **CBA-7** Significant spills | Additional Disclosures Supplement: page 77 | | | | Disclosure assured |
| | **CBA-9** Contaminated sites | Additional Disclosures Supplement: page 78 | | | | |
| | **CBA-28** Tailings management | Additional Disclosures Supplement: page 80 | | | | Disclosure assured |
| **Local development** | | | | | | |
| **GRI 3: Material topics 2021** | **3-3** Management of material topics | Annual Report: page 104 | | | | |
| **GRI 202: Market Presence 2016** | **202-1** Ratios of standard entry level wage by gender compared to local minimum wage | Additional Disclosures Supplement: page 32 | 202-1.d | Confidentiality restrictions | The presentation of data by important operational unit is considered strategic for the CBA. | Disclosure assured |
| | **202-2** Proportion of senior management hired from the local community | Additional Disclosures Supplement: page 31 | | | | |
| **GRI 203: Indirect Economic Impacts 2016** | **203-1** Infrastructure investments and services supported | Additional Disclosures Supplement: page 84 | | | | |
| | **203-2** Significant indirect economic impacts | - | 203-2.a/b | Information unavailable | CBA does not carry out studies of indirect economic impacts related to its operations. | Disclosure assured |

| GRI standard/other source | Disclosure | Location/response | Omission | | | Assurance |
|---|---|---|---|---|---|---|
| | | | Requirement(s) Omitted | Reason | Explanation | |
| **GRI 411: Rights of Indigenous Peoples 2016** | **411-1** Incidents of violations involving rights of indigenous peoples | There were no cases of violation of the rights of indigenous peoples. | | | | Disclosure assured |
| **GRI 413: Local Communities 2016** | **413-1** Operations with local community engagement, impact assessments, and development programs | Additional Disclosures Supplement: pages 49, 50 | | | | |
| | **413-2** Operations with significant actual and potential negative impacts on local communities | Additional Disclosures Supplement: page 50 | | | | Disclosure assured |
| **CBA disclosure** | **CBA-10** Social investment | Additional Disclosures Supplement: page 48 | | | | |
| | **CBA-30** Local employment | Additional Disclosures Supplement: pages 49, 50 | | | | |
| **Health, safety, and quality of life** | | | | | | |
| **GRI 3: Material topics 2021** | **3-3** Management of material topics | Annual Report: page 99<br>Additional Disclosures Supplement: page 41 | | | | |
| **GRI 401: Employment 2016** | **401-2** Benefits provided to full-time employees that are not provided to temporary or part-time employees | Additional Disclosures Supplement: 47 | | | | |
| **GRI 403: Occupational Health and Safety 2018** | **403-1** Occupational health and safety management system | Annual Report: pages 99, 102<br>Additional Disclosures Supplement: pages 41, 42 | | | | Disclosure assured |
| | **403-2** Hazard identification, risk assessment, and incident investigation | Annual Report: page 99<br>Additional Disclosures Supplement: pages 41, 42 | | | | Disclosure assured |
| | **403-3** Occupational health services | Annual Report: page 99 | | | | |
| | **403-4** Worker participation, consultation, and communication on occupational health and safety | Additional Disclosures Supplement: pages 41, 42 | | | | |
| | **403-5** Worker training on occupational health and safety | Annual Report: page 99 | | | | |
| | **403-6** Promotion of worker health | Annual Report: pages 98, 99 | | | | |
| | **403-7** Prevention and mitigation of occupational health and safety impacts directly linked by business relationships | Additional Disclosures Supplement: pages 41, 42 | | | | |
| | **403-8** Workers covered by an occupational health and safety management system | Additional Disclosures Supplement: page 43 | | | | |

| GRI standard/other source | Disclosure | Location/response | Omission | | | Assurance |
|---|---|---|---|---|---|---|
| | | | Requirement(s) Omitted | Reason | Explanation | |
| **GRI 403: Occupational Health and Safety 2018** | **403-9** Work-related injuries | Annual Report: page 102<br>Additional Disclosures Supplement: pages 44, 45, 46 | | | | Disclosure assured |
| | **403-10** Work-related ill health | Additional Disclosures Supplement: page 44 | | | | Disclosure assured |
| **CBA disclosure** | **CBA-21** Lost-Time Injury Frequency Rate (LTIFR) and Total Recordable Injury Frequency Rate (TRIFR) | Additional Disclosures Supplement: pages 44, 45, 46 | | | | |
| **Ethics, integrity, and compliance** | | | | | | |
| **GRI 3: Material topics 2021** | **3-3** Management of material topics | Annual Report: pages 62, 71 | | | | |
| **GRI 205: Anti-corruption 2016** | **205-1** Operations assessed for risks related to corruption | Annual Report: page 66 | | | | Disclosure assured |
| | **205-2** Communication and training about anti-corruption policies and procedures | Annual Report: page 66<br>Additional Disclosures Supplement: pages 18, 19, 20 | | | | |
| | **205-3** Confirmed incidents of corruption and actions taken | Annual Report: page 66 | | | | Disclosure assured |
| **GRI 206: Anti-competitive Behavior 2016** | **206-1** Legal actions for anti-competitive behavior, anti-trust, and monopoly practices | In the last four years, CBA has not been subject to legal action due to unfair competition, trust and monopoly practices. | | | | |
| **CBA disclosure** | **CBA-12** Board average tenure | Additional Disclosures Supplement: pages 7, 8 | | | | |
| | **CBA-13** Board effectiveness | Additional Disclosures Supplement: page 12 | | | | |
| | **CBA-14** Risk governance | Additional Disclosures Supplement: page 25 | | | | |
| **Innovation, technology, and business resilience** | | | | | | |
| **GRI 3: Material topics 2021** | **3-3** Management of material topics | Annual Report: pages 36, 40, 170<br>Additional Disclosures Supplement: page 5 | | | | |
| **CBA disclosure** | **CBA-1** Investments in technology and innovation | Additional Disclosures Supplement: page 6 | | | | |
| | **CBA-5** Gains from Competitiveness Management sustainability initiatives | Annual Report: page 44 | | | | |
| | **CBA-38** IT security/cybersecurity governance | Additional Disclosures Supplement: page 5 | | | | |

| GRI standard/other source | Disclosure | Location/response | Omission | | | Assurance |
|---|---|---|---|---|---|---|
| | | | Requirement(s) Omitted | Reason | Explanation | |
| **Water and wastewater management** | | | | | | |
| **GRI 3: Material topics 2021** | **3-3** Management of material topics | Annual Report: page 147<br>Additional Disclosures Supplement: pages 64, 65 | | | | |
| **GRI 303: Water and Effluents 2018** | **303-1** Interactions with water as a shared resource | Annual Report: page 147<br>Additional Disclosures Supplement: pages 64, 65 | | | | |
| | **303-2** Management of water discharge-related impacts | Additional Disclosures Supplement: pages 64, 65 | | | | |
| | **303-3** Water withdrawal | Annual Report: page 148<br>Additional Disclosures Supplement: pages 66, 67 | | | | Disclosure assured |
| | **303-4** Water discharge | Annual Report: page 148<br>Additional Disclosures Supplement: page 68 | | | | Disclosure assured |
| | **303-5** Water consumption | Annual Report: page 148<br>Additional Disclosures Supplement: page 69, 70 | | | | Disclosure assured |
| **CBA disclosure** | **CBA-2** Water reused or recycled | Additional Disclosures Supplement: page 71 | | | | Disclosure assured |
| | **CBA-11** Water intensity by product | Annual Report: page 148 | | | | Disclosure assured |
| | **CBA-25** Freshwater consumption | Additional Disclosures Supplement: page 69, 70 | | | | |
| | **CBA-26** Water consumption in water-stressed areas | Additional Disclosures Supplement: page 69, 70 | | | | |
| | **CBA-27** Business impacts of water related incidents | Additional Disclosures Supplement: page 71 | | | | |
| **Risk and crisis management** | | | | | | |
| **GRI 3: Material topics 2021** | **3-3** Management of material topics | Annual Report: page 74<br>Additional Disclosures Supplement: pages 24, 25, 26, 77 | | | | |

| GRI standard/other source | Disclosure | Location/response | Omission | | | Assurance |
|---|---|---|---|---|---|---|
| | | | Requirement(s) Omitted | Reason | Explanation | |
| **Transparency and stakeholder engagement** | | | | | | |
| **GRI 3: Material topics 2021** | **3-3** Management of material topics | Annual Report: pages 76, 82, 182<br>Additional Disclosures Supplement: page 27 | | | | |
| **GRI 415: Public Policy 2016** | **415-1** Political contributions | No contributions were made to political parties or candidates on behalf of CBA, in accordance with the legal prohibition determined by law no. 13,165/2015 and the Company's Code of Conduct. | | | | |
| **CBA disclosure** | **CBA-35** Customer satisfaction measurement | Annual Report: page 82 | | | | |
| **Diversity, equity, and inclusion** | | | | | | |
| **GRI 3: Material topics 2021** | **3-3** Management of material topics | Annual Report: page 91 | | | | |
| **GRI 405: Diversity and Equal Opportunity 2016** | **405-1** Diversity of governance bodies and employees | Annual Report: pages 88, 91, 93, 94<br>Additional Disclosures Supplement: pages 37, 38, 39 | | | | Disclosure assured |
| | **405-2** Ratio of basic salary and remuneration | Additional Disclosures Supplement: page 33 | 405-2.b | Confidentiality restrictions | The presentation of data by important operational unit is considered strategic for the CBA. | Disclosure assured |
| **GRI 406: Non Discrimination 2016** | **406-1** Incidents of discrimination and corrective actions taken | Additional Disclosures Supplement: page 20 | 406-1.b | Confidentiality restrictions | Details of the cases have been preserved due to confidentiality restrictions. | Disclosure assured |
| **CBA disclosure** | **CBA-19** Workforce breakdown: Gender | Additional Disclosures Supplement: page 39 | | | | |
| **Sustainable supply chain** | | | | | | |
| **GRI 3: Material topics 2021** | **3-3** Management of material topics | Annual Report: pages 77, 78 | | | | |
| **GRI 204: Procurement Practices 2016** | **204-1** Proportion of spending on local suppliers | Annual Report: page 77<br>Additional Disclosures Supplement: page 27 | | | | Disclosure assured |
| **GRI 407: Freedom of Association and Collective Bargaining 2016** | **407-1** Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk | Additional Disclosures Supplement: page 28 | | | | |
| **GRI 408: Child Labor 2016** | **408-1** Operations and suppliers at significant risk for incidents of child labor | Annual Report: pages 72, 73 | | | | Disclosure assured |
| **GRI 409: Forced or Compulsory Labor 2016** | **409-1** Operations and suppliers at significant risk for incidents of forced or compulsory labor | Annual Report: pages 72, 73 | | | | Disclosure assured |

| GRI standard/other source | Disclosure | Location/response | Omission | | | Assurance |
|---|---|---|---|---|---|---|
| | | | Requirement(s) Omitted | Reason | Explanation | |
| GRI 308: Supplier Environmental Assessment 2016 | **308-1** New suppliers that were screened using environmental criteria | Annual Report: page 79 | | | | Disclosure assured |
| | **308-2** Negative environmental impacts in the supply chain and actions taken | Annual Report: page 79 | | | | |
| GRI 414: Supplier Social Assessment 2016 | **414-1** New suppliers that were screened using social criteria | Annual Report: page 79 | | | | Disclosure assured |
| | **414-2** Negative social impacts in the supply chain and actions taken | Annual Report: page 79 | | | | |
| CBA disclosure | **CBA-18** KPIs for supplier screening | Additional Disclosures Supplement: page 28 | | | | Disclosure assured |
| | **CBA-36** Supplier assessment and development | Annual Report: page 79 | | | | |

| Other non-material indicators | Disclosure | Location/response | Assurance |
|---|---|---|---|
| GRI 401: Employment 2016 | **401-1** New employee hires and employee turnover | Additional Disclosures Supplement: pages 34, 35 | Disclosure assured |
| Former GRI 412: Human Rights Assessment 2016 | **412-1** Operations that have been subject to human rights reviews or impact assessments | Additional Disclosures Supplement: page 21 | |
| | **412-2** Employee training on human rights policies or procedures | Additional Disclosures Supplement: page 23 | Disclosure assured |
| | **412-3** Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening | Additional Disclosures Supplement: page 24 | |
| CBA disclosure | **CBA-6** Payment of mining taxes | Additional Disclosures Supplement: page 84 | |
| | **CBA-15** Environmental violations | Additional Disclosures Supplement: page 15 | |
| | **CBA-16** Human rights due diligence process | Annual Report: page 73<br>Additional Disclosures Supplement: page 22 | |
| | **CBA-17** Human rights mitigation & remediation | Additional Disclosures Supplement: page 23 | |
| | **CBA-23** Return on environmental investments | Additional Disclosures Supplement: page 53 | |
| | **CBA-29** Type of performance appraisal | Annual Report: page 97 | |
| | **CBA-32** Employee turnover rate | Additional Disclosures Supplement: page 35 | |
| | **CBA-34** Trend of employee wellbeing | Annual Report: page 90 | |
| | **CBA-40** Hiring | Additional Disclosures Supplement: page 36 | |

# SASB-EM-MM Index

| Topic SASB | Metric | Location | Omission | Assurance |
|---|---|---|---|---|
| **Greenhouse Gas Emissions** | | | | |
| EM-MM-110a.1 | Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations | Annual Report: page 124<br>Additional Disclosures Supplement: page 53 | | |
| EM-MM-110a.2 | Discussion of long- and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets | Annual Report: pages 49, 120, 122, 126, 128 | | |
| **Air Quality** | | | | |
| EM-MM-120a.1 | Air emissions of the following pollutants: (1) CO, (2) NOx (excluding $N_2O$), (3) SOx, (4) particulate matter (PM10), (5) mercury (Hg), (6) lead (Pb), and (7) volatile organic compounds (VOCs) | Additional Disclosures Supplement: page 55 | | |
| **Energy Management** | | | | |
| EM-MM-130a.1 | (1) Total energy consumed, (2) percentage grid electricity and (3) percentage renewable | Annual Report: page 132<br>Additional Disclosures Supplement: page 56 | | |
| **Water Management** | | | | |
| EM-MM-140a.1 | (1) Total water withdrawn, (2) total water consumed; percentage of each in regions with High or Extremely High Baseline Water Stress | Additional Disclosures Supplement: pages 66, 67, 69, 70 | | Disclosure assured |
| EM-MM-140a.2 | Number of incidents of non-compliance associated with water quality permits, standards and regulations | Additional Disclosures Supplement: page 70 | | Disclosure assured |
| **Waste & Hazardous Materials Management** | | | | |
| EM-MM-150a.4 | Total weight of non-mineral waste generated | Annual Report: page 152 | | Disclosure assured |
| EM-MM-150a.5 | Total weight of tailings produced | Annual Report: page 152 | | Disclosure assured |
| EM-MM-150a.6 | Total weight of waste rock generated | Annual Report: page 152 | | Disclosure assured |
| EM-MM-150a.7 | Total weight of hazardous waste generated | Annual Report: page 151 | | Disclosure assured |
| EM-MM-150a.8 | Total weight of hazardous waste recycled | Additional Disclosures Supplement: pages 73, 74 | | Disclosure assured |

| Topic SASB | Metric | Location | Omission | Assurance |
|---|---|---|---|---|
| EM-MM-150a.9 | Number of significant incidents associated with hazardous materials and waste management | Additional Disclosures Supplement: page 77 | | Disclosure assured |
| EM-MM-150a.10 | Description of waste and hazardous materials management policies and procedures for active and inactive operations | Annual Report: page 150<br>Additional Disclosures Supplement: page 72 | | Disclosure assured |
| **Biodiversity Impacts** | | | | |
| EM-MM-160a.1 | Description of environmental management policies and practices for active sites | Annual Report: page 104<br>Additional Disclosures Supplement: pages 51, 52 | | |
| EM-MM-160a.2 | Percentage of mine sites where acid rock drainage is: (1) predicted to occur, (2) actively mitigated, and (3) under treatment or remediation | - | Not applicable | |
| EM-MM-160a.3 | Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat | Additional Disclosures Supplement: page 62 | | |
| **Security, Human Rights & Rights of Indigenous Peoples** | | | | |
| EM-MM-210a.1 | Percentage of (1) proved and (2) probable reserves in or near areas of conflict | Additional Disclosures Supplement: page 62 | | |
| EM-MM-210a.2 | Percentage of (1) proved and (2) probable reserves in or near indigenous land | Additional Disclosures Supplement: page 62 | | |
| EM-MM-210a.3 | Discussion of engagement processes and due diligence practices with respect to human rights, indigenous rights, and operation in areas of conflict | Annual Report: page 73 | | Disclosure assured |
| **Community Relations** | | | | |
| EM-MM-210b.1 | Discussion of process to manage risks and opportunities associated with community rights and interests | Annual Report: page 104 | | |
| EM-MM-210b.2 | Number and duration of non-technical delays | Additional Disclosures Supplement: page 31 | | |
| **Labour Relations** | | | | |
| EM-MM-310a.1 | Percentage of active workforce covered under collective bargaining agreements, broken down by U.S. and foreign employees | Additional Disclosures Supplement: page 40 | | |
| EM-MM-310a.2 | Number and duration of strikes and lockouts | Additional Disclosures Supplement: page 31 | | |

| Topic SASB | Metric | Location | Omission | Assurance |
|---|---|---|---|---|
| **Workforce Health & Safety** | | | | |
| EM-MM-320a.1 | (1) MSHA all-incidence rate, (2) fatality rate, (3) near miss frequency rate (NMFR) and (4) average hours of health, safety, and emergency response training for (a) full-time employees and (b) contract employees | Additional Disclosures Supplement: pages 44, 45, 46 | The average number of hours of health and safety and emergency response training is not available. | Disclosure assured |
| **Business Ethics & Transparency** | | | | |
| EM-MM-510a.1 | Description of the management system for prevention of corruption and bribery throughout the value chain | Annual Report: page 62 | | |
| EM-MM-510a.2 | Production in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index | - | Not applicable | |
| **Tailings Storage Facilities Management** | | | | |
| EM-MM-540a.1 | Tailings storage facility inventory table: (1) facility name, (2) location, (3) ownership status, (4) operational status, (5) construction method, (6) maximum permitted storage capacity, (7) current amount of tailings stored, (8) consequence classification, (9) date of most recent independent technical review, (10) material findings, (11) mitigation measures, (12) site-specific EPRP | Additional Disclosures Supplement: page 79 | | |
| EM-MM-540a.2 | Summary of tailings management systems and governance structure used to monitor and maintain the stability of tailings storage facilities | Annual Report: page 155<br>Additional Disclosures Supplement: page 80 | | |
| EM-MM-540a.3 | Approach to development of Emergency Preparedness and Response Plans (EPRPs) for tailings storage facilities | Annual Report: page 155<br>Additional Disclosures Supplement: page 80 | | |
| **Activity Metric** | | | | |
| EM-MM-000.A | Production of (1) metal ores and (2) finished metal products | Annual Report: pages 162, 163 | | |
| EM-MM-000.B | Total number of employees, percentage contractors | Annual Report: page 88<br>Additional Disclosures Supplement: pages 29, 30, 31 | | |

# SASB-IF-EU Index

| Topic SASB | Metric | Location | Omission | Assurance |
|---|---|---|---|---|
| **Greenhouse Gas Emissions & Energy Resource Planning** | | | | |
| IF-EU-110a.1 | (1) Gross global Scope 1 emissions, percentage covered under (2) emissions-limiting regulations and (3) emissions-reporting regulations | Annual Report: page 124<br>Additional Disclosures Supplement: page 53 | | |
| IF-EU-110a.2 | Greenhouse gas (GHG) emissions associated with power deliveries | Annual Report: page 124<br>Additional Disclosures Supplement: page 54 | | |
| IF-EU-110a.3 | Discussion of long- and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets | Annual Report: pages 120, 122, 128 | | |
| **Air Quality** | | | | |
| IF-EU-120a.1 | Air emissions of the following pollutants: (1) NOx (excluding $N_2O$), (2) SOx, (3) particulate matter (PM10), (4) lead (Pb), and (5) mercury (Hg); percentage of each in or near areas of dense population | Additional Disclosures Supplement: page 55 | | |
| **Water Management** | | | | |
| IF-EU-140a.1 | 1) Total water withdrawn, (2) total water consumed; percentage of each in regions with High or Extremely High Baseline Water Stress | Additional Disclosures Supplement: pages 66, 67, 69, 70 | | |
| IF-EU-140a.2 | Number of incidents of non-compliance associated with water quality permits, standards and regulations | Additional Disclosures Supplement: page 70 | | |
| IF-EU-140a.3 | Description of water management risks and discussion of strategies and practices to mitigate those risks | Annual Report: page 147<br>Additional Disclosures Supplement: pages 64, 65 | | |
| **Coal Ash Management** | | | | |
| IF-EU-150a.1 | Amount of coal combustion residuals (CCR) generated, percentage recycled | - | Not applicable | |
| IF-EU-150a.2 | Total number of coal combustion residual (CCR) impoundments, broken down by hazard potential classification and structural integrit assessment | - | Not applicable | |

| Topic SASB | Metric | Location | Omission | Assurance |
|---|---|---|---|---|
| **Energy Affordability** | | | | |
| IF-EU-240a.1 | Average retail electric rate for (1) residential, (2) commercial, and (3) industrial customers | - | Not applicable | |
| IF-EU-240a.2 | Typical monthly electric bill for residential customers for (1) 500 kWh and (2) 1,000 kWh of electricity delivered per month | - | Not applicable | |
| IF-EU-240a.3 | Number of residential customer electric disconnections for non-payment, percentage reconnected within 30 days | - | Not applicable | |
| IF-EU-240a.4 | Discussion of impact of external factors on customer affordability of electricity, including the economic conditions of the service territory | - | Not applicable | |
| **Workforce Health & Safety** | | | | |
| IF-EU-320a.1 | (1) Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR) | Additional Disclosures Supplement: pages 44, 45, 46 | | Disclosure assured |
| **End-Use Efficiency & Demand** | | | | |
| IF-EU-420a.1 | Percentage of electric utility revenues from rate structures that (1) are decoupled and (2) contain a lost revenue adjustment mechanism (LRAM) | - | Not applicable | |
| IF-EU-420a.2 | Percentage of electric load served by smart grid technology | - | Not applicable | |
| IF-EU-420a.3 | Customer electricity savings from efficiency measures, by market | - | Not applicable | |
| **Nuclear Safety & Emergency Management** | | | | |
| IF-EU-540a.1 | Total number of nuclear power units, broken down by results of most recent independent safety review | - | Not applicable | |
| IF-EU-540a.2 | Description of efforts to manage nuclear safety and emergency preparedness | - | Not applicable | |
| **Grid Resiliency** | | | | |
| IF-EU-550a.1 | Number of incidents of non-compliance with physical or cybersecurity standards or regulations | Additional Disclosures Supplement: page 5 | | |
| IF-EU-550a.2 | (1) System Average Interruption Duration Index (SAIDI), (2) System Average Interruption Frequency Index (SAIFI), and (3) Customer Average Interruption Duration Index (CAIDI), inclusive of major event days | - | Not applicable | |

| Topic SASB | Metric | Location | Omission | Assurance |
|---|---|---|---|---|
| **Activity Metric** | | | | |
| **IF-EU-000.A** | Number of: (1) residential, (2) commercial, and (3) industrial customers served | - | Not applicable | |
| **IF-EU-000.B** | Total electricity delivered to: (1) residential, (2) commercial, (3) industrial, (4) all other retail customers, and (5) wholesale customers | - | Not applicable | |
| **IF-EU-000.C** | Length of transmission and distribution lines | Annual Report: page 31 | | |
| **IF-EU-000.D** | Total electricity generated, percentage by major energy source, percentage in regulated markets | Annual Report: pages 29, 31 | | |
| **IF-EU-000.E** | Total wholesale electricity purchased | Annual Report: pages 29<br>Additional Disclosures Supplement: page 57 | | |

# INDEPENDENT ASSURANCE CLAIM – BUREAU VERITAS

## INTRODUCTION

Bureau Veritas Certification Brazil (Bureau Veritas) was hired by **Companhia Brasileira de Alumínio (CBA)**, to conduct an independent assurance of the CBA 2023 Annual Report and Additional Disclosures Supplement (hereinafter referred to as the Report).

The information published in the report is the sole responsibility of the CBA management. Our responsibility is defined according to the scope below.

## SCOPE OF WORK

The scope of this verification covered the standards and Principles[1] of the Global Reporting Initiative™ for Sustainability Reports and refers to the rendering of accounts for the period from January 1, 2023, to December 31, 2023.

## RESPONSIBILITIES OF CBA AND BUREAU VERITAS

The preparation, presentation, and content of the Report and Additional Disclosures Supplement are the sole responsibility of CBA's management. Bureau Veritas is responsible for providing an independent opinion to Stakeholders under the scope of work defined in this claim.

CBA's Report and Additional Disclosures Supplement were prepared under the guidelines of the Global Reporting Initiative (GRI Standards), including Sustainability Accounting Standards Board (SASB), ANEEL, CSA, IFRS indicators, indicators of CBA and internal controls determined as necessary to enable the preparation of this information free from material misstatement, whether due to fraud or error.

## METHODOLOGY

The assurance included the following activities:

1. Interviews with those responsible for the material topics and the content of the Report and Additional Disclosures Supplement;
2. Remote verification of corporate and operational processes (sample verification of material indicators GRI, SASB, ANEEL, CSA, IFRS and own indicators);
3. Analysis of documentary evidence provided by CBA for the period covered by the Report (2023);
4. Analysis of engagement activities with interested parties (stakeholders) developed by CBA;
5. Evaluation of the system used to determine the material aspects included in the Report, considering the context of sustainability and scope of the published information.

The verification level adopted was Limited, following the requirements of the ISAE 3000[2] standard, incorporated into Bureau Veritas' internal verification protocols.

## LIMITATIONS AND EXCLUSIONS

Any evaluation of information related to:

- Activities outside the reported period;
- Position claims (expressions of opinion, belief, objectives, or future intentions) by CBA;
- Accuracy of economic and financial data contained in the Report and Additional Disclosures Supplement, extracted from financial statements, verified by independent auditors;
- Inventory of Greenhouse Gas (GHG) emissions, including energy data (verified in a separate process by another Bureau Veritas team);
- Data and information of affiliated companies or outsourced employees, over which there is no operational control by CBA.

[1] *Accuracy, Balance, Clarity, Comparability, Completeness, Sustainability Context, Timeliness, and Verifiability.*
[2] *International Standard on Assurance Engagements 3000 – Assurance Engagements other than Audits or Reviews of Historical Financial Information.*

The following limitations have been applied to this verification:

- The principles of Accuracy and Reliability of data were verified on a sample basis, exclusively in the light of the information and data related to the material topics presented in the Report;

- The economic information presented in the Report was specifically verified against the GRI Balance and Completeness principles.

## OPINION ON THE REPORT AND THE ASSURANCE PROCESS

- CBA reviewed the materiality study, which was carried out following the concept of double materiality, in which both socio-environmental and financial impacts are considered (in addition to relevance) and a study called ESG Perception, to capture the perception of CBA investors and creditors on the relevance of ESG topics. In all, 15 topics were selected for the report;

- In our understanding, CBA's Sustainability Report and Additional Disclosures Supplement present the impacts of the company's activities in a balanced manner;

- The CBA demonstrated an adequate data collection and compilation method concerning the GRI Reliability Principle;

- The inconsistencies found in the Report were adjusted during the process and were satisfactorily corrected.

## RECOMMENDATIONS

- Although CBA conducts training related to health and safety and emergency responses, there is no control of hours of such training. We recommend that this control be carried out for reporting in the next cycle.

## CONCLUSION

As a result of our verification process, nothing has come to our attention that could indicate that:

- The information provided in the Report and Additional Disclosures Supplement is not balanced, consistent, and reliable;

- CBA has not established appropriate systems for the collection, compilation, and analysis of quantitative and qualitative data used in the Report;

- The Report and Additional Disclosures Supplement do not adhere to the Principles for defining the content and quality of the GRI and SASB Standards for sustainability reporting.

## CLAIM OF INDEPENDENCE AND IMPARTIALITY

Bureau Veritas Certification is an independent professional services company specializing in Quality, Health, Safety, Social, and Environmental management with over 195 years of experience in independent evaluation services.

Bureau Veritas has implemented and enforced a Code of Ethics throughout its business to ensure that its employees maintain the highest standards in their day-to-day activities. We are particularly attentive to prevention concerning conflict of interest.

The verification team does not have any other link with CBA, other than the independent verification of the Sustainability Report. We understand that there is no conflict between other services performed by Bureau Veritas and this verification performed by our team.

The team that conducted this verification for CBA has extensive knowledge in verifying information and systems that involve environmental, social, health, safety, and ethical issues, which combined with the experience in these areas, allows us a clear understanding of the presentation and verification of good corporate responsibility practices.

## CONTACT

https://www.bureauveritas.com.br/pt-br/fale-com-gente

São Paulo, April, 2024.

**Bruno Moreira**
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Bureau Veritas Certification – Brazil

**Nádia Lúcia Zuca Simões**
Lead auditor - Assurance
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# Credits


**General coordination**

**Leandro Campos de Faria**
Chief Sustainability, Safety, and Environment Officer
**Camila Abel**
Chief Financial and Investor Relations Officer

**Coordination**

**Bruna Orlandi Bicalho and Ligia de Lima Carvalho**
Sustainability

**Team**

Sustainability
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Energy Business
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Environment
**Marcus Vinícius Vaz Moreno and Debora Oliveira Rizzati**

Investor Relations
**Amábile Caroline da Silva and Rhaissa D Orleans Magalhães**

**Acknowledgments**

This report drew inputs from different departments across CBA. Special thanks are due to all who contributed to this report.

**Technical and editorial coordination**

Quintal 22

**Disclosures technical consulting**

Avesso Sustentabilidade

**Design and layout**

Adesign

**Infographics**

Felix Reiners

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**Independent assurance**

Bureau Veritas

**Translation**

LATAM – Latin American Translations

cba