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2024 Climate Agenda Report



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Introduction

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About this Report

This 2024 Climate Agenda Report offers a comprehensive and transparent account of how CBA manages climate-related challenges and opportunities in its operations. This report has been prepared in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), covering the period from January 1 to December 31, 2024. The report is organized into three main sections:

- **Paving the way for the next transformations:** this section presents CBA, its operations and highlights from the year, providing an overview of the Company and its most significant achievements
- **Tackling climate change:** this section explores CBA's climate governance, strategy, risk management practices, and adaptation efforts, with a focus on opportunities within challenges
- **Low-carbon aluminum:** this section highlights the Company's targets and performance metrics, strategies for emissions reduction in operations, and other initiatives supporting CBA's climate agenda

For further information about CBA's sustainability practices, see the Company's [2024 Annual Report](#).

This report aligns with the **TCFD** (Task Force on Climate-related Financial Disclosures) recommendations



Nayara da Rocha Santos and Jonatan dos Santos Silva, employees at the Alumínio (SP) plant



Luciano Alves
CEO

Message from Company leadership

LETTER FROM THE CEO

Dear readers,

We concluded the year with strong results, operational stability, and a positive market outlook. Over the past year, we have further bolstered one of CBA's key competitive advantages—its vertically integrated value chain. While many global aluminum producers grapple with high costs and limited access to bauxite and alumina, our self-sufficiency in these strategic inputs has made our Company uniquely resilient.

As a result, we have successfully maintained maximum production capacity across multiple production lines to meet market demand—without ever compromising on our commitment to operational excellence and sustainability. In 2024, we refined our Strategic Dialog program, maintaining the backbone strategy guiding its long-term goals while adjusting certain aspects to reflect market trends and global challenges. We also continued to advance our 2030

ESG Roadmap, with significant progress on climate-related initiatives.

Our ongoing investments in recycling are among the CBA's advantages to low-carbon aluminum production. By incorporating more scrap into our production process, we not only enhance our portfolio's risk-return profile and reduce emissions but also support livelihoods in the recycling value chain and mitigate environmental impacts from the materials that would otherwise be disposed of. As part of these investments, in 2024 we introduced ReAl technology—a groundbreaking innovation that allows us to recycle scrap from multi-material packaging. This solution recycles the aluminum layer back into our production line as alumina and the plastic layer into other value chains. The highly successful ReAl project highlights CBA's innovation capabilities and industry leadership.

In addition to ReAl, we have strong recycling capabilities that include two dedicated facilities: Alux and Metalex. At both sites, we have implemented process innovations to maximize scrap utilization. Concurrently, we have developed two new Processing and Recycling Centers. As part of our social responsibility efforts, we have actively supported the training and development of recycling cooperatives, which play an essential role in scrap supply and in sustaining livelihoods in the recycling value chain.

In 2024, we launched a Dry Residue Disposal Project at the Palmital dam (SP) to improve dam safety while advancing the circular economy by creating a co-product for future use in the building and construction sector.

As a representative of SDG 13 – *Climate Action* in the UN Global Compact’s Leadership with ImPact program, I am fully aware of the industry’s challenges and believe that it is important that we lead by example.

CBA is already a globally leading producer of low-carbon aluminum. We operate the world’s lowest-emission alumina refinery¹. In primary aluminum production, we rank in the first quartile of the global emissions curve at the smelting stage. Our emissions stand at approximately 3 metric tons of CO₂e per metric ton of molten

aluminum produced, while the global average is around 11² metric tons. We have continued to our efforts to further reduce greenhouse gas emissions, enhance climate risk controls, and integrate extreme weather assessments into our strategic planning—while collaborating closely with our entire value chain.

We encourage and support our suppliers in improving their own climate management practices and have launched a Climate Action Initiative—in partnership with the Votorantim Institute and Instituto Itaúsa—to help local governments become more resilient and better prepared to address the climate crisis, focusing on climate impacts on vulnerable populations.

In the course of these efforts, we have also identified opportunities to expand the reach of our Alennium label, which identifies products made with our low-carbon aluminum. This supports sustainability goals not only for our Company but also for other industries. This year, both our Annual Report and our Climate Agenda Report will center around the theme: **“CBA 70 Years: people paving the way for the next transformations.”** I want to extend my sincere appreciation to all our employees for their hard work and dedication during yet another year of remarkable achievements and resilience.

Their confidence in our strategy and the successful delivery of our plans are key to sustaining continued growth and innovation.

We will continue to drive initiatives that will propel our future forward. Thank you all, and I hope you enjoy the report!

Luciano Alves
CEO

1. Source: CRU emissions analysis platform
2. Source: IAI



Alumínio plant (SP)

LETTER FROM THE CFO

Dear readers,

2024 was a year of strong performance for CBA, with encouraging signs of recovery in the aluminum industry. We sustained stable production at high capacity levels, successfully meeting strong local demand in a dynamic market. This supported a higher value-added product mix and, as a

result, a substantial margin recovery partly driven by declining input costs, which, while not yet at pre-pandemic levels, showed a positive trajectory.

Our investments in the year were according to plan. We successfully delivered two key strategic projects supporting our climate adaptation and mitigation efforts: Dry Residue Disposal and ReAl. Both projects were completed on schedule and within budget, as part of our commitment to

efficient execution and the long-term sustainability of our operations.

In terms of financial performance, we continued to improve our debt profile. We raised R\$ 425 million through sustainability-linked finance and made selected debt prepayments, lengthening our average maturity at competitive interest rates. Our reputation and ESG (environmental, social, and governance) commitments give us a favorable position in the credit market and among investors, as does our low-carbon aluminum offering.

Looking forward, we have integrated two new initiatives into our five-year strategic pipeline. The first is an 8,000-metric-ton capacity expansion in ultra-thin foil production, with project completion expected between 2025 and 2026. The second is an expanded investment in recycling, with R\$ 310 million earmarked for the coming years to scale up our capacity through 2030. Each of these projects is a step further in our commitment to innovation and sustainability.

In risk management, we have achieved a high level of maturity and consistent engagement across the company. CBA has identified more than 120 priority risks, which are regularly reviewed and continuously monitored. Our

robust risk management process includes monthly executive meetings, annual risk map reviews, and detailed performance indicators. This approach enables us not only to mitigate risks but also to use them as strategic tools for planning and action, creating value for the business as a whole.

Sustainability remains at the core of our strategy. Every action and investment reflects our commitment to long-term ESG goals, translated into concrete and measurable initiatives. Whether by advancing sustainable mining projects in collaboration with universities or by enhancing our sustainable value chain program, we strive not only to meet our own goals but also to support our communities, engage stakeholders, and create a positive impact on the environment and society. This collective journey is what fuels CBA's continued innovative and responsible growth.

We remain confident in the path we have set and are grateful to everyone who is part of this story. Together, we will continue transforming lives through aluminum!

Camila Abel
CFO

Camila Abel
CFO



2024 highlights



The Sustainability Committee evolved into the

Sustainability and Capital Projects Committee



CBA's Strategic Dialog program

was revisited, maintaining the backbone of its long-term objectives while adjusting to market trends and global challenges



Emissions of

0.21 tCO₂e/t of oxide

at the Refinery stage, positioning CBA as the world's lowest CO₂e emitter for Scopes 1 and 2



CBA's smelter emissions stood at

2.87 tCO₂e/t

of molten aluminum, approximately four times lower than the global industry average for Scopes 1 and 2



CBA's

Dry Waste Disposal

project was rolled out at the Palmital dam (SP) using filter presses to remove liquids from bauxite residue, increasing dam safety as the Company explores the potential use of dry residue in other products



CBA launched

ReAl technology,

an innovative solution that enables the separation of aluminum from plastic in multi-material packaging



Built the

São José do Rio Preto (SP) Recycling Center,

the Company's second facility of its kind



Launched a pilot

Public Management Support – Climate Action Program

in the municipalities of Juquitiba (SP) and Miraf (MG)



alennium

CBA's Alennium low-carbon aluminum label was adopted by

11 customers,

in addition to CBA's Primora-branded profiles



Paving the way for the **next** **transformations**



CBA 70 Years

Low-carbon aluminum

Renewable generation

Simone Gonçalves da Costa, Agricultural Assistant – Legado Verdes do Cerrado (GO)

CBA 70 Years

Companhia Brasileira de Alumínio (CBA) is celebrating its 70th anniversary as an industry leader in low-carbon aluminum production, crowning a legacy built on innovation and social and environmental responsibility. Publicly traded on B3's *Novo Mercado*, an enhanced-governance listing segment, with Votorantim S.A. as its majority shareholder, CBA is the only fully vertically integrated aluminum producer in Brazil and one of the few in the world. CBA's operations span the entire aluminum value chain—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 siding, and parts and components).

Sustainability is embedded in CBA's business strategy, and is translated into practical steps in the Company's 2030 ESG Strategy. This strategic plan sets bold targets, including 100% renewable, traceable electricity usage and substantial reductions in greenhouse gas (GHG) emissions. Sustainable resource management and high recycling content are central to CBA's operations, with ongoing investments to expand the use of recycled materials and build a circular value chain.

How CBA produces low-carbon aluminum:



Generation capacity to supply
100% renewable and traceable electricity



A pipeline of
energy efficiency initiatives



Investments in
decarbonization technology,
including biomass-fired steam generation and pot room upgrades



Recycling investments, including:

- the recent Alux acquisition
- innovative technology deployed at Metalex to increase scrap processing
- new Processing and Recycling Centers
- CBA's newly launched ReAl technology for recycling multimaterial packaging containing aluminum



Supplier engagement
to promote sustainable practices



Best-practice reclamation of mined land and environmental preservation initiatives supporting
Carbon capture

OPERATIONS

Aluminum Business

- **Mining operations**
 - Poços de Caldas (MG)*
 - Mirai (MG)*
 - Itamarati de Minas (MG)*
 - Barro Alto (GO)
 - Rondon (PA)**
- **Alumínio plant (SP)***
- **Itapissuma (PE)***
- **Metalex (SP)***
- **Alux (SP)***
- **Sorocaba facility (SP)***
- Distribution Center and Solutions & Services Center (RS)
- Solutions & Services Centers (SP)
- Corporate Office (SP)
- Araçariguama Recycling Center (SP)
- CBA São José do Rio Preto Recycling Center (SP)

1. Both managed by Auren
2. Generation output and installed capacity in proportion to CBA's equity stake
3. Curtailed since 2016
4. Both managed by Reservas Votorantim

* Operations included in GHG emissions inventory
 ** Under environmental licensing

Energy Business CBA-owned plants

- **Jurupará MHPP***
Piedade (SP)
- **Santa Helena MHPP***
Votorantim (SP)
- **Votorantim MHPP***
Votorantim (SP)
- **Alecrim HPP***
Miracatu (SP)
- **Barra HPP***
Tapiraí (SP)
- **França HPP***
Juquitiba (SP)
- **Fumaça HPP***
Ibiúna (SP)
- **Itupararanga HPP***
Votorantim (SP)
- **Ourinhos HPP***
Ourinhos (SP)
- **Piraju HPP***
Piraju (SP)
- **Porto Raso HPP***
Tapiraí (SP)
- **Salto do Iporanga HPP***
Juquiá (SP)
- **Salto do Rio Verdinho HPP***
Itarumã (GO)
- **Serraria HPP***
Juquiá (SP)

- **Sobragi HPP***
Simão Pereira e Belmiro Braga (MG)

Wind Complexes¹

- **Ventos de Santo Anselmo**
Betânia (PI), Araripina (PE)
- **Ventos de Santo Isidoro**
Curral Novo (PI)

Jointly-owned hydroelectric plants²

- **Canoas I HPP**
Cândido Mota (SP)
- **Canoas II HPP**
Palmital (SP)
- **Salto Pilão HPP**
Apiúna (SC)
- **Machadinho HPP**
Piratuba (SC)
- **Barra Grande HPP**
Pinhal da Serra (RS)
- **Campos Novos HPP**
Campos Novos (SC)

Nickel Business

- Niquelândia (GO)³

Logistics operations

- Barão de Angra (RJ)
- Santa Isabel (GO)

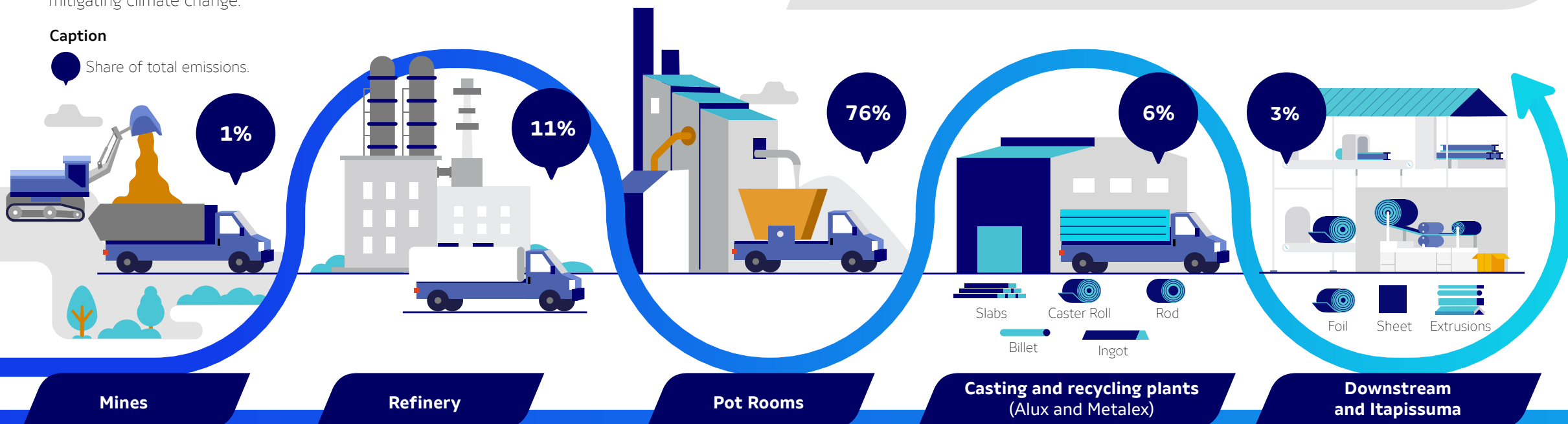


Low carbon aluminum production

CBA has a vertically integrated value chain. From sustainable mining processes to decarbonization initiatives, the Company has a robust plan for mitigating climate change.

Caption

Share of total emissions.



Environmental protection reserves

Support environmental protection and carbon capture

- **Legado das Águas:** the largest private Atlantic Forest reserve in Brazil, covering an area of **31,000** hectares
- **Legado Verdes do Cerrado:** **32,000** hectares. Hosts Brazil's first REDD+ Cerrado carbon credit certification program

Mine reclamation

- **What it is:** Reforestation to reclaim mined land
- **Carbon removals:** 116 tCO₂e

Biomass Boiler Retrofit

- **What it is:** boilers retrofitted to use biomass as fuel.
- **Emissions reduction:** more than 60% of emissions at this stage.

Dry Residue Disposal

- **What it is:** a filter press processes the red mud residue produced by the Refinery
- **Emissions reduction:** This is a climate adaptation project

Pot Room Upgrade

- **What it is:** and upgrade of the pot feed system to an automated spot feed solution
- **Projected emissions reduction:** 20% of emissions at this stage and 17 MW of electricity per year.

Increased scrap consumption

- **What it is:** CBA's recent acquisition of Alux has increased the recycled aluminum content in the Casting and Metalex facilities. The ReAl launch has additionally increased recycling capacity
- **Emissions reduction:** 0.22 tCO₂ to 5.02 tCO₂e per metric ton of primary aluminum replaced by scrap*

Incorporation of recycled scrap

- **What it is:** increased use of recycled aluminum in production
- **Emissions reduction:** 1.03 tCO₂ to 5.74 tCO₂ per metric ton of primary aluminum replaced by scrap*

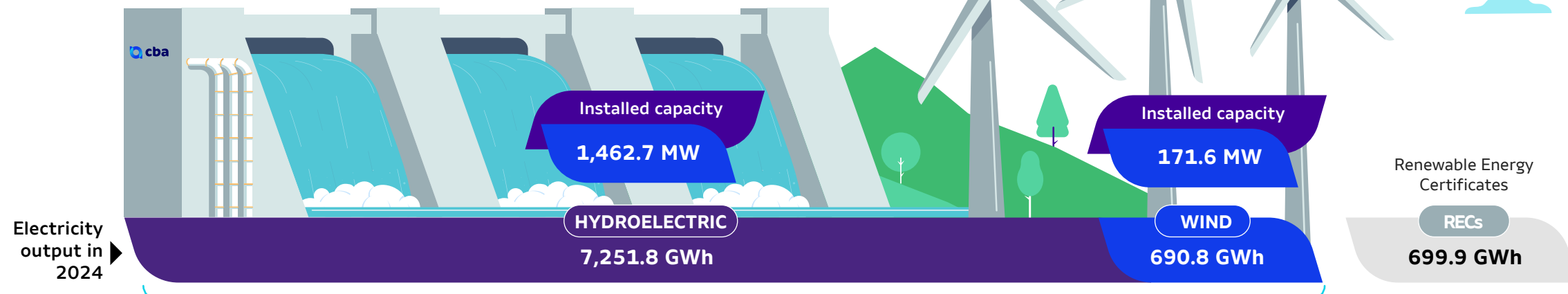
Metal yields

- **What it is:** efforts to increase metal yields
- **Emissions reduction:** 0.2 to 0.5 tCO₂e for every 1% improvement in metal yield, depending on the product

* Includes value-chain emissions for primary aluminum produced or acquired by CBA (integrated plant and segmented plants).

Renewable generation

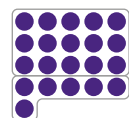
CBA supplies **100%** of the electricity requirement for its operations from renewable sources, supporting sustainable aluminum production



CBA-owned power plants

21

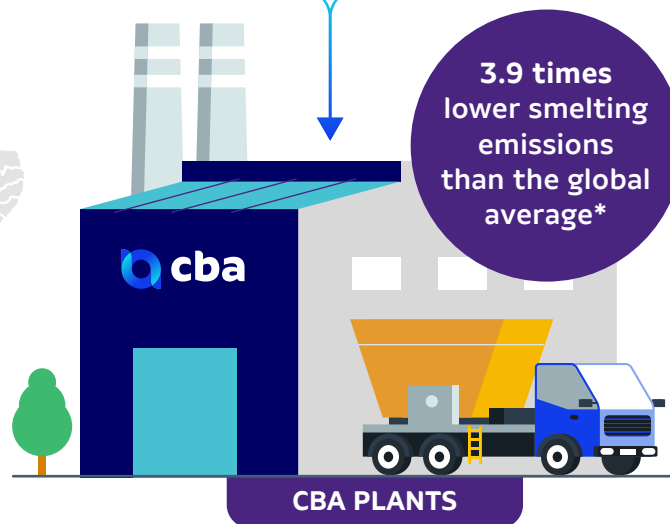
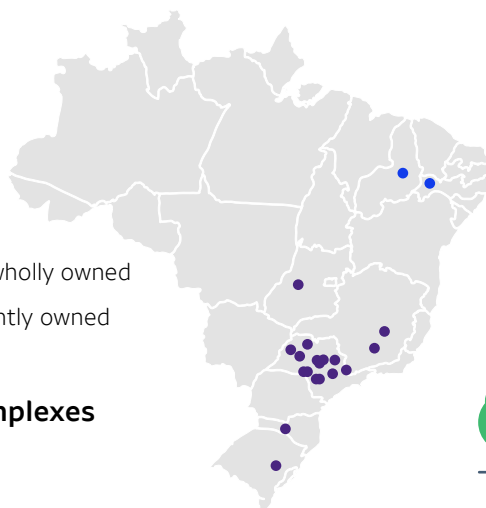
Hydroelectric Power Plants



15 wholly owned

6 jointly owned

2 Wind Complexes



Emissions intensity at the smelting stage - 2024



CBA aluminum's carbon emissions at the smelting stage



* Footnote: smelting accounts for 76% of emissions in the aluminum production process

Tackling climate change

- ✓ Governance
- ✓ Strategy
- ✓ Risk management
- ✓ Opportunities

Governance

CBA has a long-standing commitment to making a positive impact on society and the environment. Indeed, sustainability is the starting point for CBA's business strategy, and is embedded into every level of governance. The climate agenda is central to this, creating both risks and opportunities that are factored within the Company's strategic planning.

CBA has a robust governance structure to deliver its strategy, with the **Board of Directors** at the top, setting the Company's strategic direction. The **Executive Board** is responsible for implementing the Board's strategic directives. Both the Board of Directors and the Executive Board are advised by Committees that track progress on and assist in executing strategic objectives.

Board of Directors

The Board of Directors is responsible for ensuring CBA's business continuity and sustainability, taking a long-term approach that integrates economic, social, environmental, compliance, and corporate governance principles. It also reviews, approves, and tracks progress on all targets

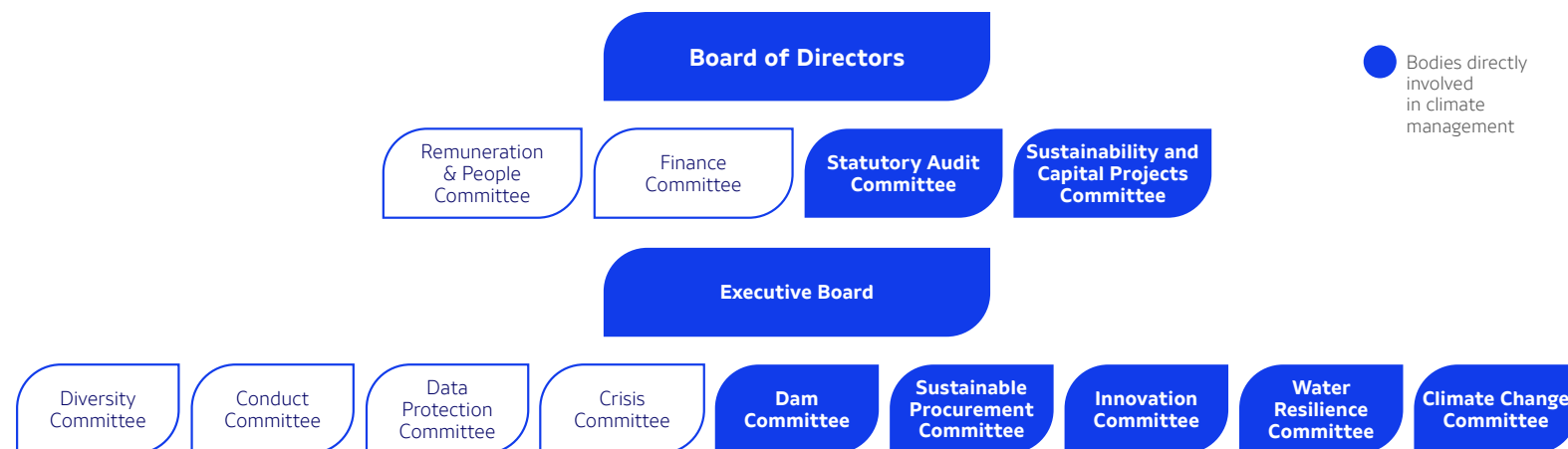
set for the Executive Board. This includes corporate sustainability targets and those outlined in the [2030 ESG Strategy](#), which encompass climate-related targets. The Board closely follows developments in the carbon market and is responsible for approving key sustainability policies, such as the Climate Change Policy and the Water Resources Policy.

Executive Board

CBA's Executive Board is responsible for ensuring that all projects and initiatives are aligned with best sustainability practices. As part of this responsibility, Executive Board members were involved in the development and rollout of CBA's 2030 ESG Strategy, which was approved by the Board. Progress toward Roadmap targets and broader

climate-related targets is tracked via a dedicated monitoring system.

Each executive has defined responsibilities regarding climate strategy, outlined in detail in the table on the following page.



Bodies directly involved in climate management



Meire Helen Claudini Silva Santiago, Management Systems Analyst – Alumínio (SP) plant

Executive Board's role in the climate agenda

Member	Role	Involvement in projects and processes
Chief Executive Officer (CEO)	Makes strategic and investment decisions, and approves sustainability targets and climate commitments	<ul style="list-style-type: none"> • Targets approved by the Science Based Targets initiative (SBTi) • Commitments with the First Movers Coalition and the Net Zero Ambition • Serves as a spokesperson for SDG 13 in the UN Leadership with ImPact Program • Approves the Climate Agenda Report and Annual Report
Chief Financial (CFO) & Investor Relations Officer	Assesses strategic and investment decisions, including climate concerns, and approves ESG-linked finance transactions	<ul style="list-style-type: none"> • Climate Agenda Report • Indices, ratings and disclosures, such as the CDP disclosures • ESG-linked finance • Monitors corporate risks, including climate-related risks
Supply Chain and Procurement VP	Identifies sustainability risks and opportunities, including climate-related issues in the supply chain	<ul style="list-style-type: none"> • Sustainable Procurement Program, including supplier engagement through workshops and other initiatives and Scope 3 emissions data collection • Supervises scrap sourcing and manages the operation of CBA's recycling centers • Manages the procurement of low-carbon aluminum ingots
People & Culture VP	Leads people development, workplace culture, and management system and communication activities, including climate-related activities	<ul style="list-style-type: none"> • Brand positioning and reputation as a low-carbon aluminum producer • Sets annual internal targets, including sustainability targets • Leads campaigns and events on climate topics • Organizational culture guidelines
Engineering and Technology VP	Implements innovation and technology in climate-related projects	<ul style="list-style-type: none"> • Biomass Boiler Retrofit • Smelter Upgrade • ReAl Technology • Dry Residue Disposal • Climate Change Committee (as sponsor) • Climate adaptation program (with a focus on identifying structural risks) • Oversees progress on the development and implementation of other emissions reduction projects (e.g. liquor purification and carbon capture)
Primary Products VP	Leads end-to-end primary aluminum production, integrating sustainable practices from bauxite extraction to metal casting	<ul style="list-style-type: none"> • Aluminum recycling • Pot room upgrades, biomass boiler retrofit, and dry residue disposal • Alennium label for customer products incorporating CBA's low-carbon aluminum • ReAl technology (for recycling flexible and multi-material packaging)

Executive Board's role in the climate agenda

Member	Role	Involvement in projects and processes
Downstream Products, Innovation and Digital Transformation VP	Leads the production and sales of semi-fabricated (extruded and rolled) products and digital innovation	<ul style="list-style-type: none"> • ReAl technology (for recycling flexible and multi-material packaging) • Monitors digital transformation projects (DigitALL) • Develops new products and solutions with ESG benefits (Market Development and Innovation) • Alennium label for customer products incorporating CBA's semi-fabricated aluminum
Legal, Governance and Compliance VP	Oversees legal, governance, and compliance matters across CBA's operations	<ul style="list-style-type: none"> • Ensures compliance with carbon pricing schemes such as the Carbon Border Adjustment Mechanism (CBAM) in Europe and Brazil's Greenhouse Gas Emissions Trading System (SBCE) • Champions aluminum's role as a strategic material in the energy transition and advocates for CBA's low-carbon aluminum • Oversees the renewal of renewable energy concessions
Energy Business VP	Manages generation assets and renewable electricity procurement	<ul style="list-style-type: none"> • Manages purchases of REC certificates • Provides strategic direction for the energy transition • Leads contract negotiations for renewable electricity procurement • Monitors extreme weather events and assesses their impact on generation assets • Water Resilience Committee (as sponsor)
Chief Sustainability, Safety, Environment, and Dam Safety Officer	Responsible for overseeing sustainability matters, including climate-related risks and opportunities. Reports directly to the CEO on climate and ESG matters	<ul style="list-style-type: none"> • Tracks progress on the 2030 ESG Strategy • Climate Action Initiative • Net Zero Ambition Movement • First Movers Coalition • Climate Agenda Report • Dam safety • Represents CBA in ESG ratings and indices (CDP, MSCI, ISE) • Climate adaptation • Sustainable Procurement Program, including supplier engagement through workshops and other initiatives and Scope 3 emissions data collection • Ensures compliance with carbon pricing schemes such as the Carbon Border Adjustment Mechanism (CBAM) in Europe and Brazil's Greenhouse Gas Emissions Trading System (SBCE)

Committees responsible for oversight of the climate agenda

The Board of Directors and Executive Board are supported by committees that assist in managing sustainability and climate-related issues. To ensure that the members of these governance bodies have the necessary skills and expertise, CBA's [Nomination Policy* for Board Members, Committees, and Statutory Officers](#) sets strict eligibility criteria for their appointment. Selection criteria include relevant academic background, expertise, and professional experience.

Sustainability and Capital Projects Committee

The Sustainability Committee, which supports the Board of Directors, expanded its mandate in 2024 to include discussions on financing of major projects, becoming the **Sustainability and Capital Projects Committee**. This permanent committee operates under its own charter and meets quarterly. The committee consists of four members with expertise in sustainability, two of whom are independent. In 2023, the Chairman of the Board became a member of the committee, illustrating the importance that CBA's highest governance bodies attach to the ESG agenda.

* This policy aligns with the CBA Charter; the CBA Code of Conduct; Brazilian corporate law; CVM rules; the *Novo Mercado* listing rules; and the Brazilian Corporate Governance Code.

The Committee advises the Board on key matters, including:

- Discussions on local, global, and emerging sustainability issues, supporting CBA in tackling topics such as climate change, biodiversity, energy transition, circular aluminum, and social impact
- Tracking progress on the 2030 ESG Strategy
- Recommending approval and updates to the Company's Climate Change Policy, which includes guidance on managing climate risks and opportunities
- Advising on investments in sustainability and decarbonization initiatives

Committee members must report to the Board on all discussions, ensuring that ESG and climate considerations are integrated into CBA's strategic decision-making.



Itapissuma rolling mill (PE)



*Coruja Murucututu,
Itapissuma (PE)*

Statutory Audit Committee

The **Statutory Audit Committee** plays a key role in ensuring integrity and managing corporate risks, including climate-change risks. Composed of three independent members, the Committee meets quarterly to discuss climate-related issues as they arise. The Statutory Audit Committee reports to the Board of Directors.

CBA's Risk Management Policy outlines the strategic role of the Statutory Audit Committee in managing corporate risks, including climate-related risks, and its core responsibilities, which include:

- setting standards for CBA's Risk Management Process, including methodologies, systems, and reporting mechanisms, while proposing improvements as needed
- systematically overseeing risk management and performance against related objectives
- overseeing CBA's Risk Management team
- evaluating the effectiveness and sufficiency of CBA's Risk Management System

Climate Change Committee

The **Climate Change Committee** supports the Executive Board by providing guidance on climate adaptation, mitigation, and advocacy efforts. The Committee is made up of multidisciplinary experts, including the Engineering and Technology VP, the Chief Sustainability, Safety, and Environment Officer, and managers from key operational and corporate areas connected to the climate agenda. It also includes guest participants who provide an integrated, strategic perspective across production operations and metal procurement.

The Committee meets every two months and, alongside specific discussions, maintains a standing agenda to track progress toward annual climate-related targets. Under CBA's Climate Change Policy, the Committee's key responsibilities are:

- evaluating, approving, and overseeing initiatives that advance CBA's climate agenda
- recommending key climate-related issues for discussion by the Executive Board and the Sustainability and Capital Projects Committee

Beyond the Climate Change Committee, the Executive Board is also supported by a **Dam Committee, Sustainable Procurement Committee, Innovation Committee, and Water Resilience Committee** to address climate-related matters.



LEARN MORE:

Further information about CBA's governance model is available on the Company's [Investor Relations website](#).

SHARED RESPONSIBILITY

CBA believes that building a sustainable world is a collaborative effort that requires the active participation of everyone. Accordingly, ESG responsibility is shared across all areas and employees throughout the Company. CBA encourages internal engagement by providing all employees with profit-sharing benefits tied to ESG targets, including climate targets. This reflects our belief that every employee has a vital role to play in delivering CBA's long-term sustainability goals.



SUSTAINABILITY-LINKED VARIABLE COMPENSATION

Eligible Groups	Compensation and Target Framework
Operational	Profit-Sharing Program (PSP): targets are set by employee-elected committees at each operational site and negotiated with the labor union. ESG targets represent at least 10% of the total performance criteria and are tracked on a regular basis.
Professional (including analysts, engineers, consultants, etc.) and Leadership	Variable Compensation (VC): includes both corporate and role-specific targets. All eligible employees have 5% of their variable compensation linked to corporate ESG targets, which are aligned with departmental and annual business priorities. Emission-intensive operations—including the refinery, smelters, casthouse, downstream facilities, Alux, Metalex, and the Itapissuma rolling mill—work toward operation-specific decarbonization targets. Furthermore, strategic functions that directly influence CBA's climate agenda—including Metals, High Voltage and Rectification, DigitALL, and Engineering & Technology Management—have customized targets aligned with CBA's climate strategy. In addition to corporate ESG targets, employees may also be assigned individual sustainability targets linked to departmental challenges, driving positive sustainability outcomes.
Executive Board	Variable compensation based on robust corporate targets: the corporate ESG target is based on average performance across all targets. In 2024, this included performance in sustainability indices, customer and supplier engagement around climate topics, increased recycling, and process decarbonization. Other variable compensation targets may also indirectly relate to the climate agenda. Executive dashboards must have at least 5% of their variable compensation tied to ESG aspects. Long-term incentive: members of the Executive Board may participate in a long-term incentive program designed to align their interests with shareholders' and support sustained value creation, under guidance from the Board of Directors. Total Shareholder Return (TSR) is used as a measure of performance and the amount of the relevant incentive. This encourages executives to develop and deliver a robust strategic plan, as well as supporting talent attraction and retention

Challenges and targets are customized for each department and organizational level, ensuring that every area contributes meaningfully to CBA's ESG objectives. These targets are presented during a CBA Goal-Setting Workshop, where the Executive Board shares its annual performance dashboards with Company-wide

leadership. The workshop promotes open discussions on goal-setting, ambition levels, and opportunities for cross-departmental synergies.

Performance metrics and ESG targets are tracked monthly, with the Executive Board providing direct oversight and periodic

updates to the Sustainability and Capital Projects Committee. An internal business intelligence system ensures transparency by making performance data accessible to the entire organization. [CBA's Compensation Policy](#) outlines variable compensation criteria for senior leadership.

ENGAGING THE VALUE CHAIN

At CBA, addressing climate change is a responsibility that spans the entire value chain. Through initiatives that link together suppliers, customers, communities, and the climate ecosystem, CBA transforms challenges into opportunities for positive impact. Each initiative reflects CBA's commitment to delivering innovative and sustainable solutions, supporting its mission of operating responsibly and advancing a future where progress coexists harmoniously with environmental and community well-being.

Suppliers

CBA works alongside its suppliers to build a more resilient value chain, aligned with current and future climate challenges. To achieve this, CBA has integrated climate change considerations into its Sustainable Procurement Program and Sustainable Procurement Policy. This Program includes the following components:

Maturity assessment (ESG scan)

As part of the supplier screening process, this initiative assesses the maturity of each supplier on material ESG topics related to their operations.

Training and engagement initiatives

In 2024, CBA hosted a workshop for 80 suppliers on preparing inventories of Scope 3 emissions, including definitions, best practices, and tools to assist in the process.

Data collection

While CBA previously calculated its Scope 3 emissions using secondary data, it began collecting primary data in 2023. A pilot project initially covered six key suppliers, and as of 2024, it had expanded to include 15 additional supply chain and logistics partners. Since launching the data collection initiative, CBA has posted a reduction of 60,000 metric tons of CO₂ equivalent in Scope 3 emissions.



15
partners

participated in the Scope 3 emissions data collection program

11
regions

mapped on supply chain climate risks

80
suppliers

attended a workshop on preparing emissions inventories



Climate adaptation

As part of its climate adaptation strategy, CBA has mapped climate risks for priority suppliers across 11 regions, both in Brazil and internationally, using data from the [IPCC WGI Interactive Atlas](#). Identified risks and impacts will guide CBA's future supplier engagement initiatives. The study also included a climate risk and climate projection analysis focused on logistics infrastructure—including highways, railways, and ports—using the [ADAPTA Brazil](#) tool.



“We are continuously refining our sustainable procurement practices by incorporating strategic and ESG considerations. Our goal is to increase engagement across the value chain while expanding our knowledge and fostering valuable partnerships. We already have an in-depth understanding of our strategic suppliers, and now we are extending sustainability assessments to other partners. This effort supports our commitment to cultivating a more sustainable, transparent, and responsible value chain.”

Roseli Milagres

Supply Chain and Procurement
VP in 2024

Customers and partners

CBA recognizes its responsibility to the market and society and understands that its activities can create meaningful positive impacts and drive transformation beyond the aluminum industry. To enhance this contribution, CBA cultivates close relationships with customers and partners, encouraging ongoing collaboration and synergy throughout the value chain.

Since 2018, CBA has used Life Cycle Assessments (LCA) as a critical tool to measure the comprehensive environmental impact of its products. CBA has a dedicated team that collaborates with customers to develop detailed reports using industry-recognized tools and databases. All LCA assessments undergo independent external verification to ensure the accuracy and reliability of reported results. In 2024, CBA produced and obtained third-party verification for its first ISO 14067-compliant Carbon Footprint Report.

To support customers in delivering value-added, certified low-carbon aluminum to end consumers, CBA created a low-carbon aluminum label, [Alennium](#). This certification verifies that CBA's smelting process generates less than 4 metric tons of CO₂e per metric ton of molten aluminum. In 2024, CBA recorded smelting emissions of 2.87 tCO₂e/t of molten aluminum,

which is approximately four times lower than the global average for Scope 1 and 2 emissions. In 2024, one of CBA's priorities was stabilizing smelter emissions. An action plan was developed and successfully implemented, achieving an 11.2% reduction in smelter emissions compared to 2023.

Emissions progress

(tCO₂e/t of aluminum)

2023 results



1st quarter 2024



2nd quarter 2024



2024 results



All CBA products, including Primora-branded profiles, carry the Alennium label. This certification has also been adopted by Alcont, Alubrasa, Alumax, CDA Metais, Facchini, Impacta, Marcopolo, Pratsy, Schwarz, Sublime, and Wyda.



alennium

What Alennium certifies:

- Low carbon emissions
- 100% renewable and traceable electricity used in aluminum production
- Compliance with SBTi-approved emission reduction targets
- Integration with CBA's environmental, social, and governance (ESG) initiatives

The **Alennium** label is currently used by 11 customers

Digital passport

Contains sustainability information. Discover the digital passports available:

CBA also provides a **digital passport** for seven products, offering ESG data such as carbon intensity by production stage, certifications, and third-party audit results. The audited data can be embedded in packaging and communication materials via QR codes, ensuring full transparency and traceability for customers and brand owners.



LEARN MORE:

About Alenium and CBA's [Digital Passport](#).

INGOTS



CBA BILLETS



METALEX BILLETS



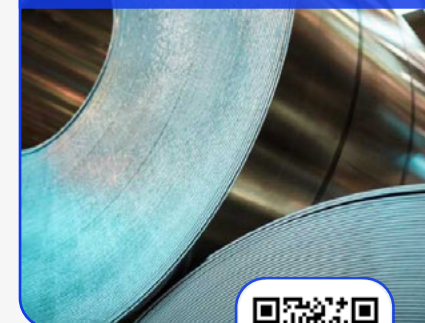
PRIMORA



SHEET



PACKAGING FOIL



Collaborative solutions

At CBA, innovation fuels sustainability, turning challenges into opportunities. The Market Development and Innovation team collaborates with partners and customers to develop solutions that lower the carbon footprint of commercial products, delivering positive impacts throughout the value chain.

CBA works with customers to co-develop products that combine safety, technology, performance, and sustainability, using a design-thinking governance model and agile decision-making frameworks. In 2024, CBA developed 73 co-creation projects, as part of a continuing effort to create solutions that inspire and add value. Learn more by visiting the [2024 CBA Annual Report](#).

“At CBA, we actively identify market needs to inform strategic investments in innovation and technology. One example is ReAL, a breakthrough technology for recycling multi-material packaging. This was a long-standing industry challenge that we were able to address with a sustainable solution.”



Alexandre Vianna
Primary Products VP



Edimar Araújo dos Anjos, Farm Machine Operator – Legado Verdes do Cerrado (GO)

Communities

CBA goes beyond its fence line to drive positive change that transcends its business activities. The Company's purpose is to transform lives through aluminum solutions, and this can only be achieved through collaboration. As part of this commitment, CBA actively works to build community resilience through initiatives that link social responsibility with sustainability.



CLIMATE ACTION INITIATIVE

Launched in partnership with the Votorantim Institute and Instituto Itaúsa, the Climate Action Initiative promotes practical climate action in Brazilian municipalities across three main fronts:



- **Municipal Climate Vulnerability Index (IVCM):** evaluates the climate vulnerability of Brazilian cities, prioritizing action in the most vulnerable areas. Using public data, the index tracks six major climate risks (flooding, landslides, drought, wildfires, agricultural impacts, and public health issues). The IVCM tool is publicly available [online](#)



- **Municipal Climate Adaptation Checklist:** a tool for public managers and municipal technicians, providing guiding questions to assess local climate challenges and develop resilience strategies. Available [online](#)



- **Public Management Support (AGP) – Climate Action:** a mentoring and technical assistance program designed to enhance municipal capabilities in climate governance. In 2024, CBA piloted the methodology in Juquitiba (SP) and Mirai (MG)—two municipalities within its area of influence. This four-year program provides municipalities with access to specialized tools and technical experts.

Environmental Education Program (PEA) in Schools

CBA's Environmental Education Program (PEA), run in partnership with the Votorantim Institute, targets municipal schools in communities near CBA's operations. The initiative teaches about local biomes and social and environmental challenges, supporting improved learning outcomes and enhanced environmental awareness. The program's core actions include:

- **Educator training:** offering professional development for school principals, pedagogical coordinators, and teachers
- **Student engagement:** fostering youth leadership to address environmental challenges, with a particular focus on climate change
- **School-community integration:** strengthening ties between the local community, schools, and surrounding areas to raise awareness of environmental issues

In 2024, the PEA program was rolled out in Alumínio (SP), Araçariçuama (SP), Ibiúna (SP), and Caçu (GO)—municipalities near CBA's operations, which implemented Project-Based Learning (PBL) methods aligned with the National Environmental Policy and the Brazilian National Curriculum (BNCC). Students in these municipalities were encouraged to implement community-based projects.

Developing the recycling value chain

CBA recognizes the role it can play in integrating the recycling value chain to drive a sustainable, circular economy. The Company's approach is structured around three main fronts: working directly with cooperatives, establishing partnerships, and engaging with scrap suppliers.

By sourcing scrap from cooperatives, CBA not only strengthens its value chain but also supports livelihoods for cooperative members and drives social and economic development in local communities. In 2024,



Producing aluminum from scrap generates

95%
energy savings

compared to primary aluminum production

Source: IAI

CBA completed a comprehensive assessment of cooperatives in the Araçariçama region and initiated capacity building at priority cooperatives. This included training programs to improve management practices, operational workflows, material collection processes, and service delivery.

On the partnership front, CBA initiated a collaborative project with Ambipar, Dow, and Tetra Pak to support the Intermunicipal Waste Management Consortium (CONSIMARES) in Nova Odessa (SP). This initiative has yielded significant outcomes for the six participating municipalities, including the creation of five sorting centers with warehouses, new vehicles, employee training, and support for public policy development. As a result, the consortium has increased its recyclable waste processing capacity by 15%, reaching 6,000 metric tons annually.

On the scrap sourcing front, CBA has prioritized key partners, conducting site visits to evaluate scrap collection, material separation processes, and sustainability performance. These visits identified potential areas for improvement, which will be addressed through targeted initiatives in 2025. These three combined fronts are all contributing to CBA's efforts to expand its recycling capabilities, reduce its carbon footprint, and create positive impact.

*Henrique Leoni Bassan,
Production Operator –
Alux (SP)*



Climate Agenda Ecosystem

CBA actively engages with trade associations and other external organizations in discussions around climate change. Through its membership, CBA benchmarks sustainability practices, builds partnerships to advance the climate agenda in the market and contributes to public policy making.

Climate Agenda Ecosystem

Organization	Activities	CBA engagement around the climate agenda
Brazilian Association of Large Industrial Energy Consumers (ABRACE)	ABRACE works to shape industrial energy policy in Brazil, representing large-scale energy consumers and addressing issues critical to the competitiveness and development of Brazilian industry	CBA contributes to industry discussions on green hydrogen, carbon markets, energy transition, and future fuels
Brazilian Aluminum Association (ABAL)	ABAL represents the aluminum sector in Brazil. The Sustainability Technical Committee addresses the climate agenda and carbon pricing	CBA's Chief Sustainability, Safety, and Environment Officer leads the Sustainability Technical Committee
Aluminium Stewardship Initiative (ASI)	ASI sets global sustainability standards for responsible aluminum production and sourcing	CBA holds certifications against both the Performance Standard and Chain of Custody Standard and is a member of ASI's Climate Change Working Group
CDP	CDP mobilizes corporate action on sustainability, with a disclosure system covering climate change, water security, and deforestation. It also leads a Benchmark Club to advance environmental best practices	CBA is a member in the Benchmark Club and was recognized in the CDP Climate and Supplier Engagement Ratings (SER) in 2024
Brazilian Business Council for Sustainable Development (CEBDS)	CEBDS promotes sustainable development in the corporate world through technical chambers (CTs) and collaborative action platforms	CBA participates in the Climate, Energy, and Sustainable Finance Technical Chamber and the Action for Nature Platform
First Movers Coalition (FMC)	A global initiative driving industrial decarbonization by building early market demand for low-carbon materials in critical industries	CBA is an active member of the aluminum leg of the initiative and is a member of the First Suppliers Hub, a network of potential low-carbon product suppliers
Brazilian Mining Institute (IBRAM)	IBRAM represents the Brazilian mining industry, with dedicated working groups on ESG and climate	CBA is a member of the Climate & Carbon Working Group and contributed to the 2023 third GHG Inventory for the mining sector
International Aluminium Institute (IAI)	The IAI, a global association of primary aluminum producers, has several working groups on emissions and sustainability	CBA is an active member of sustainability committees and the GHG Emissions Working Group, where it contributes to emission assessments, Life Cycle Assessments (LCA), and climate initiatives like the Climate Adaptation and Carbon Capture Program
Global Compact	A UN initiative promoting corporate sustainability in line with the Sustainable Development Goals (SDGs)	CBA is a member of the Climate Action Platform, the Net Zero Ambition Movement, and other SDG-related initiatives, including Race to Zero and the 100% Transparency Movement

"The World Economic Forum recently launched the Mission Possible Partnership (MPP), a working group that convened experts to produce a public guide to accelerate pathways for decarbonizing certain industries, including aluminum. The result was a comprehensive report that now serves as a key reference for our decarbonization initiatives."

Albino Mercado Júnior

Engineering and
Technology VP



Strategy

Sustainability is at the core of CBA's operations and is integrated into all processes and business activities. This is reflected in CBA's approach to short-, medium-, and long-term strategic planning:

Strategic Discussion: conducted every three years to evaluate macroeconomic and market trends and design a robust and consistent roadmap with key growth levers to drive long-term success.

Annual Strategic Planning: conducted annually to break down long-term priorities into short-, medium-, and long-term initiatives. In 2024, CBA's most recent Strategic Dialog convened industry leaders and experts to assess market conditions, set goals, and prepare to navigate emerging challenges. As a result of this exercise, CBA revised and enhanced its strategic pillars, evolving the "ESG Leadership" pillar into a broader commitment to "Generating Positive Impact". These strategic pillars are openly communicated to employees to ensure alignment and engagement. They were also shared with investors during CBA Day, as part of the Company's commitment to transparency and to stakeholders.

2030 ESG STRATEGY

CBA's 2030 ESG Strategy embodies its commitment to embedding environmental, social and governance principles at the core of its business. Launched in 2020 and updated in 2022, the strategy outlines ten thematic ESG levers, along with a cross-cutting communication pillar. The 2030 ESG Strategy has a dedicated climate change lever, alongside additional levers related to renewable energy, aluminum circularity, and natural resource management. These levers are further broken down into 15 structured programs and 33 targets spanning all Company levels.

2030 ESG Strategy:

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



Cougar - Legado Verdes do Cerrado (GO)

Climate-related levers and programs within the 2030 ESG Roadmap











Lever	Program	Commitments	Related SDGs
Environmental Dimension			
Climate change	P1. Climate mitigation and adaptation	1.1 Reduce emissions by 40% (on average for cast products, cradle-to-gate) 1.2 Offer customers a carbon-neutral product range 1.3 Create a roadmap to becoming emissions neutral by 2050 1.4 Develop a climate change adaptation plan 1.5 Provide government management support in climate mitigation and adaptation	13 17
Renewable energy	P2. Renewable generation	2.1 Source 100% of plants' power requirement from renewable sources 2.2 Diversify renewables capacity beyond hydro	7 9 12
	P3. Energy efficiency	3.1 Reduce energy intensity (electricity and fuels)	
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% 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% 4.3 Increase the ratio of scrap collected from external sources for recycling	1 8 9 10 12 17
	P5. Carton and flexible packaging recycling	5.1 Recycle 40,000 metric tons of cartons and flexible packaging per year	
Natural resources	P6. Water stewardship	6.1 Reduce water withdrawals per metric ton of molten aluminum by 20% 6.2 Implement water stewardship initiatives to improve water security in partnership with stakeholders	6 11 12 15 17
	P7. Biodiversity	7.1 Create/expand one hectare of wildlife corridors for every ten hectares of mined and reclaimed land 7.2 Have 10% of key suppliers and customers co-investing in forest and biodiversity programs	
Dams	P8. Waste dams	8.1 Eliminate tailings/residue disposal in dams 8.2 Send 100% of dry residue for use in cement production and other applications	9 11 12

Key:

Lever Levers directly related to the climate agenda.

Lever Levers indirectly affecting climate mitigation or adaptation.

Climate-related levers and programs within the 2030 ESG Roadmap




Lever	Program	Commitments	Related SDGs
Social dimension			
 Valuing people	P9. Diversity, equity and inclusion	9.1 Achieve 25% gender diversity in leadership positions (managers or above) by 2025	
	P10. Health and safety	10.1 Zero fatalities or severe injuries* in operations 10.2 Achieve an injury frequency rate lower than 1	
 Social legacy	P11. Social legacy	11.1 100% Service Level Agreement (SLA) conformity in social programs	
		11.2 Secure 1-to-1 match funding from co-investors for corporate social investment	
		11.3 Contribute to strengthening recycling cooperatives in Brazil	
Governance dimension			
 Sustainable Value Chain	P12. Sustainable Procurement	12.1 100% of suppliers compliant with CBA's Sustainable Procurement Policy 12.2 Increase local sourcing by 10%	
	P13. Sustainable solutions for customers	13.1 100% of billets produced at Metalex with greenhouse gas emissions lower than 1.4 tCO ₂ e/t 13.2 Higher revenues from sustainable solutions for downstream customers	
 Ethics and transparency	P14. Ethics and transparency	14.1 Achieve an average rating of 4 for CBA's third-party-audited Compliance Program	
 ESG ownership	P15. ESG ownership	15.1 100% of eligible operations certified to the ASI Performance and Chain of Custody standards 15.2 100% of employees with assigned ESG targets 15.3 Apply ESG criteria in 100% of funding and investment decisions	

Key:

Levers directly related to the climate agenda.

Levers indirectly affecting climate mitigation or adaptation.

Climate-related levers and programs within the 2030 ESG Roadmap

Lever	Program	Commitments	Related SDGs
Cross-cutting dimension			
 ESG Communications	ESG Communications	Achieve and maintain an “Excellent” reputation score	 

Key:

Lever directly related to the climate agenda.

Lever indirectly affecting climate mitigation or adaptation.



LEARN MORE:

Explore CBA's progress on the 2030 ESG Strategy in its [Annual Report](#).



Learn about all the Sustainable Development Goals (SDGs) on the [UN website](#)

Legado Verdes do Cerrado (GO)

CLIMATE-RELATED FUNDING

Given the central role of sustainability at CBA, key ESG levers are integrated into the Company's financial strategy, helping to ensure that resources are converted into positive impacts for business, people, and the planet. Financial planning and capital expenditure (CAPEX) projects are meaningfully informed by in-depth assessments of impacts across natural resources, GHG emissions, carbon pricing, and waste management.

In recent years, CBA has made significant progress on its project pipeline and in Mergers and Acquisitions (M&A), with investments exceeding R\$ 1 billion. These investments include R\$ 243 million to expand recycling capacity, with three key initiatives standing out: installation of a sidewall furnace at Metalex, increasing production capacity from 75,000 to 90,000 metric tons per year, completed in 2021; installation of a new scrap treatment line, completed in 2023; and a new plant powered by ReAL technology for multi-material packaging recycling, completed in 2024.

In Mergers and Acquisitions (M&A), CBA acquired Alux do Brasil in 2021 for R\$ 207 million. With the acquisition, CBA has entered the secondary alloy segment and expanded its recycling capacity. Another important milestone was the restart of 78 cells at Pot Room 3 in 2022, with an investment of R\$ 191 million, adding 30,000 metric tons per year of molten aluminum production capacity.

In 2024, CBA completed the Dry Residue Disposal Project, representing an investment of approximately R\$ 400 million. The project uses filter presses to enable dry stacking of bauxite residue, improving operational safety and increasing soda recovery. Over the coming years, CBA plans to invest an additional R\$ 100 million in CAPEX for the drainage and decommissioning of the Palmital Dam (SP).

In addition, CBA is developing a pipeline of expansion and modernization projects totaling R\$ 2.3 billion. Among the ongoing projects related to the Company's decarbonization efforts are the following:

Pot Room Upgrade:
a **R\$ 670 million** project aimed at cutting emissions and enhancing energy efficiency, which began phased implementation in 2023

Paste Plant Upgrade:
a **R\$ 130 million** project planned for 2025 to enhance the quality of anode paste and lower coal-tar pitch content

Liquor Purification at the Refinery: a
R\$ 350 million initiative to boost productivity and expand installed capacity

Pot Room 1 Restart: a
R\$ 750 million investment that will add 50,000 metric tons per year of molten aluminum production capacity. This project will be launched sequentially, following the Paste Plant Upgrade and Liquor Purification projects

CBA has also added new projects to the pipeline aimed at growth and operational efficiency, including:

Foil Capacity Expansion: a
R\$ 100 million project to increase annual production of thin and ultra-thin foils by 8,000 metric tons, expanding CBA's high-value product portfolio. This expansion will be achieved through equipment upgrades and new installations, with production expected to commence in 2026

New Recycling Projects, a
R\$ 310 million investment to expand recycling capacity, optimize metal recovery rates, and increase scrap collection, with investments continuing through 2029



Fernanda Ferreira Borges and Cinthia de Pinho Miranda, employees at CBA's Head Office (SP)

Access to Capital

Since 2020, CBA has been expanding its access to capital through green and ESG-linked finance instruments. CBA was the first company in Brazil to issue Green Export Credit Notes with the proceeds linked to sustainable export-oriented projects. Below, we outline other ESG-linked finance instruments CBA has secured over the years.

- In 2021, CBA issued its first green debentures, raising R\$ 230 million. The funds were allocated to projects to improve the environmental performance of the Company's production assets
- In 2022, CBA signed loan agreements with BNDES totaling R\$ 193 million, drawing on environmental incentive facilities and the Climate Fund to finance projects generating positive environmental impacts. The Company also signed a R\$ 109 million financing agreement with FINEP to fund its strategic innovation plan, with a focus on ESG initiatives and implementing CBA's breakthrough ReAL technology
- From 2022 to 2023, CBA secured a US\$ 100 million revolving credit facility and raised more than R\$ 1 billion via sustainability-linked loans, with debt service costs tied to GHG reduction targets in primary aluminum production, as part of the Company's 2030 ESG Strategy

- In 2024, CBA raised an additional R\$ 425 million using the same sustainability-linked loan instrument. These transactions were all supported by Second Party Opinions (SPOs) from recognized institutions.

As part of its commitment to best practices in transparency, the Company annually publishes audited reports detailing the use of proceeds, project progress, and performance against targets on its [Investor Relations website](#). Approximately 45% of CBA's gross debt is now allocated to projects with positive environmental impacts or linked to sustainability indicators.

CBA was the first company in Brazil to issue Green Export Credit Notes

Carbon pricing

CBA uses internal carbon pricing to assess regulatory impacts on its operations and to inform decarbonization initiatives that can strengthen its competitive edge. CBA has adopted a shadow pricing methodology that enables a detailed analysis based on carbon market regulations in Brazil and Europe's Carbon Border Adjustment Mechanism (CBAM). The most recent carbon pricing study assessed multiple scenarios over the period 2025–2036.

Based on the analysis, CBA set an internal carbon price of R\$ 43.69, which informs financial and strategic decision-making for CAPEX projects and supports both Competitiveness Management (GC) and Market Development and Innovation (DMI). The study concluded that carbon pricing can provide a competitive advantage for CBA, particularly compared to similar-sized global peers. This advantage stems from CBA's low emissions profile in primary aluminum production, supported by its renewable generation capabilities and ongoing production process decarbonization efforts.

Carbon Border Adjustment Mechanism (CBAM)

In 2024, with the transitional phase of CBAM underway, the Company implemented a plan involving multiple departments and developed a reporting workflow to provide key performance indicators (KPIs) to customers. To ensure compliance and effective implementation, CBA partnered with a specialized consultancy to support the adaptation process and align its KPI calculations with CBAM methodologies.

While CBAM payments on products entering Europe are not yet in effect, CBA has been submitting quarterly reports since early 2024, ensuring full compliance with European Union regulatory reporting requirements. CBA has also participated in all public consultations conducted by the European Union, providing inputs on the mechanism.



Jocineide Maria de Brito Guerra,
Project Engineer at Itapissuma (PE)



Metalex Billets (SP)

CLIMATE SCENARIOS

CBA uses climate scenario modeling as a way to assess future risks across its operations and to anticipate needed adaptation measures. Scenario modeling is conducted using tools available from leading institutions. CBA has modeled five physical climate scenarios (RCP/SSP 4.5, 8.5, 2.6, 6.0, and 7.0) and one transition scenario (BNEF NEO). The assessment covers short-, medium-, and long-term horizons, with a primary focus on 2030, 2040, and 2050. Certain climate projections extend to 2100, offering a broader, long-term outlook. These modeling analyses encompasses CBA's Energy, Aluminum, and Nickel businesses.

Since scenario modeling relies on statistical tools, the results inherently involve a certain level of uncertainty. To mitigate these uncertainties, CBA takes a convergence approach, intersecting results from multiple tools. In cases where results diverge, the regional tools prevail as they better align with social and environmental conditions in Brazil. This methodology enables CBA to make informed, strategic decisions, ensuring its operations are prepared to respond to future challenges and opportunities.

Physical climate scenarios

The physical scenarios were modeled using AqueDuct (WRI), INPE, WWF's Water Risk Filter, and IPCC WGI Interactive Atlas. The analyses included climate change projections specific to the Company's operating sites, assessing variables such as: temperature, precipitation, drought risk, seasonal variability, water stress, wind patterns, flooding, extended dry spells, and cumulative rainfall. These projections were analyzed at both regional and national levels.

CBA's assessments of climate-related **risks and opportunities** cover both **physical and transition scenarios**

CBA improves climate risk forecasting capabilities

Demonstrating proactive leadership, in 2024 CBA's senior management intensified efforts to improve climate and extreme weather risk prediction capabilities. As part of this effort, CBA implemented two new climate assessment tools: MCTI AdaptaBrasil, developed by Brazil's Ministry of Science, Technology, and Innovation, and the Nathaz Toolkit and Maps from FM Global.

With MCTI AdaptaBrasil, CBA conducted a comprehensive regional risk assessment for all its operational sites. This assessment examined key climate-related risks, including droughts, floods, landslides, food security, and energy security, supporting CBA's commitment to robust climate risk management in response to global climate challenges.

CBA also used MCTI AdaptaBrasil to evaluate regional climate risks affecting critical logistics infrastructure such as highways, railways, and ports. The analysis focused on priority logistics routes critical for the supply of essential inputs for CBA's operations.

As part of the assessment, CBA held internal workshops at priority operational sites to present climate scenarios, regional risk insights, and potential impacts on operations, while exploring mitigation and containment strategies. CBA also plans to assess physical infrastructure at vulnerable sites, identifying necessary investments and resource allocation to climate adaptation.



Risks

Site	Drought			Flood			Landslide			Energy security (availability)		Energy security (access)	
	Current	2030	2050	Current	2030	2050	Current	2030	2050	Current	2050	Current	2050
Alux do Brasil	High	High	Very high	Low	Low	Low	Low	Low	Low	Low	Very high	Medium	High
Alumínio	Medium	High	High	High	High	High	Medium	High	High	Low	Very high	Low	High
Metalex	Medium	High	High	High	Medium	Medium	Medium	Medium	Medium	Low	Very high	Medium	High
Itapissuma	Low	High	Medium	High	High	High	Medium	Medium	Medium	Low	High	Medium	High
Sorocaba Facility	Medium	High	High	Low	Low	Low	High	High	High	Low	Very high	Low	High
Miraí	Medium	High	High	Medium	High	High	High	High	High	Low	Very high	Low	High
Itamarati de Minas	Medium	Medium	High	Medium	High	High	High	High	High	Low	Very high	Low	High
Poços de Caldas	High	Very high	Very high	Low	Low	Low	High	High	High	Low	Very high	Low	Very high
Santa Helena SHP	Medium	High	High	High	High	High	Very low	Very low	Very low	Low	Very high	Medium	High
Votorantim SHP	Medium	High	High	High	High	High	Very low	Very low	Very low	Low	Very high	Medium	High
Porto Raso SHP	Very low	Medium	Medium	Low	Low	Low	Low	Low	Low	Low	Very high	Medium	High
Alecrim HPP	Low	Medium	Medium	Medium	Medium	Medium	High	High	High	Low	Very high	Medium	High

Key: Very low Low Medium High Very high Unavailable

Note: The MCTI AdaptaBrasil tool does not provide energy security projections for 2030.

Risks

Site	Drought			Flood			Landslide			Energy security (availability)		Energy security (access)	
	Current	2030	2050	Current	2030	2050	Current	2030	2050	Current	2050	Current	2050
Barra HPP	●	●	●	●	●	●	●	●	●	●	●	●	●
França HPP	●	●	●	●	●	●	●	●	●	●	●	●	●
Fumaça HPP	●	●	●	●	●	●	●	●	●	●	●	●	●
Itupararanga HHP	●	●	●	●	●	●	●	●	●	●	●	●	●
Ourinhos HPP	●	●	●	●	●	●	●	●	●	●	●	●	●
Jurupará SHP	●	●	●	●	●	●	●	●	●	●	●	●	●
Piraju HPP	●	●	●	●	●	●	●	●	●	●	●	●	●
Salto do Iporanga HPP	●	●	●	●	●	●	●	●	●	●	●	●	●
Salto do Rio Verdinho HPP	●	●	●	●	●	●	●	●	●	●	●	●	●
Serraria HPP	●	●	●	●	●	●	●	●	●	●	●	●	●
Sobragi HPP	●	●	●	●	●	●	●	●	●	●	●	●	●
Niquelândia	●	●	●	●	●	●	●	●	●	●	●	●	●

Key: ● Very low ● Low ● Medium ● High ● Very high ● Unavailable

Note: The MCTI AdaptaBrasil tool does not provide energy security projections for 2030.

Risk management GRI 201-2

CBA strives for excellence and transparency in risk management. The Company draws guidance from internationally recognized standards including ISO 31000 and the COSO framework for Enterprise Risk Management, ensuring a robust and reliable management system. In 2024, the risk management system underwent independent audits to ensure continuous improvement and continued alignment with global standards.

CBA's Risk Management Policy, implemented in 2020, defines clear guidelines and responsibilities, and is formally approved by the Executive Board and the Board of Directors. The policy undergoes regular reviews, with the most recent update completed in 2024. The document reflects CBA's belief that risk management is central to maintaining business competitiveness and long-term sustainability.

RISK MANAGEMENT STAGES

Climate risks, including emerging risks, follow the same identification, review, assessment, response, and monitoring process as for other corporate risks, with annual reviews. This process applies to all operational sites across the Energy, Primary Products, Downstream, and Nickel businesses.

CBA takes a conservative stance, preparing for the worst-case scenarios. The Company uses a robust approach that is comparable over time, ensuring effective corporate and climate risk management.



LEARN MORE:

Access [CBA's Risk Management Policy](#).



Ventos do Piauí Wind Farm (PI)

Risk management stages

1.



Identification

This stage, conducted at least once every year, consists of identifying, recognizing, and describing risks. This process includes engaging internal and external stakeholders, resulting in a detailed list of events and risk factors, including emerging risks. Stakeholders are identified as risk owners and facilitators. The list includes causes, sources, and events that could affect identified risks

2.



Analysis

After identification, risks are analyzed to determine their nature and severity, and are assigned probability and impact ratings to establish their risk level

3.



Assessment

Based on the review, the risk level is tested against predefined criteria to assess whether the risk is tolerable or requires action. The assessment outcome is communicated and approved by the Executive Board, the Statutory Audit Committee, and the Board of Directors

4.



Management

This stage involves selecting appropriate measures to mitigate risk and developing action plans that may include implementing new controls or enhancing existing ones

5.



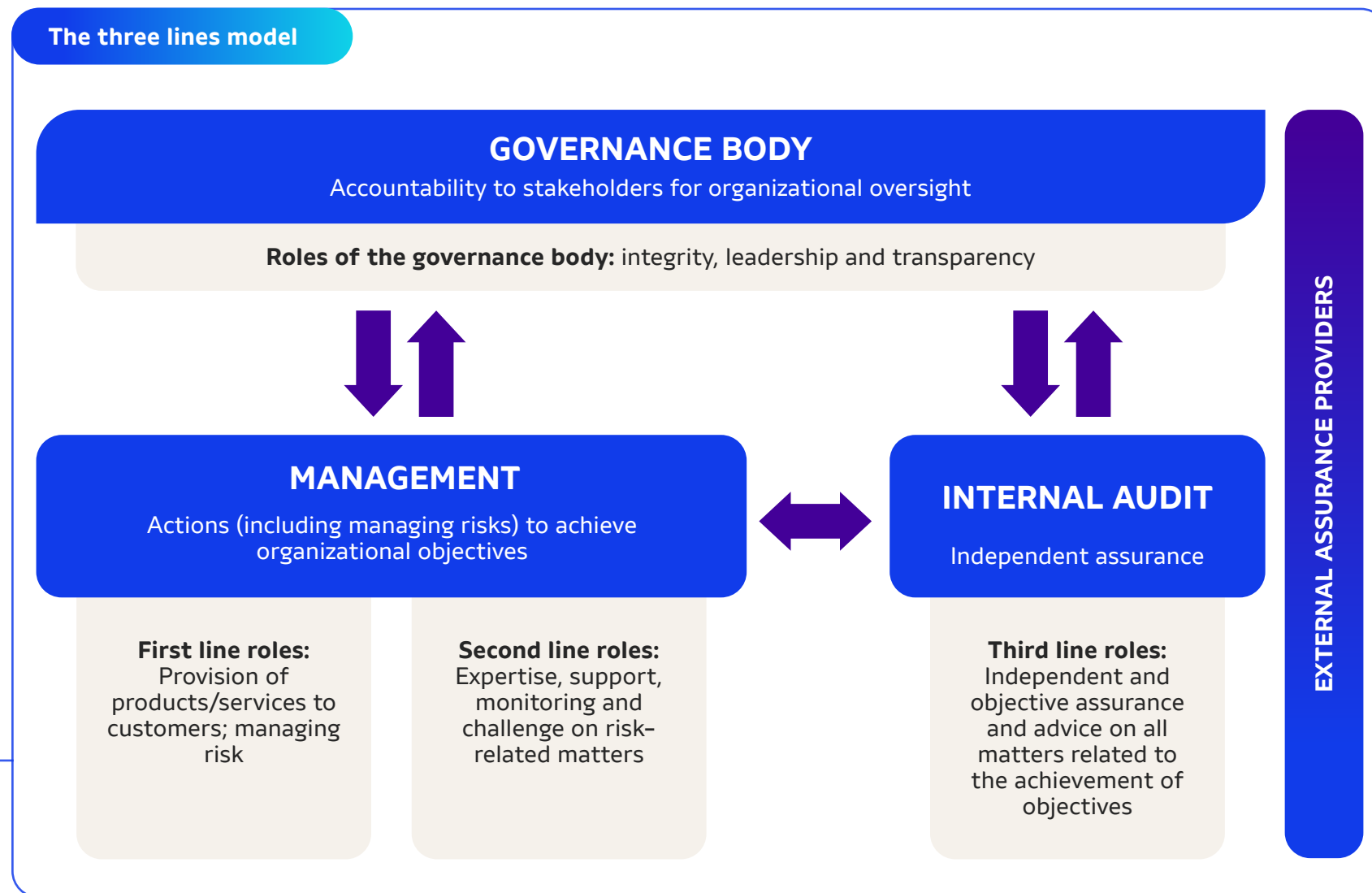
Monitoring

Key Risk Indicators (KRIs) are used to track the effectiveness of risk controls, exposure levels, and to inform decision-making. Risks also undergo regular reviews. For climate risks, the Company conducts workshops with the business functions involved

RESPONSIBILITIES

In addition to the Risk Management Department, CBA's risk management process involves other teams that are each responsible for managing specific risks within their scope of work. The Company uses the Three Lines Model in assigning responsibilities across business functions, risk-specialized functions, and internal audit.

Business functions record detailed information in risk assessment sheets, mapping risk factors. This process identifies whether any risk factor could be impacted by or impact climate-related issues. If such a correlation is found, a detailed analysis of climate impacts is conducted, using future climate scenarios modeled for all operational sites.



FACTORS CONSIDERED

CBA's approach to risk management takes into account both existing and emerging regulatory requirements related to climate change throughout all stages of the process. For a comprehensive and effective approach, the Company also evaluates technological developments and reputation risks, as detailed below.

Current regulations

No significant risks identified. While only Scopes 1 and 2 emissions are mandatory for reporting, CBA voluntarily discloses its full emissions inventory through the Public Emissions Registry

Emerging regulations

CBA assesses potential financial impacts from direct emissions, although its emission levels are significantly lower than many global competitors. Future regulatory mechanisms that may affect CBA include the European CBAM and anticipated carbon pricing frameworks in Brazil

Technological

More emission-efficient technologies may render current processes obsolete, requiring adaptation and new investments

Market and reputational

The perception of aluminum production as carbon-intensive could lead customers to explore alternative sources. However, CBA's reputation as a low-carbon aluminum producer reduces the risk of market loss

Acute physical risks

Extreme weather events could disrupt operations and affect critical suppliers, compromising production and material supply chains. Climate projections have been made to help improve operational resilience across all sites

Chronic physical risks

Drought and reduced rainfall may trigger water crises. Impacts include restrictions on water use, community impacts, and potential reductions in government water permit volumes

RISK MAP

CBA updates its risk map annually to ensure it is at all times prepared to mitigate and address potential threats. The latest update included emerging risks, which were added to the monitoring scope, as well as revisions to the priority levels of existing risks. All risks, including climate-related risks, are

evaluated based on eight impact categories: financial, reputational, environmental, health and safety, information security, operational, social and human rights, legal, and regulatory. For climate risks, CBA uses the following classification criteria.

Risk classification

Financial	Evaluates the financial impact on revenue and expenses. Financial impacts are categorized as: <ul style="list-style-type: none"> • Minor: less than R\$ 27 MM • Moderate: between R\$ 27 MM and R\$ 54.5 MM • Major: between R\$ 54.5 MM and R\$ 109 MM • Extreme: exceeding R\$ 109 MM.
Reputational	Classified as strategic when negative exposure is localized and affects a specific stakeholder group. Classified as extreme if it impacts critical customers or suppliers, causes long-term damage, or receives national or international media coverage
Environmental	Considered strategic if environmental liability events occur. Becomes extreme if it causes irreversible damage to species, habitats, or ecosystems, jeopardizing the continuity of operations
Social and Human Rights	Strategic when it directly impacts the well-being of a local community or neighborhood. Extreme if it results in widespread regional harm or leads to permanent social and economic changes
Health and Safety	Relevant when it involves risks to employees. Extreme in cases of serious injuries or fatalities
Information Security	Analyzed with a focus on confidentiality, integrity, and data availability. Classified as extreme when there is a risk of leaks of confidential information or long-term system outages
Operational	Operational impacts are classified as extreme when they cause prolonged stoppages
Legal and Regulatory	Any emerging regulation with potential financial impacts is classified as a strategic risk



Nathalia Luzia Gonçalves de Paula,
Agricultural Technician at Legado
Verdes do Cerrado (GO)

Climate risks are classified into physical risks and transition risks. Physical risks are subdivided into acute risks, caused by specific climate events, and chronic risks, resulting from long-term changes in climate patterns. For every identified climate risk, CBA assesses the potential impact and implements mitigation or adaptation measures, categorizing them by time horizon into three levels aligned with its financial planning horizons:

Short term (0 to 1 year)

Includes mitigation/adaptation initiatives that are absorbed by the current or next year's budget

Medium-term (>1 to 5 years)

Aligns with the timeframe of the Company's Strategic Plan

Long-term (>5 to 30 years)

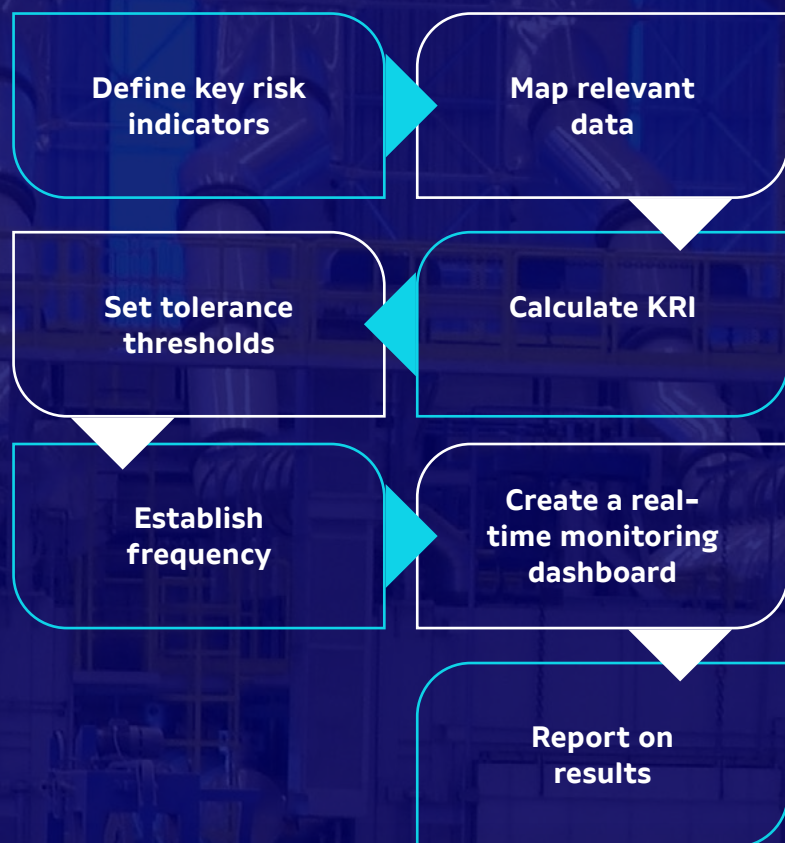
Accounts for risk-related costs, including specific provisions and decommissioning assessments for operations with no scheduled closure (While the risk mapping timeframe is 5 to 30 years, climate scenario assessments may extend further when required)

Once climate risks are identified and categorized, they are plotted on a risk map based on their potential impact and likelihood of occurrence. CBA prioritizes monitoring for risks classified as "Major" or "Extreme" in impact and "Possible" or "Remote" in likelihood.

Potential impact and likelihood of occurrence

Likelihood	Remote	Marginally likely	Likely	Very Likely
Internal Controls	Robust internal controls with documented policies, procedures, and key risk indicators (KRIs).	Effective controls are in place to manage and mitigate risks.	Limited internal controls are available to manage identified risks. Controls require improvement and/or new controls need to be implemented.	No effective internal controls are currently in place to mitigate the identified risks.
Promptness of Response	Coordinated, swift response across all functions or businesses involved and/or a contingency plan (plan B) in place to mitigate the impact before the risk materializes.	Response plans are in place with the ability to react quickly upon the risk materializing, minimizing risk impacts.	Response plans exist but are only partially developed or require updating.	No formal response plans are currently in place.
Incident history	No previous history of the risk materializing.	The risk has materialized over two years ago.	Sporadic occurrences over the past two years or one confirmed event in the previous year.	Frequent incident in the current fiscal year.

CBA's risk control framework includes Key Risk Indicators (KRIs) to monitor and mitigate risks, following the steps below:



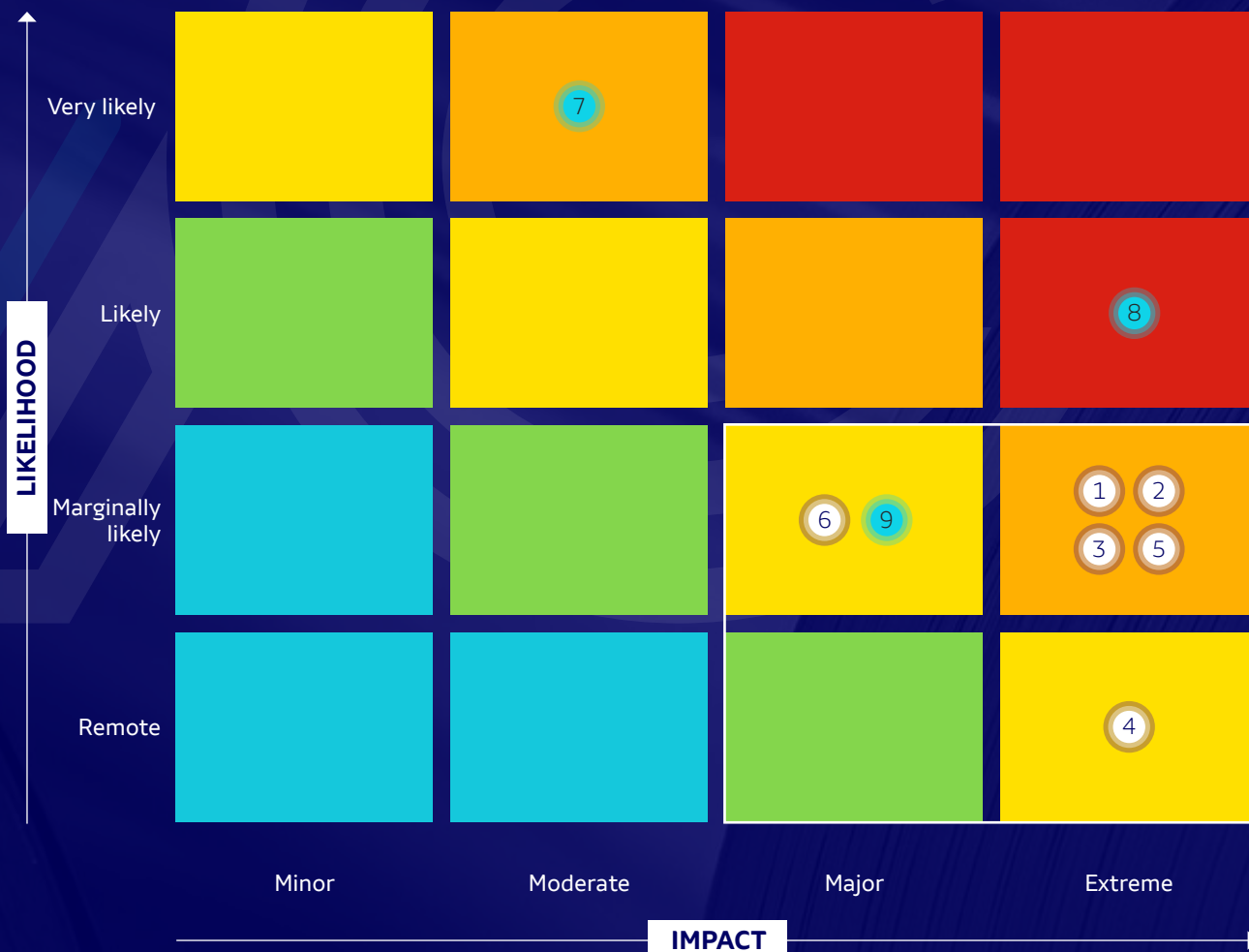
Downstream operations at the Alumínio plant (SP)



One example of a climate-related KRI is the GHG emissions intensity of cast products. This KPI measures Scope 1 and 2 emissions produced across CBA's value chain (covering the Mining, Refining, Smelting, and Casting processes) and is monitored monthly using an automated dashboard.

CBA has a Strategic Risk Map covering its most critical risks, but for this Climate Agenda Report, only material climate-related risks are presented. Climate risks with negligible financial impacts are also tracked and addressed, but at the operational level. Examples include: structural damage from high wind events; power system overloads caused by extreme heat; higher incidence of temperature- and humidity-related diseases; landslides and slope erosion risks; soil destabilization and subsidence; loss of seedlings; ecosystem disruptions in water reservoirs; emerging competitors with low-carbon alternatives.

CLIMATE RISK MAP



- ① Water scarcity affecting energy generation
- ② Excessively high reservoir levels
- ③ Reduced or halted operations caused by water shortages
- ④ Impacts on containment structures from external events
- ⑤ More frequent wildfires
- ⑥ Shortages of critical inputs
- ⑦ New carbon taxes
- ⑧ Market-driven (LME) price fluctuation
- ⑨ New entrants in the downstream market (Substitute materials)

Key:

Physical risks

Transition risks

Note: CBA identifies "very likely" risks as emerging risks.

Note: Only prioritized climate risks with significant financial impact on CBA's operations are described in this risk map. CBA also monitors other climate-related risks, which are managed through the same workflow as for other risks.

Legado das Águas (SP)

Risk details

Below is a detailed breakdown of CBA's most significant climate risks, with details on their likelihood and impact.

Physical risks

Risk 1 | Water scarcity affecting energy generation

**Description:**

Reduced water availability in hydropower reservoirs due to prolonged droughts and declining rainfall

**Time horizon:**

Short to long term

**Operation affected:**

Hydroelectric power plants, 21 in total (15 wholly owned and 6 jointly owned)

**Region:**

Goiás, Minas Gerais, Paraná, Santa Catarina and São Paulo

**Degree of impact:**

Extreme (Risk scale)

**Potential impact:**

- Reduced generation output
- Conflicts over water use

**Likelihood:**

Marginally likely

**Risk management (mitigation and adaptation measures):**

- Diversification of energy sources (investments in renewable energy


such as wind power and studies towards developing solar power facilities)

- Reservoir management: implementation of Operational Rules on storing water during the dry season and managing streamflow during the wet season
- Energy efficiency programs
- Water Resilience Committee
- Protecting water bodies and headwaters
- Membership of watershed committees


**Financial impact:**


Hydropower generation shutdowns could result in financial impacts exceeding R\$ 109 million, based on historical reductions linked to precipitation changes. In 2024, the Piraju hydropower plant was shut down due to water scarcity in the Paranapanema River Basin, while the Juquiã and Sorocaba complexes saw their annual average generation output fall by 6.26 MWm

Risk 2 | Excessively high reservoir levels


 **Description:**
Excess water accumulation in hydropower reservoirs due to extreme weather events or sustained heavy rainfall, which may necessitate floodgate activation

 **Time horizon:**
Short term

 **Operation affected:**
Hydroelectric power plants, 21 in total (15 wholly owned and 6 jointly owned)


 **Region:**
Goiás, Minas Gerais, Paraná, Santa Catarina and São Paulo

 **Degree of impact:**
Extreme (Risk scale)

 **Potential impact:**

- Flooding in areas downstream of hydropower reservoirs
- Temporary or indefinite shutdowns
- Damage to critical power generation equipment
- Increased streamflow, potentially generating misinformation and unwarranted alarm about hydropower operations


 **Likelihood:**
Marginally likely

 **Risk management (mitigation and adaptation measures):**


- CBA's Generation Operation Center (COG) supervises the 24/7

operation of its 15 wholly-owned hydropower plants, continuously monitoring and managing reservoir levels.

- CBA monitors dam safety in accordance with applicable regulations, and engages independent consultants to issue regular inspection reports, monitor instrument readings, and perform Periodic Dam Safety Reviews.
- Emergency Response Plans
- Reservoir management: implementation of Operational Rules on storing water during the dry season and managing streamflow during the wet season
- Membership of watershed committees


 **Financial impact:**
In 2024, the Santa Helena and Votorantim hydropower plants underwent structural maintenance. Future shifts in precipitation patterns could affect hydroelectric generation output, potentially resulting in unplanned costs due to purchasing electricity from the spot market


Risk 3 | Reduced or halted operations caused by water shortages


 **Description:**
Reduced or halted operations caused by insufficient water availability for key production processes, including refinery, gas scrubbing, and product cooling

 **Time horizon:**
Long term

 **Operation affected:**
Aluminum production facilities


 **Region:**
São Paulo and Pernambuco

 **Degree of impact:**
Extreme (Risk scale) for worst-case scenario

 **Potential impact:**


- Impacts on production
- Damage to processes and water circulation systems
- Competing demand for water during water shortages, where public water supply is prioritized over industrial use

 **Likelihood:**
Marginally likely

 **Risk management (mitigation and adaptation measures):**

- Implementing engineering projects to reduce water consumption
- Campaigns and training to reduce water withdrawals and consumption

- Implementing water resilience committees and working groups to monitor measures taken
- Periodically monitoring reservoir levels
- Initiatives to protect water bodies and headwaters
- Identifying new water sources (potential measure)
- Contingency plans outlining actions in response to water shortages
- Closed-circuit water system project to maximize water reuse at the Alumínio plant
- Smelter upgrade project

 **Financial impact:**
Operational shutdowns or reduced production could negatively impact revenue and cause damage to critical equipment from insufficient water supply. CBA has invested in initiatives that support water savings, including a Closed-Circuit Water Project and Smelter Upgrade

Risk 4 | Impacts on containment structures from extreme events

**Description:**

Impacts on containment structures from extreme weather events

**Time horizon:**

Long term

**Operation affected:**

Alumínio plant, hydropower plants (21 in total, 15 wholly owned and 6 jointly owned), and the Mirai and Niquelândia mines

**Region:**

Goiás, Minas Gerais, Paraná, Santa Catarina and São Paulo

**Degree of impact:**

Extreme (Risk scale)

**Potential impact:**

- Operational shutdowns
- Environmental and social impacts on CBA premises and in surrounding areas
- Reputational damage

**Likelihood:**

Remote

**Risk management (mitigation and adaptation measures):**

- Significant reductions in water volumes in tailings and residue dams via dry disposal and other initiatives

- CBA's Mobile Beneficiation Project (piloting a compact, mobile bauxite processing plant with the potential to eliminate the need for tailings dams in the future)
- Dam Management (SIGBAR), including monitoring and maintenance of containment structures
- Dam drills to raise public awareness

**Financial impact:**

CBA has invested R\$ 400 million in its Dry Residue Disposal Project, with R\$ 100 million planned in future investments to ensure the safe decommissioning of the dam. Further investments are also planned in CBA's Mobile Beneficiation Project

Risk 5 | More frequent wildfires

**Description:**

Increased risk of large-scale fires caused by prolonged droughts or reduced rainfall in the areas where CBA operates or in surrounding areas

**Time horizon:**

Short term

**Operation affected:**

All CBA operations

**Region:**

Goiás, Minas Gerais, Pernambuco, Rio Grande do Sul, Paraná, and São Paulo

**Degree of impact:**

Extreme (Risk scale)

**Potential impact:**

- Higher expenses on fire response, and environmental, social and safety impacts
- Potential operational shutdown
- Health and safety impacts for employees
- Increased security costs

**Likelihood:**

Marginally likely

**Risk management (mitigation and adaptation measures):**

- Preventive work in collaboration with fire departments, and having

fire response teams on call in each operation. In addition:


- Implementation of fire breaks where required
- Emergency response drills as outlined in each site's Emergency Response Plan
- Fire training for emergency response teams
- Continuous improvement of fire response processes


**Financial impact:**

In 2024, CBA responded to large-scale fires near the Alumínio plant, deploying internal fire responders, aerial resources, and ground teams to contain the fires. The Company's fire preparedness and response activities in the year involved an investment of approximately R\$ 5 million


Transition risks

Risk 6 | Shortages of critical inputs


 **Description:**
Shortage of critical inputs for CBA's operations caused by extreme weather events affecting supplier operations

 **Time horizon:**
Medium to long term

 **Operation affected:**
Aluminum production facilities

 **Region:**
São Paulo and Pernambuco

 **Degree of impact:**
Major (Risk scale)


 **Potential impact:**

- Delayed or disrupted deliveries of raw materials
- Operational shutdowns
- Delayed deliveries
- Increased costs for input procurement

 **Likelihood:**
Marginally likely


 **Risk management (mitigation and adaptation measures):**


- Expanding and geographically diversifying the Company's supplier base
- Building stocks of critical inputs
- Initiatives to reduce the consumption of critical inputs

 **Financial impact:**
Financial impact estimates indicate that the potential costs in the event of a shortage of critical inputs would be limited to R\$ 45 million. CBA is investing in two major initiatives to secure critical input supply:


- Construction of a pitch melting plant
- Approximately R\$ 130 million investment in a Paste Plant Upgrade

Risco 7 | New carbon taxes


 **Description:**
Implementation of new carbon pricing mechanisms and border taxes

 **Time horizon:**
Short and medium term

 **Operation affected:**
Aluminum production facilities


 **Region:**
São Paulo and Pernambuco

 **Degree of impact:**
Moderate (Risk scale)


 **Potential impact:**

- Higher operating costs
- Increased compliance requirements
- Fines for noncompliance

 **Likelihood:**
Very likely (emerging risk)


 **Risk management (mitigation and adaptation measures):**


- Monitoring the development of pricing mechanisms
- Developing internal carbon pricing and applying it to strategic areas
- Investing in projects and initiatives to reduce carbon emissions across each production stage
- Measures to ensure readiness to serve, and meet reporting requirements in, regulated markets


 **Financial impact:**
In 2024, this risk resulted in costs related to consulting services to support compliance with the European CBAM


- Estimated long-term costs are approximately R\$ 130 million, with short- to medium-term costs of R\$ 50 million for compliance with the Brazilian Carbon Market (SBCE) and the CBAM
- Additional investments in decarbonization projects (see page 34 for further details)

Risk 8 | Market-driven (LME) price fluctuation

 **Description:** Aluminum price volatility driven by climate change impacts on aluminum production processes and critical inputs, potentially affecting metal supply in global markets. Price uncertainty may also result from economic, political, and climate shifts

 **Time horizon:** Medium to long term

 **Operation affected:** Aluminum Business

 **Region:** São Paulo and Pernambuco

 **Magnitude of impact:** Extreme (Risk scale)

 **Potential impact:**

- Profitability


 **Likelihood:** Likely


 **Risk management (mitigation and adaptation measures):**

- Commodities exposure map
- Financial risk map
- Assessments of financial impacts via projections
- Advertising CBA's low-carbon footprint and robust climate agenda


 **Financial impact:** Financial impacts arising from this risk are aggregated with other socio-political and market factors and are considered confidential

Risk 9 | New entrants in the downstream market


 **Description:** Increased use of substitute materials replacing aluminum due to its high carbon footprint globally

 **Time horizon:** Medium to long term

 **Operation affected:** Aluminum business - Downstream


 **Region:** São Paulo and Pernambuco

 **Magnitude of impact:** Major (Risk scale)

 **Potential impact:**

- Loss of market share
- Loss of revenue

 **Likelihood:** Marginally likely

 **Risk management (mitigation and adaptation measures):**

- Mapping market trends
- Working closely and co-creating with customers
- Conducting Life Cycle Assessments (LCA) for CBA's aluminum products, showcasing their differentiators

- Measuring, benchmarking, and further reducing the carbon footprint of CBA's products
- Strengthening the Company's reputation as a low-carbon aluminum producer
- Promoting the benefits of aluminum in the energy transition

 **Financial impact:** In 2024, financial impacts were limited, primarily stemming from investments in LCA software, third-party verification, and the implementation of Digital Passports. In future scenarios, if this risk materializes and aluminum demand declines, CBA could face revenue losses of up to R\$ 34 million in specific markets

Note: The primary risks that could result in significant changes in the Company's financial statements are impact on structures, impacts on generation output and regulatory developments (CBAM and SBCE) (risks 4, 1 and 7, respectively)

Opportunities

The need for climate change mitigation and adaptation opens up new opportunities to strengthen CBA's position as a leader in low-carbon aluminum production. With an integrated, strategic approach, these opportunities are assessed across short-, medium-, and long-term horizons and are mapped across multiple business areas, reflecting CBA's commitment to building a more sustainable and innovative world.

COMPETITIVENESS MANAGEMENT

CBA's Competitiveness Management (GC) model is designed to accelerate value creation through a robust methodology, ultimately creating competitive advantage. This model integrates business functions such as Supply Chain, Tax, Operations, Innovation, and Sustainability, connecting projects to growth opportunities.

CBA uses a dedicated management software platform to approve and track initiatives, which, since 2023, includes a module

to enhance monitoring of sustainability outcomes and financial returns from projects. One example is determining greenhouse gas (GHG) emission reductions using CBA's internal carbon price. In 2024, improvements were made to this platform module to segregate GHG emission scopes in line with the GHG Protocol methodology.

Competitiveness Management has delivered important outcomes as part of CBA's climate agenda:

Sustainability Impacts

	2021	2022	2023	2024
Climate change	<ul style="list-style-type: none"> 108,932 tCO₂ in emissions reductions 	<ul style="list-style-type: none"> 27,339 tCO₂ in emissions reductions 	<ul style="list-style-type: none"> 110,621 tCO₂ in emissions reductions 	<ul style="list-style-type: none"> 215,357 tCO₂e in emissions reductions
Natural resources	<ul style="list-style-type: none"> 2,500 MWh of electricity savings 944 metric tons of savings on materials such as fluoride, caustic soda and flocculants 27,000 liters of savings on rolling oil 	<ul style="list-style-type: none"> 52,000 m³ of water savings 5,600 metric tons of savings on materials such as fluoride, caustic soda and flocculants 300,000 liters of savings on rolling oil 420,000 m³ of savings on natural gas 	<ul style="list-style-type: none"> 64,000 m³ of water savings 3,400 metric tons of savings on caustic soda More than 26,000 liters of savings on rolling oil 709,000 m³ of savings on natural gas 	<ul style="list-style-type: none"> 502 metric tons of savings on caustic soda 368,000 liters of savings on rolling oil 1,900,000 m³ of savings on natural gas

Note 1: The reduction in greenhouse gas emissions excludes emissions avoided.

Note 2: The figures on sustainability gains are annual and not cumulative.

RESEARCH AND DEVELOPMENT

Research & Development (R&D) supports CBA's efforts to address key climate issues, such as reducing emissions and improving energy efficiency. R&D activities are led by the Technology team, which monitors trends, identifies opportunities, and sets up collaborations. The team has developed an internal digital platform called the

Technology Radar, which supports real-time monitoring of science publishing, industry news, and patent applications worldwide.

R&D projects are managed through various stages of maturity, from concept development to full-scale implementation. Some of CBA's key research fronts in 2024 included:

Carbon capture technologies

Since 2023, Carbon Capture, Utilization, and Storage (CCUS) has been a key focus of CBA's innovation agenda. In 2024, the Company advanced research on using zeolites to capture CO₂ from the smelting process. CBA is exploring the potential to produce zeolites from aluminum production residues, which could reduce process costs. Studies conducted by universities and research centers suggest that CO₂-impregnated zeolites could be used as fertilizers, providing a sustainable and economically viable solution.

Partnerships and thematic groups

CBA has expanded its engagement in thematic working groups led by the International Aluminium Institute (IAI) to develop innovative and sustainable solutions for the aluminum industry in collaboration with global industry leaders and experts. Key areas of focus include bauxite, decarbonization, waste management, and carbon capture.

In parallel, CBA has established strategic collaborations within Brazil's innovation ecosystem, including the Agenda Tech Consortium—an alliance led by SENAI (the Brazilian National Industrial Training Service) that brings together industrial companies, academic institutions, and scientific and technological organizations (ICTs) to develop cutting-edge solutions for sector-specific challenges in Brazilian industry. As part of this effort, CBA is actively contributing to the identification of decarbonization opportunities.

Tecnosolo

CBA is conducting a study in collaboration with the Federal University of Viçosa to develop Tecnosolo (a soil product for environmental rehabilitation) using clay-rich minerals extracted from its mining operations. Learn more in the [2024 Annual Report](#).



Tecnosolo, São Sebastião da Vargem Alegre (MG)

Innovation Drivers at CBA

INNOVATION AND DIGITAL

CBA aims to lead the industry in Innovation and Digital Transformation, and has set clear targets that span from fostering a culture of innovation to driving business value. The Company's innovation and digital strategy is guided by four core strategic beliefs, including alignment with sustainability goals.

Driving **FOCUS** through strategy

Creating economic **VALUE**

Delivering **CUSTOMER-CENTRIC** innovation

Future-ready **TALENTS & CULTURE**

Portfolio **AMBIDEXTERITY** (exploring new business opportunities)

Future-ready strategic beliefs

Belief 1

- The future of the aluminum industry will be data- and technology-driven
- Opportunity areas: smart operations and supply chains, responsible resource use, supply chain resilience, and corporate productivity

Belief 2

- **Sustainability will be one of the main drivers of innovation in the industry**
- **Opportunity areas: decarbonization, circular aluminum, sustainable business practices, and renewable energy**

Belief 3

- Science and material design play a critical role in accelerating potential applications for aluminum and new materials
- Opportunity areas: developing new aluminum applications and advanced materials

Belief 4

- The aluminum industry will develop innovative new revenue streams
- Opportunity areas: emerging business models

Pedro Henrique Pamplona Pereira, Guilherme Felipe dos Santos Oliveira, and Bruno Pereira Maciel – Employees at the Alumínio plant (SP)





3 digital transformation projects

successfully implemented

Mirella Leite Martins,
Communication Analyst –
Alumínio plant (SP)

All innovation initiatives are evaluated through an ESG lens at every stage of development:

1. Qualitative impact assessment

2. Quantitative impact assessment

3. Innovation Committee review, including input from the Sustainability Manager

4. Continuous monitoring, covering impact on carbon emissions

In 2022, CBA launched DigitALL, an internal program focused on accelerating digital transformation. Program activities are orchestrated through PODs—multidisciplinary teams that use agile methods to address a specific problem

within a given timeframe, with the goal of identifying and recommending digital solutions for the Company. Six criteria are considered in prioritizing initiatives: alignment with strategy, economic value, ESG impact, project scale, implementation time, and technological maturity and competencies.

PODs develop business cases providing an in-depth analysis including quantification of sustainability impacts, ensuring alignment with CBA's ESG commitments. Many of these initiatives are directly linked to the climate agenda. In 2024, CBA established sustainability metrics and began measuring the environmental impacts of priority innovation projects. Tracked impacts included metal yield, anode effect, scrap consumption, natural gas usage, and black dross.

Initial impact tracking in 2024 has already shown positive outcomes, with a total of 3 projects implemented to date, and with expectations to expand to 12 projects in 2025. This continuous innovation process drives new opportunities, with sustainability as a core lever of the digital transformation journey.

Sustainability Impacts of PODs



23 Business cases evaluated

15 with sustainability impacts (65%)

9 enabling projects¹ (60%)

6 measurable projects² (40%)

1. Enabling projects are those whose implementation is linked to future sustainability gains. They enable future initiatives that will be tracked against quantifiable performance indicators.
2. Measurable projects are projects whose impacts can be quantified using numerical indicators, such as emission reductions.



Results

Emissions:
312,981 tCO₂e
reduced and/or avoided

Carbon pricing:
R\$ 13.67 million
in carbon equivalent

Waste:
2,588.53 metric tons
avoided

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



OPPORTUNITY PIPELINE

CBA believes that opportunities can be found even in the most adverse challenges—whether in the form of collaborations, new technologies and products, or knowledge-sharing. Recognizing the potential within the climate agenda, CBA has developed an opportunity pipeline to consolidate prospective mitigation and adaptation actions, in collaboration with various departments across the Company. Some of the key initiatives identified and implemented include:

IMPLEMENTED INITIATIVES



ReAl Technology

Description: Developed to support CBA's customers' reverse logistics efforts, this technology enables the recycling of multi-material packaging containing aluminum. Unlike conventional aluminum recycling, where the metal is melted, the ReAl process involves a chemical reaction that extracts aluminum from packaging and converts it back into aluminum oxide, which then enters the Refinery process. Meanwhile, the plastic is completely separated with a high degree of purity, allowing it to be used in new products. This innovative initiative, entirely developed by CBA, has been awarded a green patent and is designed in a scalable format, enabling future expansion.

Results: The first ReAl plant was commissioned in November 2024, with the capacity to recycle 1.3 billion multi-material packages annually. The operation is expected to gradually scale up. The project also produces green hydrogen, which will eventually replace part of the natural gas consumption at CBA's Refinery.

Operations affected: Alumínio plant (SP)



ReAl plant - Alumínio (SP)



Dry Waste Disposal

Description: In the first half of 2024, CBA launched a Dry Residue Disposal Project at the Palmital dam in Alumínio (SP) using filter presses. These presses extract significant liquid content from bauxite residue, increasing the solid fraction from 45% to 75%. This not only enhances dam safety, but also enables the residue to be repurposed in new applications. The dry residue byproduct may be used in applications such as cement production, construction materials, or as a soil amendment. These applications are currently undergoing scientific evaluation.

Outcomes: While the project does not directly reduce aluminum production emissions, it supports climate adaptation. Utilizing the byproduct in other industries has the potential to lower their carbon footprint.

Operations affected: Alumínio plant (SP)



Biomass Boiler

Description: Since 2020, CBA has utilized steam from a biomass boiler at its Alumina Refinery, replacing the use of natural gas and fuel oil.

Outcomes: 60%+ reduction in carbon emissions from this stage of the process, positioning the Refinery as the lowest carbon intensity alumina refinery worldwide, based on CRU's emissions reporting tool.

Operations affected: Alumínio plant (SP)



Renewable electricity consumption

Description: CBA currently sources 100% renewable and traceable electricity and is committed to maintaining this performance in the coming years. The Company prioritizes energy from its own sources and, when relying on external sources, purchases renewable energy certificates to ensure full traceability. Additionally, CBA continues to explore opportunities to diversify its energy mix, including potential acquisitions of wind farms.

Outcomes: 100% of electricity consumed is renewable and traceable

Operations affected: All



Dry Residue Disposal Project Plant – Alumínio (SP)



Asset Monitoring Center –
Alumínio plant (SP)



Energy efficiency initiatives

Description: CBA has implemented three energy efficiency projects, including the installation of high-performance compressors at the Alumina Refinery and the replacement of motors and installation of variable frequency drives at the Casthouse and Refinery. These initiatives are projected to reduce operational energy consumption by 4 MW. In 2024, the Company also invested in advanced compressed air leak detection equipment at the Alumínio (SP) unit.

Outcomes: A total of 630 leakage points were identified, corresponding to 4,274.4 m³/h in potential compressed air savings. During 2024, 86% of these leaks were repaired, eliminating 3,723.2 m³/h and resulting in energy savings of 447 kW.

Operations affected: Alumínio plant (SP)



Traceability and reduction of emissions from key inputs

Description: As CBA has progressed in Scope 3 reporting, the need has become clearer to develop action plans to reduce emissions across its supply chain. A decarbonization roadmap was developed for the most emission-intensive inputs, and through its Sustainable Procurement Program, CBA began engaging with suppliers to collect carbon footprint data for their products.

Outcomes: 79% reduction in the average carbon footprint of cast aluminum products from ingot purchases, from a 2019 baseline. Within CBA's Sustainable Procurement initiative, the collection of primary data has enhanced the accuracy of the Company's Scope 3 emissions reporting. The first data collection wave recorded a reduction of 48,731 tCO₂e, while the second wave led to an additional 11,548 tCO₂e reduction.

Operations affected: Alumínio plant (SP)

ONGOING INITIATIVES



Potline upgrade

Description: This project is designed to improve process efficiency and safety while reducing GHG emissions. Currently, one of the six Pot Rooms operates entirely with this new technology, and CBA plans a phased implementation over the coming years.

Outcomes: Approximately 20% reduction in emissions at this stage, enabled by automated and precise alumina feeding into the electrolytic pots.

Operations affected: Alumínio plant (SP)



Increased use of scrap

Description: Replacing primary aluminum with scrap bypasses emissions-intensive production stages. CBA has implemented a number of related initiatives, including the acquisition of Alux do Brasil, installation of sidewall furnaces at Metalex, construction of a scrap treatment line at Metalex, and the establishment of a new Processing & Recycling Center. Over the next few years, CBA plans to upgrade the billet production line at the Alumínio Plant to increase recycling capacity and establish additional Recycling Centers.

Outcomes: In 2024, 243,302 metric tons of processed scrap avoided 800.000 tCO₂e of emissions.

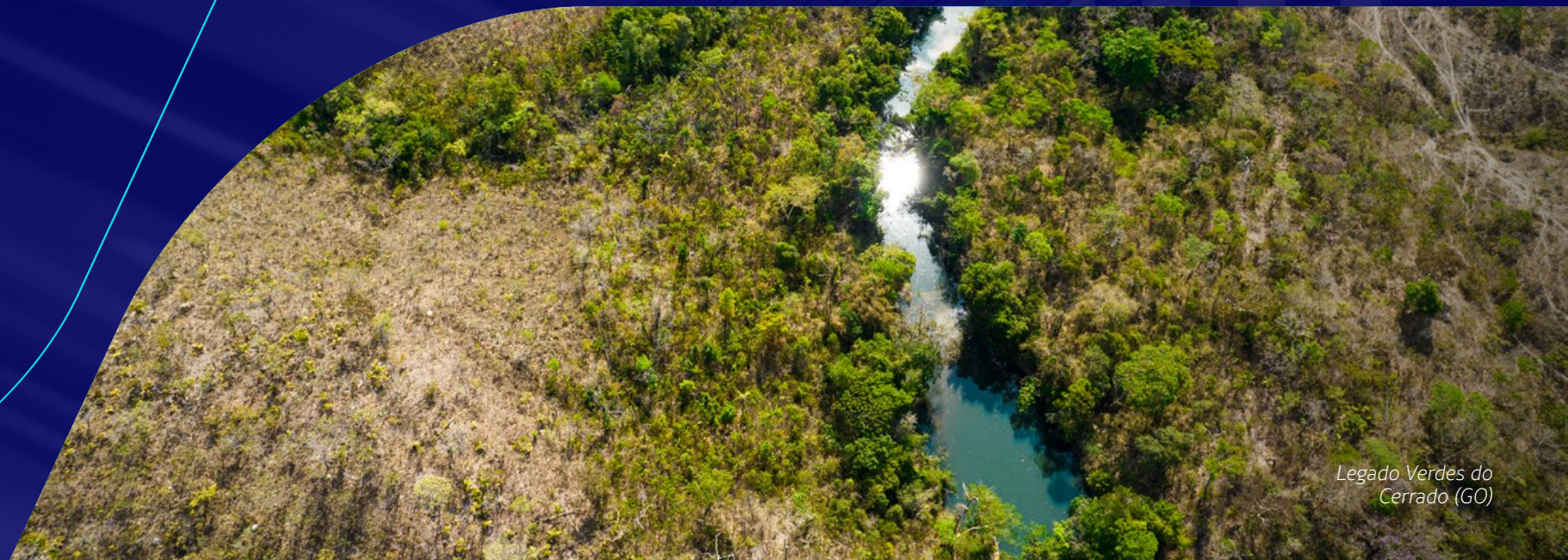
Operations affected: Itapissuma (PE), Alumínio plant (SP), Alux and Metalex (SP)

Scrap, Metalex (SP)



Conservation projects and carbon credits

CBA remains committed to driving sustainability through pioneering projects that integrate biodiversity conservation, innovation, and social and economic development. By preserving valuable ecosystems and implementing decarbonization solutions, CBA is helping build a more balanced and prosperous future for all.



Legado Verdes do Cerrado (GO)

Legado Verdes do Cerrado was recognized as Goiás's first Private Sustainable Development Reserve in the Cerrado.

Legado Verdes do Cerrado

Situated in Niquelândia (GO), the Legado Verdes do Cerrado (LVC) reserve operates under a sustainable management model. Owned by CBA and managed by Reservas Votorantim, the reserve covers 32,000 hectares—20% dedicated to agriculture and livestock and 80% preserved within the *Cerrado* biome, a globally recognized hotspot for biodiversity.

The initiative combines environmental conservation with socioeconomic development through research and innovation. A standout initiative is the **REDD+ Cerrado Carbon Project**, the first of its kind in the *Cerrado* biome to certify carbon credits, spanning 11,500 hectares. The credits are audited, registered with Verra (a leading nonprofit in the carbon market), and hold Social Carbon certification, which recognizes social co-benefits linked to standing forests. The project is expected to generate 1.7 million carbon credits over 30 years, with 374,700 carbon credits

already certified between 2017 and 2023. Revenue from the sale of these credits supports scientific research, biodiversity conservation, fire prevention and response, and sustainable business initiatives.

In 2024, the Goiás state government recognized Legado Verdes do Cerrado as the first Private Sustainable Development Reserve (RPDS) in the *Cerrado* biome. During the year, the reserve hosted initiatives around scientific research, eco-tourism, and integration of forest resources with local economic activities.

Legado das Águas

Legado das Águas, Brazil's largest private Atlantic Forest reserve, is situated in the municipalities of Juquiá, Miracatu, and Tapiraí (SP). Covering 31,000 hectares, the project is dedicated to protecting the Atlantic Forest biome, fostering scientific research, and promoting new economy activities, including native plant cultivation and responsible public use.

CBA is a founder and sponsor of Legado das Águas, which plays an important role in environmental conservation and developing sustainable solutions. In 2024, the initiative carried out ecological restoration, scientific studies, and eco-tourism activities, while also selling carbon credits via the PSA Carbonfloor platform*.



Legado das Águas (SP)



Reflora program, Legado Verdes do Cerrado (GO)

Reflora

Reflora, a collaboration between CBA, Instituto Votorantim, and Reservas Votorantim, is an initiative aimed at restoring disturbed land within legal reserves and protected areas. With a focus on ecosystem restoration and biodiversity enhancement, the program is helping small farmers align with the Brazilian Forest Code while also offering the potential to generate carbon credits.

The restored areas provide vital ecosystem services, including carbon capture and biodiversity preservation, further strengthening CBA's sustainability commitments.

* A unique methodology for measuring ecosystem services, including forest carbon, through a Payment for Environmental Services (PES) Program



Low-carbon aluminum

- Metrics
- Targets



Scrap - Alumínio
plant (SP)

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

For CBA, following recognized methodologies in compiling metrics is crucial to ensuring the accuracy and comparability of its data. CBA prepares its GHG emissions inventory in line with the GHG Protocol—an internationally recognized framework adapted for Brazil through the Brazilian GHG Protocol Program. In 2023, CBA introduced an automated calculation tool to ensure alignment with these standards.

The inventory uses the operational control approach, covering all greenhouse gases (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆ and NF₃). An Independent Verification Body, accredited by INMETRO, reviews the inventory annually, with CBA maintaining Gold reporting status under the Brazilian GHG Protocol Program since 2017.

CBA uses primary operational data for Scope 1 and Scope 2 emissions. For Scope 2, the Company uses both the location-based and the market-based approach—prioritizing the latter to reflect its self-generated and traceable renewable energy (via Self-declarations and RECs). Scope 2 emissions are minimal, limited to steam produced from biomass combustion.

For Scope 3, CBA collects data within the categories recommended in an IAI report identifying key emissions sources in the aluminum industry. Where available, CBA prioritizes primary data for calculations. Secondary data are sourced from recognized databases, such as the CRU GHG emissions tool, Ecoinvent, and DEFRA.

CBA prepares and audits its **GHG emissions inventory following GHG Protocol guidelines**

Breakdown of direct emissions – thousand metric tons of CO₂e (2021 - 2024)

Category	2021		2022		2023		2024	
	tCO ₂ e	% of scope	tCO ₂ e	% of scope	tCO ₂ e	% of scope	tCO ₂ e	% of scope
Stationary combustion	258.4	22%	283.7	21%	271.4	20%	278.5	21%
Mobile combustion	17.3	2%	20.4	2%	18.3	1%	18.9	1%
Fugitive emissions	4.2	0%	5.5	0%	5.9	1%	7.4	1%
Industrial processes	872.1	76%	1,046.2	77%	1,058.1	78%	1,029.3	77%
Agricultural activities	0.1	0%	0.1	0%	0.2	0%	0.2	0%
Land-use change	N/A	N/A	1.4	0%	4.4	0%	7.6	1%
Waste (solid waste + effluents)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total emissions	1,152.6		1,357.3		1,358.3		1,341.9	

Biogenic emissions (Scope 1)

Category	2021		2022		2023		2024	
	tCO ₂ e	% of scope	tCO ₂ e	% of scope	tCO ₂ e	% of scope	tCO ₂ e	% of scope
Biogenic CO ₂ e emissions	2.7	N/A	2.9	N/A	8.4	N/A	2.9	N/A
Biogenic CO ₂ e removals	4.2	N/A	1.5	N/A	0.5	N/A	0.1	N/A

N/A - not applicable.

Indirect (Scope 2) emissions - location-based approach

Category	2021		2022		2023		2024	
	tCO ₂ e	% of scope	tCO ₂ e	% of scope	tCO ₂ e	% of scope	tCO ₂ e	% of scope
Electric energy	774.4	97%	264.2	95%	235	94%	350.6	95%
Transmission and distribution losses	18.2	2%	6.9	3%	7.1	3%	11.1	3%
Purchased heating	7	1%	6.8	2%	7.1	3%	7.3	2%
Total emissions	799.5		277.9		249.2		369.0	

Indirect (Scope 2) emissions - market-based approach

Category	2021		2022		2023		2024	
	tCO ₂ e	% of scope	tCO ₂ e	% of scope	tCO ₂ e	% of scope	tCO ₂ e	% of scope
Electric energy	0	0%	0	0%	0	0%	0	0%
Transmission and distribution losses	0	0%	0	0%	0	0%	0	0%
Purchased heating	7	100%	6.8	100%	7.1	100%	7.3	100%
Total emissions	7		6.8		7.1		7.3	

Biogenic emissions (Scope 2)

Category	2021	2022	2023	2024
Biogenic CO ₂ e emissions	369.5	397.8	416.3	432.2

Other indirect (Scope 3) emissions

Category	2021		2022		2023		2024	
	tCO ₂ e	% of scope	tCO ₂ e	% of scope	tCO ₂ e	% of scope	tCO ₂ e	% of scope
Category 1 – Goods and services purchased	2,052.2	85%	971.3	72%	917.1	68%	655.4	67%
Category 3 – Fuel- and energy-related activities not included in Scope 1 or Scope 2	36.9	2%	51.1	4%	48.5	4%	53.6	6%
Category 4 – Transportation and distribution (upstream)	79.7	3%	93.7	7%	144.2	11%	57.7	6%
Category 6 – Business travel	0.1	0%	0.4	0%	0.4	0%	0.5	0%
Category 9 – Transportation and distribution (downstream)	31.6	1%	42.0	3%	34.2	3%	25.7	3%
Category 10 – Reprocessing of sold products	208.2	9%	191.1	14%	194.1	15%	181.5	19%
Total emissions	2,408.7		1,349.6		1,338.5		974.6	

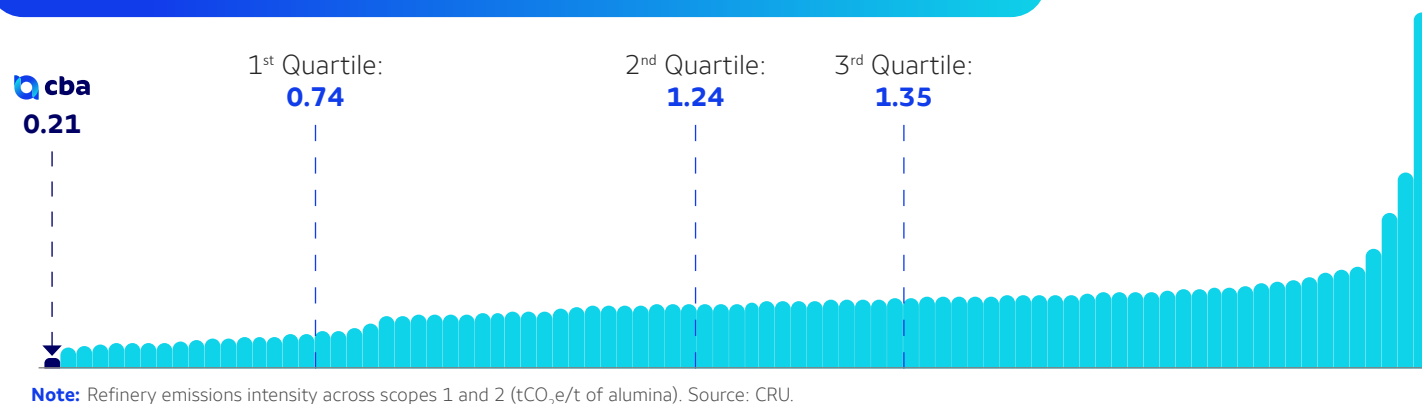
Biogenic emissions (Scope 3)

Category	2021	2022	2023	2024
Biogenic CO ₂ e emissions	11.5	12.8	18.8	9.5

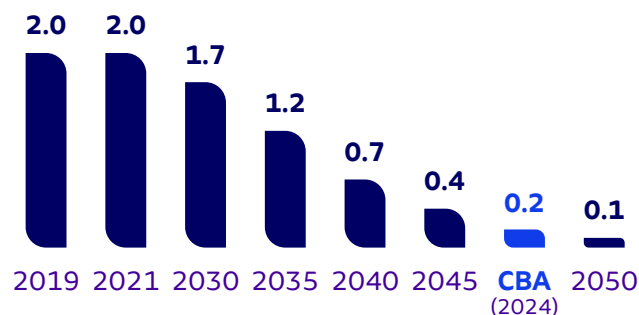
GHG emission intensity

CBA compiles multiple carbon emission metrics across all stages of its production process and also assesses the carbon footprint of its products. These metrics are benchmarked against industry peers, ensuring alignment with best practices and fostering transparency around the Company's performance. One metric in which CBA has performed exceptionally well is emissions from the alumina Refinery, which have been recognized as the lowest globally by mining and metals sector consultancy CRU. While the average emissions for this stage, according to CRU, are 1.17 tCO₂e/t of alumina, CBA produces just 0.21 tCO₂e/t and is well on track to meet the aluminum sector's 2048 net-zero target.

Refinery emissions intensity - 2024



IAI decarbonization roadmap for Alumina refinery emissions intensity – 1.5°C Scenario (tCO₂e/t of oxide)



CBA emissions intensity in 2024 (0.21) is on track to meet the 2048 target.

Emissions intensity by production stage across Scopes 1 and 2

Sites	2022	2023	2024
Mines (tCO ₂ e/t Bauxite)	0.009	0.009	0.008
Refinery (tCO ₂ e/t Alumina)	0.24	0.22	0.21
Smelters (tCO ₂ e/t molten Al)	3.03	3.23	2.87
Casting (tCO ₂ e/t cast Al)	0.13	0.13	0.13
Downstream (tCO ₂ e/t semi-fabricated Al)	0.11	0.11	0.12
Metalex (tCO ₂ e/t cast Al)	0.25	0.28	0.31
Itapissuma (tCO ₂ e/t semi-fabricated Al)	0.91	0.93	0.95
Alux (tCO ₂ e/t cast Al)	0.31	0.27	0.25

Emissions by product

CBA tracks carbon emissions across its entire aluminum product portfolio at all production sites, accounting for every stage of the value chain—Mining, Refinery, Smelters, Casting, Downstream, and Support Areas. Because the company operates a vertically integrated value chain, its Scope 1 and 2 emissions encompass all aluminum production stages. In contrast, other companies in the sector typically report these stages under Scope 3, as they purchase materials from external suppliers.

Emissions indicators by product

Alumínio plant Primary aluminum

(includes all stages from mining through smelting, where molten aluminum is produced, and excludes recycled content):

- **Primary aluminum (Scopes 1 and 2):** 3.61 tCO₂e/t
- **Primary aluminum (Scopes 1, 2 and 3 – Categories 1, 3 and 4):** 4.57 tCO₂e/t

Alumínio plant - Casting

(scopes 1 and 2 across all stages of the aluminum value chain – Mining, Refinery, Smelting, Casting, and Supporting Areas, including recycled content):

- **Ingots:** 3.12 tCO₂e/t
- **Billets:** 2.63 tCO₂e/t
- **Caster:** 2.87 tCO₂e/t
- **Slabs:** 2.11 tCO₂e/t
- **Rod:** 3.80 tCO₂e/t

Alumínio plant Downstream

(scopes 1 and 2 across all stages of the aluminum value chain –Mining, Refinery, Smelting, Casting, Downstream, and Supporting Areas, including recycled content):

- **Extruded profiles:** 3.80 tCO₂e/t
- **CC sheet:** 3.94 tCO₂e/t
- **DC sheet:** 3.60 tCO₂e/t
- **Medium sheet:** 3.84 tCO₂e/t
- **Foil:** 4.73 tCO₂e/t

Itapissuma rolling mill

(Scope 1 and 2 emissions generally and Scope 3 emissions related to the aluminum¹ value chain, incorporating recycled content²):

- **Sheet and roofing:** 2.76 tCO₂e/t
- **Foil:** 4.02 tCO₂e/t

Metalex

(scopes 1 and 2 emissions generally and scope 3 in the aluminum value chain¹, including recycled content²):

- **Billets:** 2.25 tCO₂e/t

Alux

(scopes 1 and 2 emissions generally and scope 3 in the aluminum value chain¹, including recycled content²):

- **Ingots:** 0.33 tCO₂e/t

* Scope 3 includes only Category 1. Purchased goods and services—specifically aluminum ingots—factoring in emissions from the mining stage onward.
 2. CBA uses the cut-off methodology to account for recycled content, assigning zero carbon emissions to aluminum scrap

Low-emission products

Low-emission products provide a vital solution for tackling global climate challenges. Produced using renewable energy sources and optimized processes, these products significantly lower the carbon footprint of the final output. At CBA, 93.27% of the Company's revenue is generated from products classified as low-emission. This classification applies to products with emissions lower than 4 tCO₂e during the smelting stage, based on market benchmarks and Carbon Trust studies. Furthermore, because CBA produces 100% renewable electricity through its hydropower plants and wind farms, the electricity it sells is also classified as low-carbon.



Pot rooms –
Alumínio plant (SP)

"Thanks to CBA's vertically integrated production chain, we directly manage Scope 1, 2, and 3 emissions through in-house renewable electricity generation. This strategic advantage, combined with best-practice governance, has allowed us to cut emissions intensity for our cast products by 26% since 2019. Our target is to reduce emissions by 40% by 2030."

Leandro Campos de Faria
Chief Sustainability, Safety and
Environment Officer



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

CBA is proud to be the world's first primary aluminum producer to have its climate targets approved by the Science Based Targets initiative (SBTi), which supports companies in setting science-based climate targets aligned with the Paris Agreement. The company also pursues voluntary climate targets as part of its 2030 ESG Roadmap, which include

emission reductions and other initiatives that directly support its climate agenda. As described in the chapter *Sustainability-linked climate targets*, these targets are cascaded to all employees annually and are tracked on a monthly basis.

Performance against targets is communicated through multiple channels:

Public reports:

progress on CBA's 2030 ESG Strategy and SBTi targets is regularly shared through materials like the Company's Annual Report and Climate Agenda Report, providing transparency for external stakeholders.

Internal reports:

monthly tracking of all ESG targets tied to variable compensation is provided through a corporate dashboard, which is accessible to all employees. This system links annual targets to the long-term goals set in the 2030 ESG Strategy

Committee

Meetings: committee meetings provide a platform for in-depth discussions on target progress, challenges, and necessary action plans, ensuring alignment with the Company's strategic priorities.

Click on the icons to explore projects that support CBA's climate targets.



Climate Action Initiative



ReAl



Dry Waste Disposal



Biomass Boiler



Renewable electricity consumption



Energy efficiency



Traceability and reduction of emissions from key inputs



Potline upgrade



Increased use of scrap



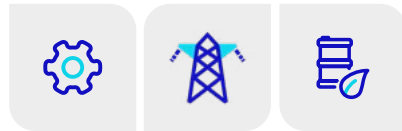
Conservation projects and carbon credits

TARGETS APPROVED BY THE SBTI

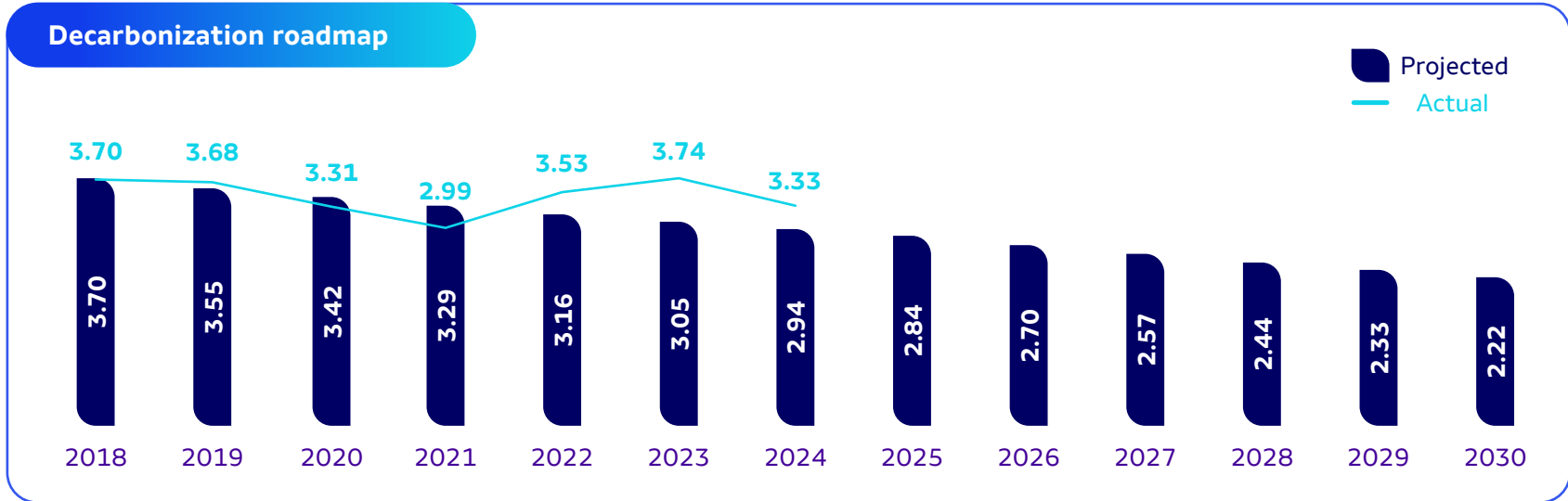
Reduce emissions intensity (scopes 1 and 2) by 40% in aluminum production*

- **Type:** A quantitative intensity target aligned with the Sectoral Decarbonization Approach (SDA) for aluminum
- **Nature:** Gross emissions target
- **Objective:** Mitigation
- **Baseline:** 2018
- **Timeframe:** 2030
- **Metric for tracking progress toward target:** tCO₂e/t molten aluminum
- **Scope:** includes scope 1 and scope 2 Refinery and Smelting emissions
- **Operations:** Alumínio plant (SP)
- **Paris Agreement Scenario:** well below 2 °C

- **Initiatives and projects to meet target:** a biomass boiler project has been completed and the Company sources 100% of its electricity requirement from renewable sources. CBA has ongoing projects to upgrade its Smelters



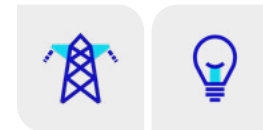
2024 RESULTS:
 3.33 tCO₂e per metric ton of molten aluminum (a 9.9% reduction from the baseline year). Reductions have exceeded expectations in recent years given the instability issues at the Smelter stage. The Company developed a robust action plan for a recovery, and in 2024 a decline in emissions intensity was already visible in monthly figures



* Target assured by a third party based on raw input data and the final metric calculation.

Reduce absolute scope 1 and 2 emissions from other operations by 35%

- **Type:** Absolute quantitative target
- **Nature:** Gross emissions target
- **Objective:** Mitigation
- **Baseline:** 2018
- **Timeframe:** 2030
- **Metric for tracking progress toward target:** tCO₂e
- **Scope:** Includes scope 1 and scope 2 emissions from Mining, Casting and Downstream operations
- **Operations:** Mines (Miraí, Itamarati de Minas and Poços de Caldas - MG), Itapissuma facility (PE), Metalex (SP) and Alumínio plant (SP)
- **Paris Agreement Scenario:** Well below 2 °C
- **Initiatives and projects to meet target:** Improvements in operating performance, energy efficiency and continued use of 100% renewable electricity



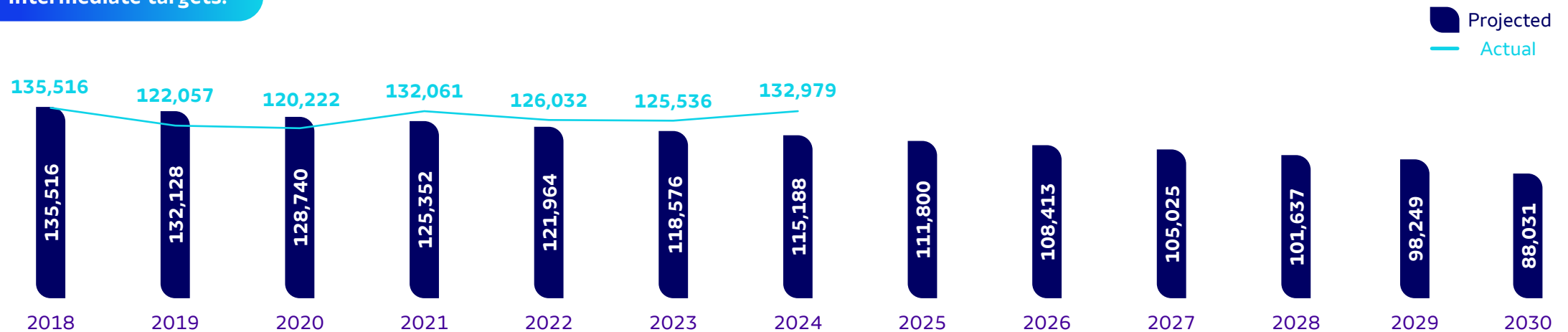
* Target assured by a third party based on raw input data and the final metric calculation.



2024 RESULTS:

2.1% reduction from baseline. This result reflects the increased production volumes in 2024.

Intermediate targets:

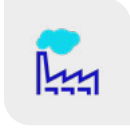


Reduce scope 3 emissions (categories 1, 3, 4 and 9) by 13.5% across all business units*

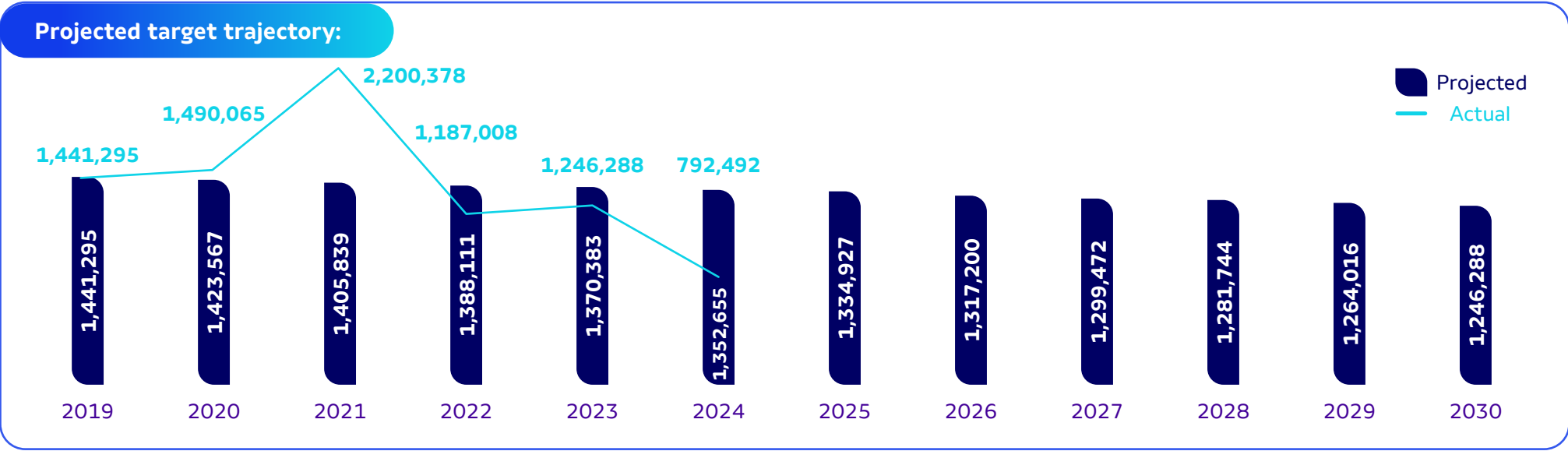
- **Type:** Absolute quantitative target
- **Nature:** Gross emissions target
- **Objective:** Mitigation
- **Baseline:** 2019
- **Timeframe:** 2030
- **Metric for tracking progress toward target:** tCO₂e
- **Operations:** Aluminum Business operations
- **Scope:** Includes scope 3 emissions across category 1 (consumer goods), 3 (fuel- and energy-related activities), 4 (upstream transportation) and 9 (downstream transportation)
- **Paris Agreement Scenario:** 2°C

* Target assured by a third party based on raw input data and the final metric calculation.

- **Initiatives and projects to meet target:** Sourcing inputs, services and logistics from suppliers with a lower carbon footprint and engaging the value chain (suppliers)



2024 RESULTS:
45% reduction from baseline. Performance has been satisfactory and in recent years has exceeded projections. The challenge for CBA is to deliver consistent performance as production volumes grow in the future



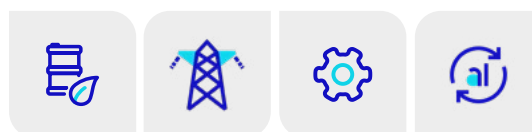
Notes: the SBTi-approved targets cover all greenhouse gases (GHG) reported in the Company's inventory, and no reviews were conducted during the reporting period.

ESG STRATEGY TARGETS

Reduce emissions by 40%* (on average for cast products, cradle-to-gate)

- **Type:** Quantitative intensity target
- **Nature:** Gross emissions target
- **Objective:** Mitigation
- **Baseline:** 2019
- **Timeframe:** 2030
- **Metric for tracking progress toward target:** tCO₂e/t cast products
- **Scope:** includes scope 1 and scope 2 emissions across Mining, Refinery, Smelting, Casting and Supporting operations, as well as category 1 scope 3 emissions (purchased aluminum ingots). Includes recycled content in cast products
- **Operations:** Alumínio (SP), Alux (SP), Metalex (SP) and Mining operations (Mirai, Itamarati de Minas and Poços de Caldas/MG)
- **Initiatives and projects to meet target:** A biomass boiler project has been completed and the Company sources 100% of its

electricity requirement from renewable sources. CBA has ongoing projects to upgrade its Smelters and increase scrap consumption in the production process



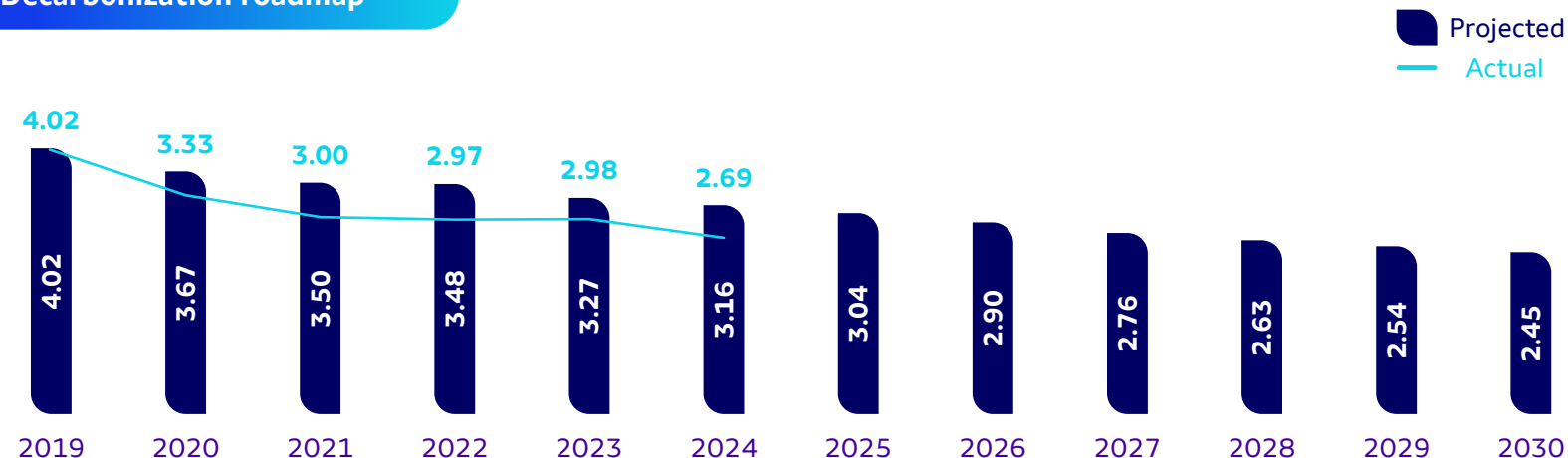
2024 RESULTS:

33% reduction from baseline. Performance has been satisfactory and has exceeded annual projections

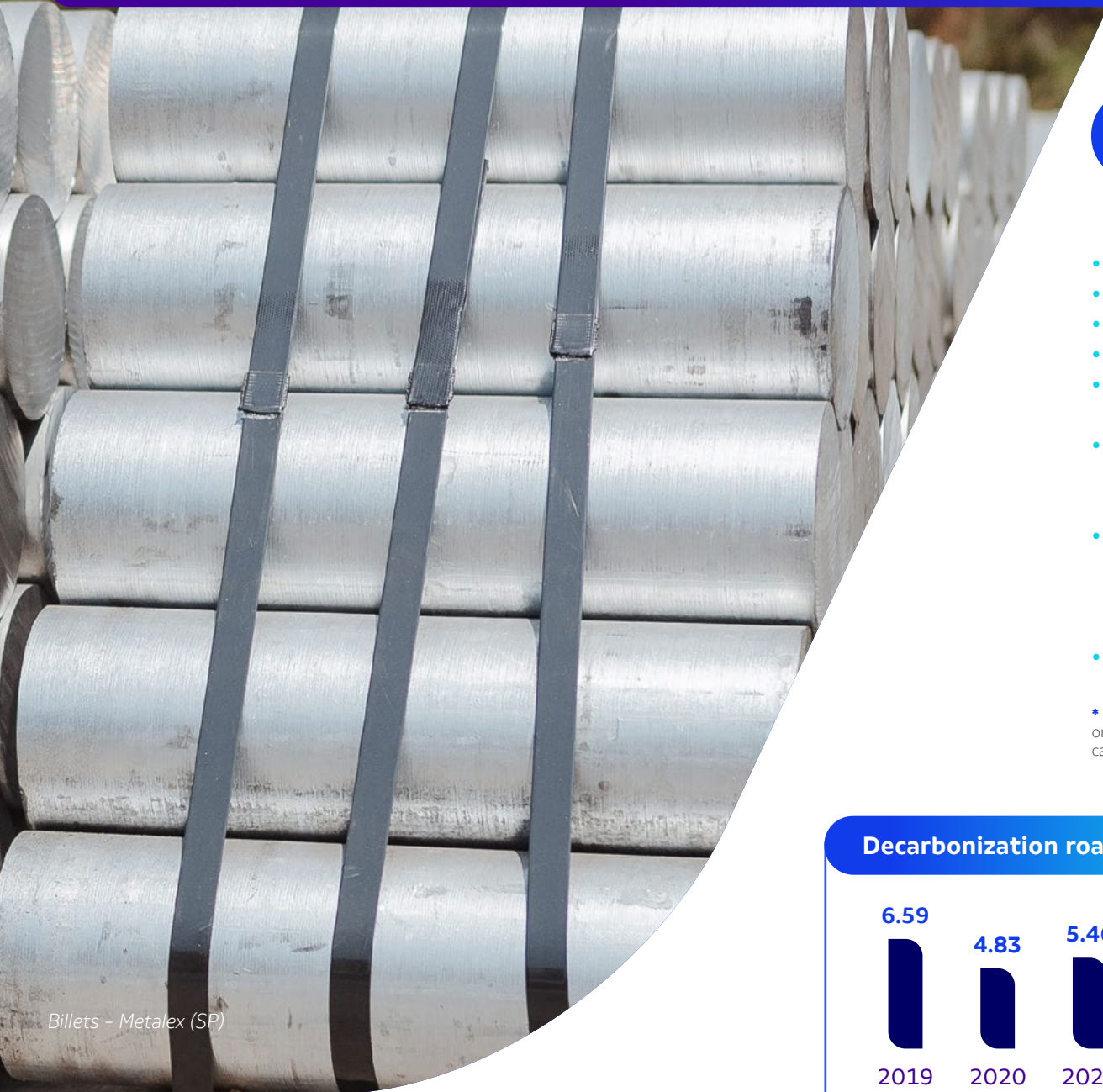


Biomass boiler -
Alumínio plant (SP)

Decarbonization roadmap



* Target assured by a third party based on raw input data and the final metric calculation.



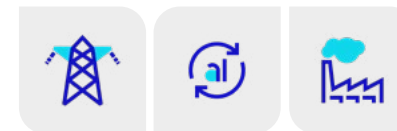
Billets - Metalex (SP)

100% of billets produced at Metalex with greenhouse gas emissions lower than 1.4 tCO₂/t of billets*

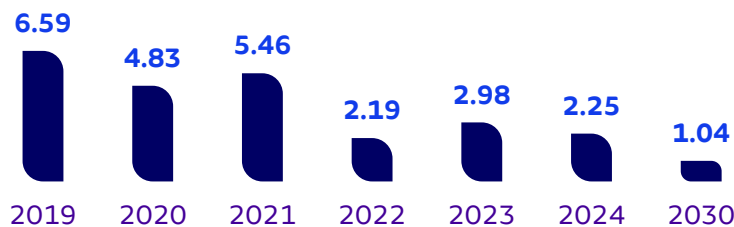
- **Type:** Quantitative intensity target
- **Baseline:** 2019
- **Nature:** Gross emissions target
- **Objective:** Mitigation
- **Timeframe:** 2030
- **Metric for tracking progress toward target:** tCO₂e/t billets
- **Scope:** Includes scope 1, scope 2 and scope 3 emissions (purchased ingots – category 1)
- **Operations:** Metalex (SP)

* Target assured by a third party based on raw input data and the final metric calculation.

- **Initiatives and projects to meet target:** Increased scrap consumption in the production process, installation of a sidewall furnace and scrap treatment line, and continued use of 100% renewable electricity



Decarbonization roadmap



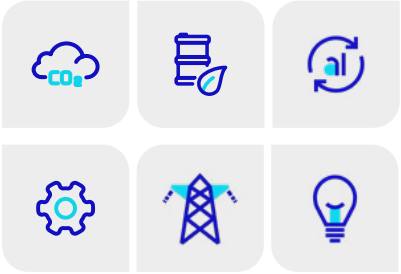
2024 RESULTS:

66% reduction from baseline. Performance has been satisfactory, with a 24.5% year-on-year reduction. This improvement was primarily due to increased consumption of scrap and responsibly sourced, lower carbon-footprint ingots

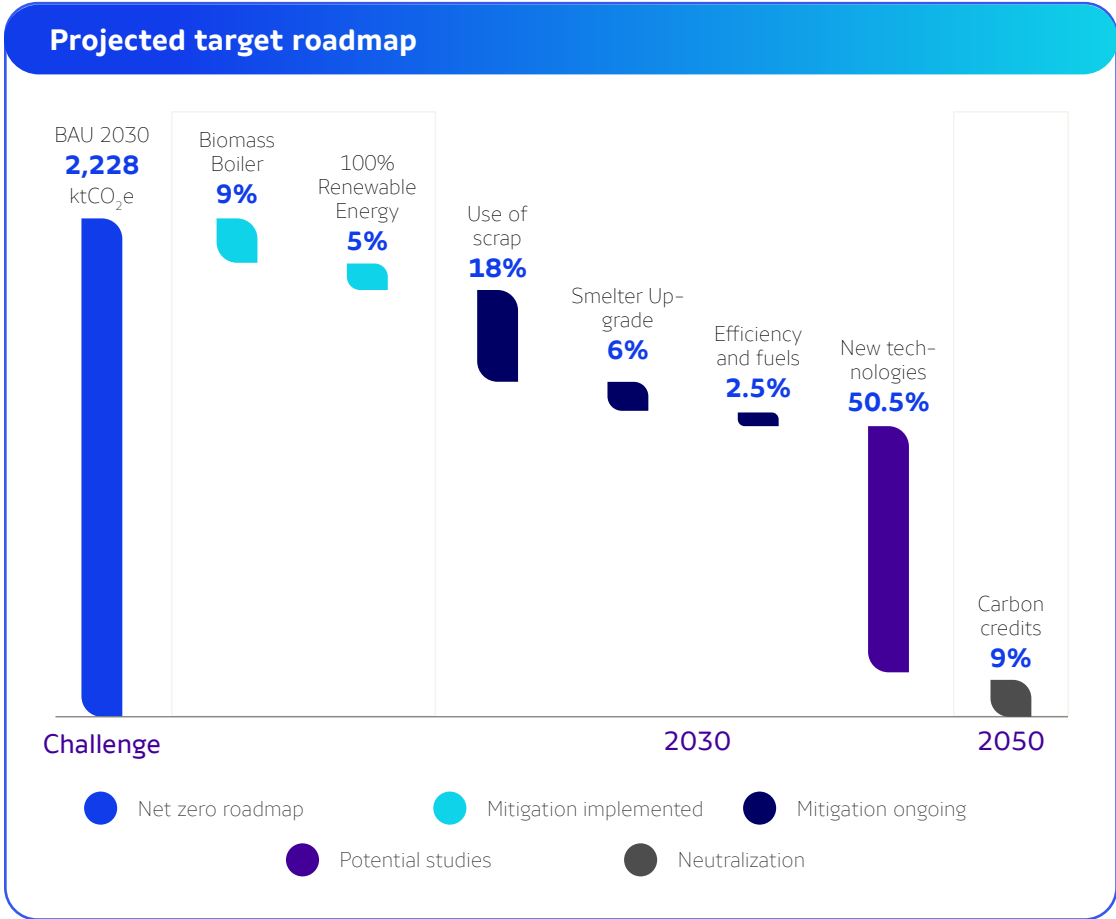
Create a roadmap to becoming emissions neutral by 2050*

- **Type:** Absolute quantitative target
- **Nature:** Net emissions target
- **Objective:** Mitigation
- **Baseline:** 2019
- **Timeframe:** 2050
- **Metric for tracking progress toward target:** ktCO₂e
- **Scope:** Includes scope 1 and 2 emissions
- **Operations:** Aluminum Business operations
- **Initiatives and projects to meet target:** Implement planned mitigation initiatives. This target relies on technological upgrades, some of which are currently being assessed. Other initiatives include offsetting residual emissions (limited to 9% as recommended by the SBTi); the Company has already invested in two projects generating carbon credits (REDD+ project)

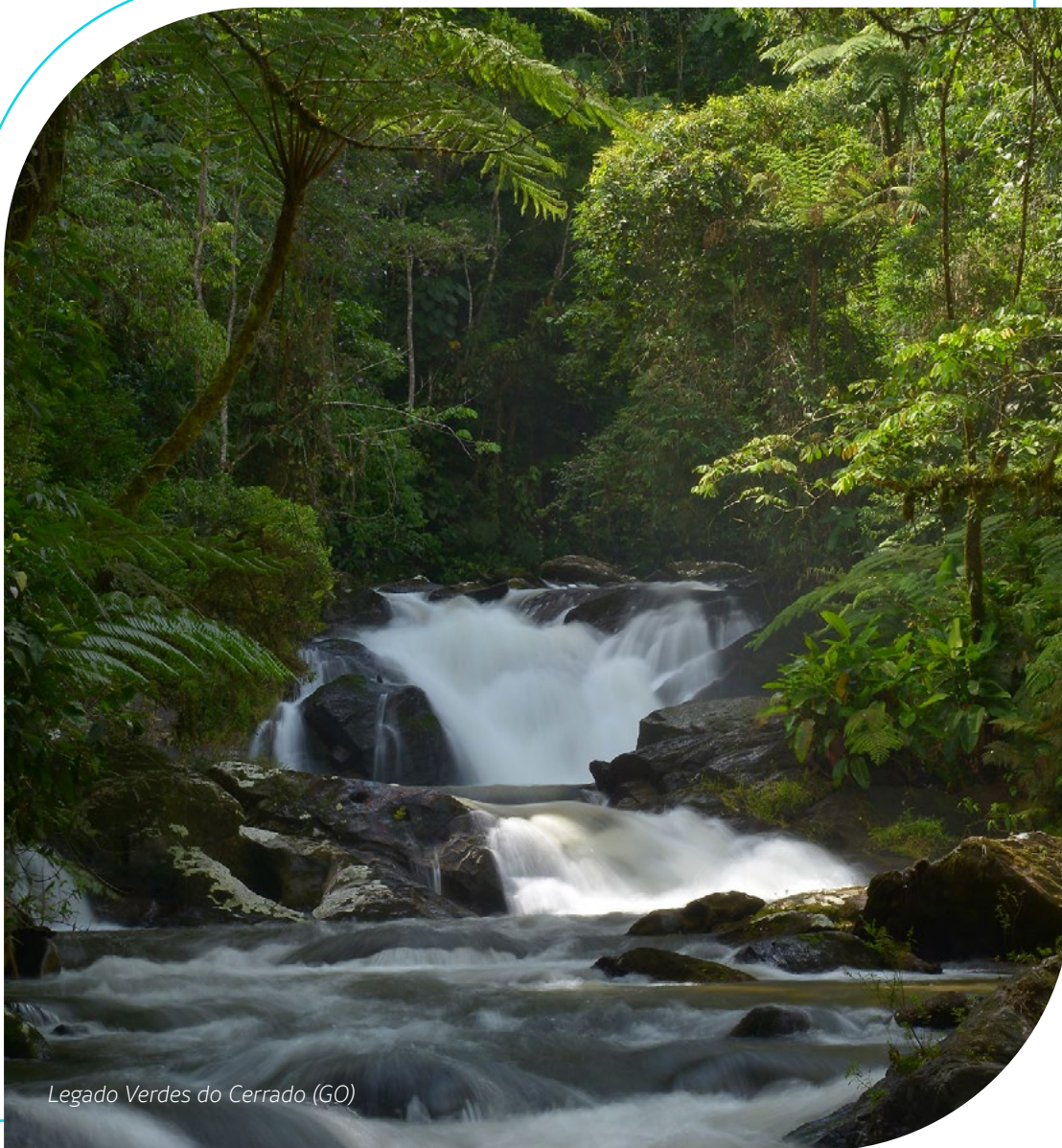
2024 RESULTS:
Performance has met expectations and has been consistent with CAPEX and carbon credit project schedules. The Company has continued to explore new technologies for decarbonizing its operations.



* Target assured by a third party based on raw input data and the final metric calculation.



Notes: CBA does not currently use carbon credits to offset emissions. This target covers all greenhouse gases (GHG) reported in the Company's inventory, and no reviews were conducted during the reporting period. The target was not derived from an industry approach



Legado Verdes do Cerrado (GO)

Offer customers a carbon-neutral product range

- **Type:** Qualitative
- **Objective:** Adaptation
- **Baseline:** 2019
- **Timeframe:** 2030
- **Scope:** CBA products
- **Operations:** Aluminum Business operations
- **Initiatives and projects to meet target:** Reduce the carbon footprint of CBA products and generate carbon credits to offset product-related emissions



2024 RESULTS:

CBA has recently introduced the Alennium label, which customers and brand owners can feature on their products to certify that they are made with low-carbon aluminum. In addition, CBA generates carbon credits (REDD+ *Cerrado*) in collaboration with Reservas Votorantim and has launched the *Reflora* program, which includes a dedicated area of 200 hectares for reforestation

Develop a climate change adaptation plan

- **Type:** Qualitative
- **Objective:** Adaptation
- **Baseline:** 2019
- **Timeframe:** 2030
- **Scope:** Aluminum and Energy businesses
- **Operations:** All
- **Initiatives and projects to meet target:** Identifying and validating climate adaptation initiatives, developing climate projections to support internal decision-making (climate change resilience), and engaging the supply chain in the Company's areas of influence

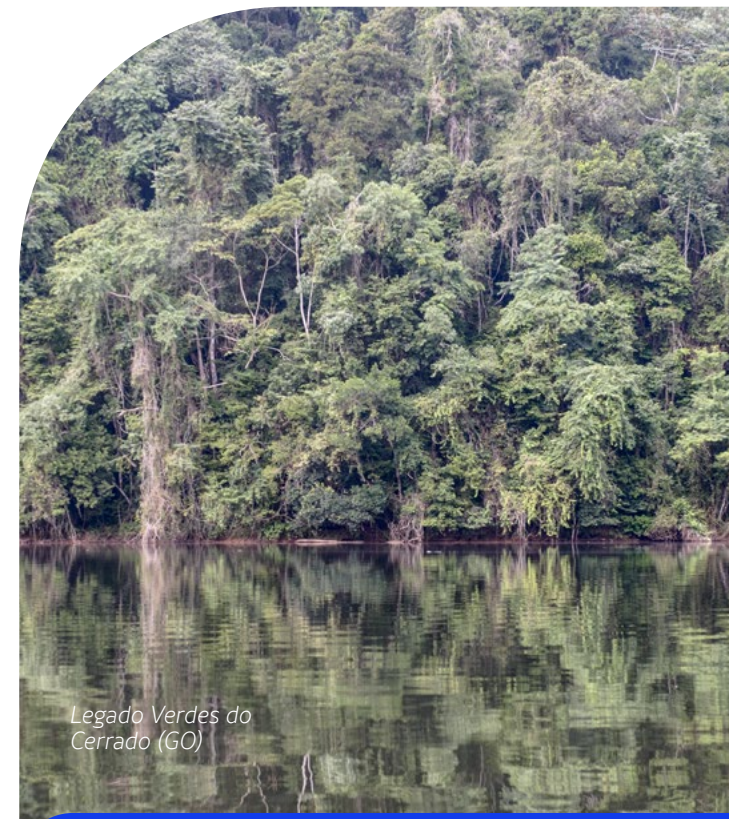


2024 RESULTS:

The Company has already modeled climate scenarios to inform its adaptation plan and, in 2024, incorporated two new evaluation tools. CBA has begun a resilience assessment of its infrastructure and held three internal workshops to identify and map climate adaptation initiatives across its operational sites

Public management support in mitigating and adapting to climate change

- **Type:** Qualitative
- **Objective:** Adaptation
- **Baseline:** 2022
- **Timeframe:** 2030
- **Scope:** Municipalities where the company has operations that have the most significant gaps in climate management capabilities
- **Operations:** All
- **Initiatives and projects to meet target:** create a methodology and tools to support municipal governments in strengthening their institutional capabilities to manage climate risks and build climate resilience, taking account of each municipality's specific needs. Develop methods to assess municipal climate management maturity (for assessments and monitoring) and implement a Public Management Support Program in priority municipalities where the Company operates



Legado Verdes do Cerrado (GO)



2024 RESULTS:

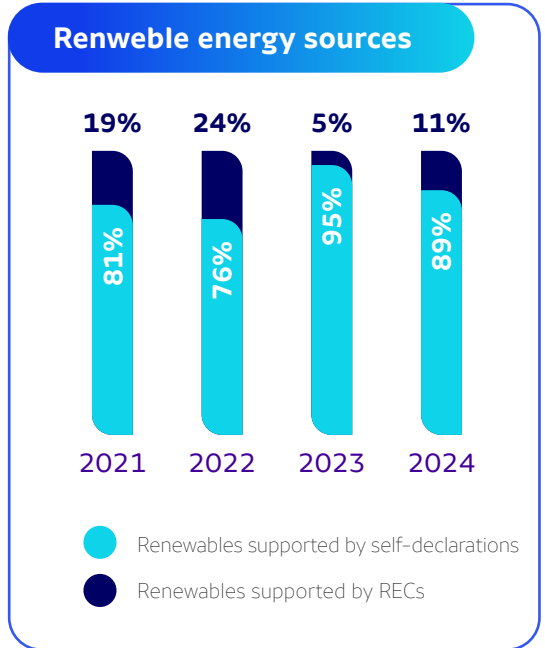
The Company has piloted the AGP Climate Action methodology in the municipalities of Jucitiba (SP) and Muriaé (MG)

Source 100% of plants' power requirement from renewable sources

- **Type:** Absolute quantitative target
- **Objective:** Adaptation
- **Baseline:** 2019
- **Timeframe:** 2030
- **Metric for tracking progress toward target:** Percent renewable energy, either self-declared or supported by Renewable Energy Certificates (REC)
- **Scope:** Aluminum and Energy businesses (includes electricity consumption in all operations)
- **Operations:** All
- **Initiatives and projects to meet target:** Captive power generation capacity with a diversified portfolio, and with RECs purchased where necessary



2024 RESULTS:
The Company has continued to source 100% renewable and traceable electricity since 2021

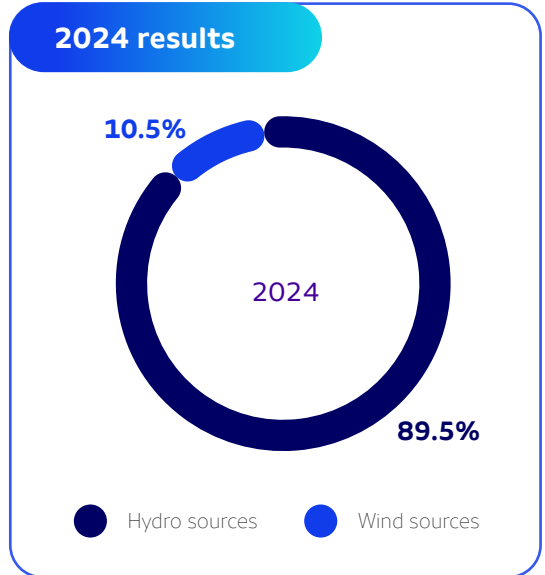


Diversify renewables capacity beyond hydro

- **Type:** Absolute quantitative target
- **Objective:** Adaptation
- **Baseline:** 2022
- **Timeframe:** 2030
- **Metric for tracking progress toward target:** Percentage of renewable sources
- **Scope:** Energy Business
- **Operations:** Power plants
- **Initiatives and projects to meet target:** Acquisition of wind farms and assessments to prospect for alternative sources. New wind farms commissioned in 2023



2024 RESULTS:
The Company's current generation portfolio includes hydropower plants and wind farms, and it is actively exploring opportunities in solar energy



Reduce energy intensity (electric power and fuels)

- **Type:** Absolute quantitative target
- **Objective:** Adaptation
- **Baseline:** 2019
- **Timeframe:** 2030
- **Metric for tracking progress toward target:** GJ/t finished product
- **Operations:** All



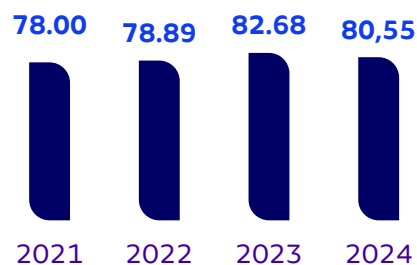
2024 RESULTS:

This metric was affected by a period of instability at the Smelters and has accordingly increased in recent years. In 2024, the Alumínio plant (SP) recorded savings of 447 kW after addressing compressed air leakage and implementing electricity and fuel savings initiatives

- **Scope:** Includes electricity and fuel consumption
- **Initiatives and projects to meet target:** CBA has implemented three energy efficiency projects, including the installation of high-performance compressors at the Alumina Refinery and the replacement of motors and installation of variable frequency drives at the Alumínio Casthouse and Refinery. These initiatives are projected to reduce operational energy consumption by 4 MW. The company has also conducted an assessment to identify compressed air leaks

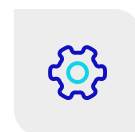


Energy intensity (GJ/t finished product)



Reduce water withdrawals per metric ton of molten aluminum by 20%

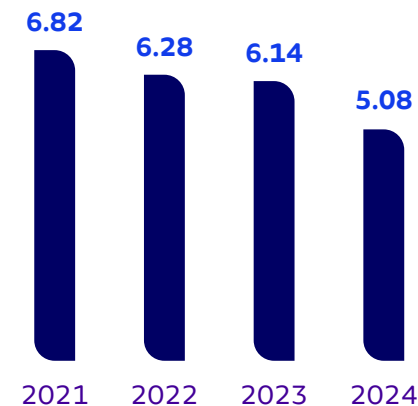
- **Type:** Quantitative intensity target
- **Objective:** Mitigation
- **Baseline:** 2019
- **Timeframe:** 2030
- **Metric for tracking progress toward target:** m³/t molten aluminum
- **Scope:** Includes water withdrawals in the molten aluminum production process
- **Operations:** Alumínio plant (SP)
- **Initiatives and projects to meet target:** Closed-circuit projects, Smelter Upgrade, and water recovery from the Palmital (SP) dam via the Dry Residue Disposal project



2024 RESULTS:

39.2% reduction from a 2019 baseline. Performance has been satisfactory and water withdrawals have been reduced year on year

Water intensity metric (m³/t molten aluminum)



Implement water stewardship initiatives to improve water security in partnership with stakeholders

- **Type:** Qualitative
 - **Objective:** Adaptation
 - **Baseline:** 2022
 - **Timeframe:** 2030
- **Scope:** Aluminum and Energy businesses
- **Operations:** Aluminum and Energy businesses
- **Initiatives and projects to meet target:** Active membership of Watershed Committees where CBA operates hydropower plants; Water Resilience Committee sessions to discuss matters related to water availability, weather forecasts, climate adaptation, land conservation and use around reservoirs under management, water quality monitoring, and the development of a water security index



2024 RESULTS:

The Water Resilience Committee has made significant progress since its inception. CBA's water security index comprises a set of metrics that inform a ranking for reservoir water security, used as a strategic decision support tool

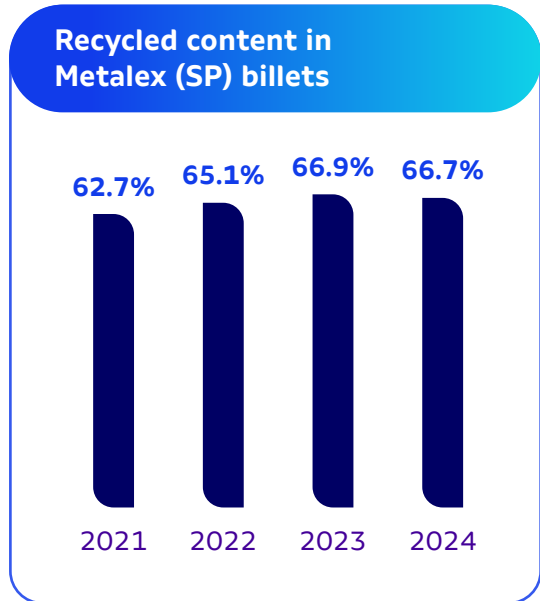
Legado Verdes do Cerrado (GO)

Increase the ratio of aluminum recycled from industrial and end-of-life scrap at Metalex to 80%

- **Type:** Absolute quantitative target
- **Objective:** Adaptation
- **Baseline:** 2019
- **Timeframe:** 2030
- **Metric for tracking progress toward target:** Percentage of water recycled
- **Scope:** Internal and external scrap consumption for billet production
- **Operations:** Metalex (SP)
- **Initiatives and projects to meet target:** Installation of new sidewell furnace and scrap treatment line at Metalex



2024 RESULTS:
The Company has steadily increased its scrap consumption over the past few years, with this year's levels comparable to 2023

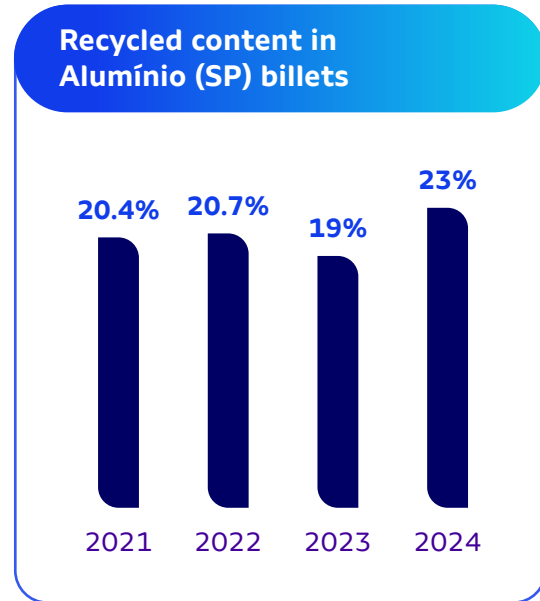


Increase the ratio of aluminum recycled from industrial and end-of-life scrap in billet production at the Alumínio (SP) plant to 50%

- **Type:** Absolute quantitative target
- **Objective:** Adaptation
- **Baseline:** 2019
- **Timeframe:** 2030
- **Metric for tracking progress toward target:** Percentage of water recycled
- **Scope:** Internal and external scrap consumption for billet production
- **Operations:** Alumínio plant (SP)
- **Initiatives and projects to meet target:** New pit for billet production (Pit 6)



2024 RESULTS:
The current recycling rate stands at 23%. In 2024, the Company implemented initiatives to increase scrap consumption and improve efficiency at the plant, enhancing segregation by composition and reducing the use of other raw materials, such as master alloys



Increase the ratio of scrap collected from external sources for recycling

- **Type:** Absolute quantitative target
- **Objective:** Adaptation
- **Baseline:** 2019
- **Timeframe:** 2030
- **Metric for tracking progress toward target:** Metric tons
- **Scope:** External scrap sourced for recycling and production processes
- **Operations:** Alumínio (SP), Metalex (SP), Alux (SP) and Itapissuma (PE)
- **Initiatives and projects to meet target:** Developed capabilities to source scrap from the market, and created a Processing & Recycling Center at Metalex from which materials are distributed to all CBA operations



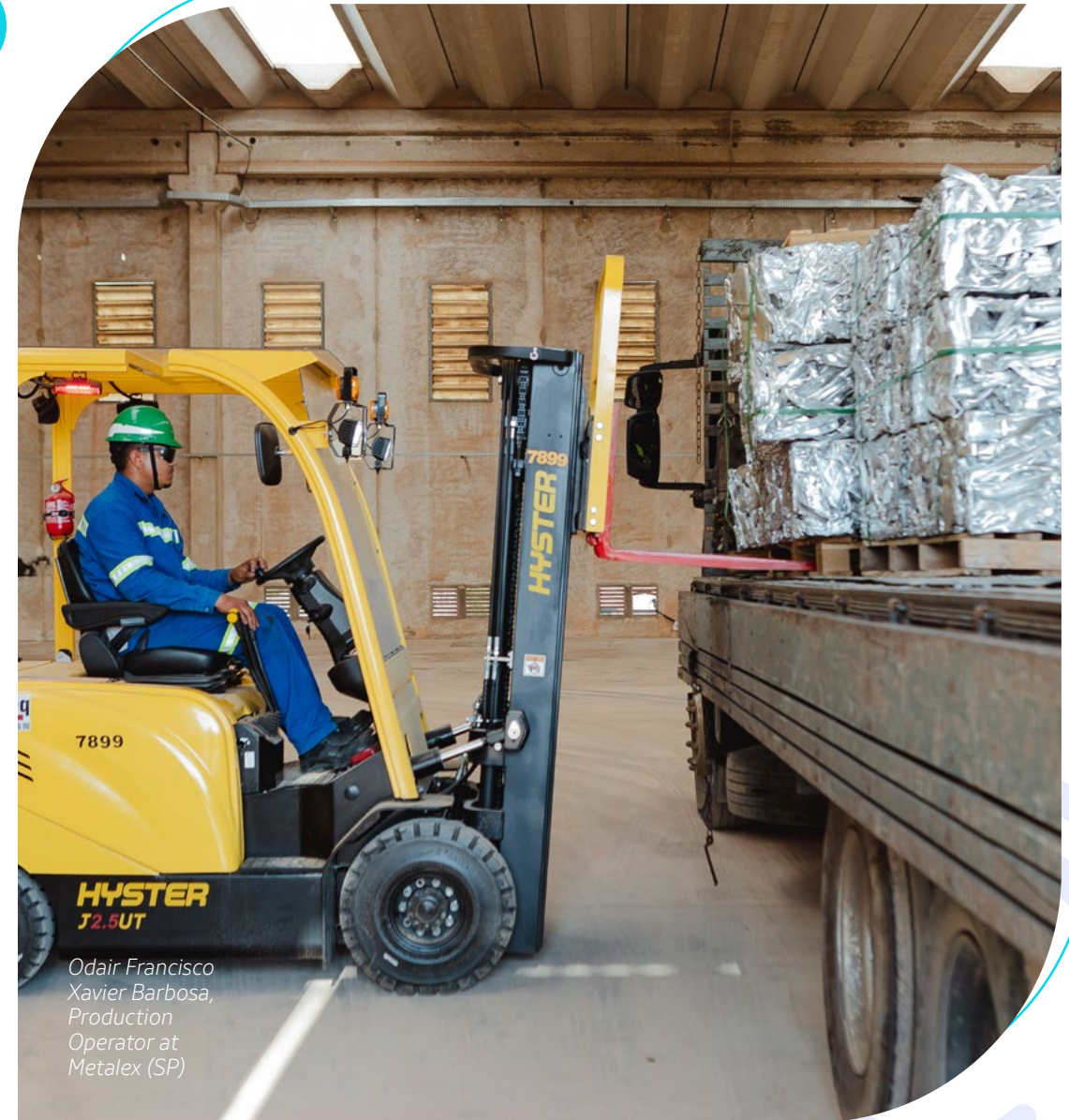
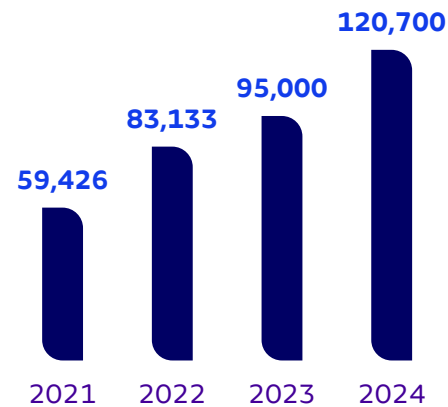
Note There were no revisions to the 2030 ESG Strategy targets linked to the climate agenda during the reporting period.



2024 RESULTS:

Commissioned two Processing and Recycling Centers and fed 120,700 metric tons of external scrap into CBA's production processes

Volume of externally sourced scrap (in metric tons)



Odair Francisco Xavier Barbosa, Production Operator at Metalex (SP)

TCFD Content Index

TCFD disclosure

External references

Chapter reference

Sub-chapter reference

Governance: Disclose the organization’s governance around climate-related risks and opportunities.

a. Describe the board’s oversight of climate-related risks and opportunities.	2024 CDP Climate-Change disclosure: 4.1	Governance	Chapter introduction
			Committees responsible for oversight of the climate agenda
b. Describe management’s role in assessing and managing climate-related risks and opportunities.	2024 CDP Climate-Change disclosure: 4.3	Governance	Chapter introduction
			Executive Board’s role in the climate agenda
			Committees responsible for oversight of the climate agenda

Strategy: Describe the impact of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning.

a. Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	2024 CDP Climate-Change disclosure: 3.1, 3.6,	Risk management	Risk classification
			Risk details
			Climate risk mapping
b. Describe the impact of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning.	2024 CDP Climate-Change disclosure: 2.1, 5.2, 5.3	Strategy	Climate-related funding
			Access to Capital
			Climate Scenarios
c. Describe the resilience of the organization’s strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	2024 CDP Climate-Change disclosure: 5.1	Strategy	Climate-related levers and programs within the 2030 ESG Roadmap
			Carbon Border Adjustment Mechanism (CBAM)
			Risk details

TCFD disclosure	External references	Chapter reference	Sub-chapter reference
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Risk Management: Disclose how the organization identifies, assesses, and manages climate-related risks.

a. Describe the organization's processes for identifying and assessing climate-related risks.	2024 CDP Climate-Change disclosure: 2.2	Risk management	Chapter introduction
			Risk management stages
			Factors considered
b. Describe the organization's processes for managing climate-related risks.	2024 CDP Climate-Change disclosure: 2.2	Risk management	Responsibilities
			Risk map
c. Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	2024 CDP Climate-Change disclosure: 2.2	Risk management	Risk management stages

Metrics and Targets: Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

a. Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	2024 CDP Climate-Change disclosure: 7.30, 7.52	Governance	Shared responsibility
		Strategy	Carbon pricing
		Risk management	Physical risks Transition risks
b. Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	2024 CDP Climate-Change disclosure: 7.6, 7.7, 7.8	Metrics	Chapter introduction
			GHG emission intensity
			Emissions by product
c. Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	2024 CDP Climate-Change disclosure: 7.53, 7.54	Targets	Targets approved by the SBTi
			ESG Roadmap targets

Appendices

Verification Statement – Bureau Veritas

Verification Statement No 008/2025

This Verification Statement documents that **BVQI DO BRASIL SOCIEDADE CERTIFICADORA LTDA** performed verification activities in accordance with the Verification Specifications of the Brazilian GHG Protocol Program and ABNT NBR ISO 14064-3:2019 standard.

Inventorying Organization:	Companhia Brasileira de Alumínio
VAT No / CNPJ:	61.409.892/0001-73
Address:	Rua Eng. Luis Carlos Berrini, 105, 14º andar - 347 – Cidade Monções – São Paulo - SP - 04571-900, Brasil
Responsible:	Raquel Martins Montagnoli
Email:	raquel.montagnoli@cba.com.br

The Greenhouse Gas (GHG) emissions reported by the Reporting Organization in its emissions inventory, from January 1st to December 31st of 2024, are verifiable and comply with the requirements of the Brazilian GHG Protocol Program, detailed in the Brazilian GHG Protocol Program Specifications for Accounting, Quantification, and Publication of Corporate Greenhouse Gas Emissions Inventories (EPB).

CONFIDENCE LEVEL

The Verification Body (VB) has assigned the following level of confidence to the verification process:

<input checked="" type="checkbox"/>	Verification with confidence level Reasonable
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“The greenhouse gas inventory of the reporting organization for the year 2024 is materially correct, represents a fair representation of GHG data and information, and has been prepared in accordance with the Specifications of the Brazilian GHG Protocol Program.”

SCOPE OF VERIFICATION

The inventory for the year 2024 of the reporting organization was verified within the following scope:

Organizational Boundaries	Operational Boundaries
<input checked="" type="checkbox"/> Operational control	<input checked="" type="checkbox"/> Scope 1
<input type="checkbox"/> Equity share	<input checked="" type="checkbox"/> Scope 2 – location-based approach
	<input checked="" type="checkbox"/> Scope 2 – market-based approach
	<input checked="" type="checkbox"/> Scope 3
<input type="checkbox"/> Excluded from verification: n/a	

FACILITIES VISITED

Facility	Relationship with the Holding	Address	Dates of visit
Fabric Aluminium – SP	Fabric	Street Moraes do Rêgo, 347 – Vila Industrial, Alumínio – SP, 18125-000. Brazil. (visit in loco)	02/19/2025
Corporate	Corporate	Street. Moraes do Rêgo, 347 – Vila Industrial, Alumínio – SP, 18125-000. Brazil -remotely through Information and Communication Technology – ICT	02/17/2025 02/19/2025 02/20/2025 02/24/2025 02/25/2025 02/26/2025 02/27/2025 02/28/2025

TOTAL GREENHOUSE GAS EMISSIONS VERIFIED ACROSS THE ORGANIZATION - OPERATIONAL CONTROL APPROACH

GHG emissions in tons of CO₂ equivalent (tCO₂e)

GHG	Scope 1	Scope 2 Location-based approach	Scope 2 Market-based approach	Scope 3 (if applicable)
CO ₂	967,319.523	361,668.606	-	973,429.021
CH ₄	208.317	3,246.432	3,246.432	162.129
N ₂ O	469.604	4,096.635	4,096.635	997.997
HFCs	5,241.316	-	-	-
PFCs	366,906.736	-	-	-
SF ₆	1,762.500	-	-	-
NF ₃	-	-	-	-
TOTAL	1,341,907.997	369,011.673	7,343.067	974,589.148
Biogenic CO₂	2,900.085	432,212.408	432,212.408	9,516.318

TOTAL VERIFIED REMOVALS ACROSS THE ORGANIZATION - OPERATIONAL CONTROL APPROACH

Biogenic CO₂ removal (tCO₂e)

GHG	Scope 1	Scope 2 Location-based approach	Scope 2 Market-based approach	Scope 3 (if applicable)
Biogenic CO ₂	115.822	-	-	-

OTHER GREENHOUSE GASES NOT COVERED BY THE KYOTO PROTOCOL

GHG

Emissions tCO₂e

-

-

EMISSION INTENSITY INDICATORS BY PRODUCTION AREA (SCOPES 1 AND 2)

Productions Area

Indicator

Tons (t) of CO₂e per ton of production unit

Mining	0.008	tCO ₂ e / t bauxite
Refinery	0.21	tCO ₂ e / t oxide
Pot room	2.87	tCO ₂ e / t liquid aluminium
Casthouse	0.13	tCO ₂ e / t cast aluminium
Downstream	0.12	tCO ₂ e / t downstream aluminium
Alux	0.25	tCO ₂ e / t ingot
Metalex	0.31	tCO ₂ e / t billet
Itapissuma	0.95	tCO ₂ e / t downstream aluminium

EMISSION INTENSITY INDICATORS BY PRODUCTION: FABRIC PRIMARY ALUMINIUM

Productions Area- Product	Indicator	Tons (t) of CO ₂ e per ton of production unit
primary aluminium (scopes 1 and 2) *:	3.61	tCO ₂ e/ t primary aluminium
Primary aluminium (scopes 1, 2 and 3)	4.57	tCO ₂ e / t primary aluminium

Note:

* Considering scope 1 and 2 emissions from the CBA aluminum chain (mining, refining, electrolysis and smelting).

** Considering scope 1 and 2 emissions from the CBA aluminum chain (mining, refining, electrolysis and smelting) and scope 3 emissions (category 1 – purchase of consumer goods, category 3 – Activities related to fuel and energy not included in Scopes 1 and 2, and category 4 – upstream transportation).

EMISSION INTENSITY INDICATORS BY PRODUCTION: ALUMINIUM FOUNDRY

Productions Area / Product	Indicator	Tons (t) of CO ₂ e per ton of production unit
Casting/Ingot	3.12	tCO ₂ e/ t ingot
Casting/Billet	2.63	tCO ₂ e / t billet
Casting/Caster	2.87	tCO ₂ e / t caster
Casting/Plate	2.11	tCO ₂ e / t plate
Casting/Rod	3.80	tCO ₂ e / t rod

Note: Considering all the aluminum chain (Mining, Refinery, Furnace Rooms, Foundry and Support Areas).

EMISSION INTENSITY INDICATORS BY PRODUCTION: PLASTIC TRANSFORMATION

Productions Area / Product	Indicator	Tons (t) of CO ₂ e per ton of production unit
Downstream/Extruded Product	3.80	tCO ₂ e / t extruded
Downstream/CC Foil Metal	3.94	tCO ₂ e / t foil (CC)
Downstream/DC Foil Metal	3.60	tCO ₂ e / t foil (DC)
Downstream/Medium Foil	3.84	tCO ₂ e / t medium foil
Downstream/Sheet	4.73	tCO ₂ e / t sheet

Note: considering all stages of the aluminum chain (Mining, Refinery, Furnace Rooms, Foundry, Transformation and Support Areas)

EMISSION INTENSITY INDICATORS BY PRODUCT METALEX

Productions Area / Product	Indicator	Tons (t) of CO ₂ e per ton of production unit
Metalex / Billet	2.25	tCO ₂ e / t billet

Note: Considering full scope 1 and 2 emissions, and partial scope 3 related to the aluminum chain / Category 1 - Purchase of goods and consumption: Purchase of aluminum ingot.

EMISSION INTENSITY INDICATORS BY PRODUCT ALUX

Productions Area / Product	Indicator	Tons (t) of CO ₂ e per ton of production unit
Alux / Ingot	0.33	t CO ₂ e/ t ingot

Note: Considering full scope 1 and 2 emissions, and partial scope 3 related to the aluminum chain / Category 1 - Purchase of goods and consumption: Purchase of aluminum ingot.

EMISSION INTENSITY INDICATORS BY PRODUCT ITAPISSUMA

Productions Area / Product	Indicator	Tons (t) of CO ₂ e per ton of production unit
Itapissuma / Foil	2.76	tCO ₂ e / t foil
Itapissuma / Sheet	4.02	tCO ₂ e / t sheet

Note: Considering full scope 1 and 2 emissions, and partial scope 3 emissions related to the aluminum chain / Category 1 - Purchase of goods and consumption: Purchase of aluminum ingot.

CONFLICT OF INTEREST (COI)

I, **Rafael da Silva Caldeira**, certify that there is no conflict of interest between the Reporting Organization and **BVQI DO BRASIL SOCIEDADE CERTIFICADORA LTDA**, or any of the individuals in the verification team involved in the inventory verification, as defined in Chapter 3.2.1 of the *Brazilian GHG Protocol Verification Specifications*.

Rafael da Silva Caldeira, Lead Verifier

Date: 03/11/2025

CONCLUSION

As responsible for the verification activities of the greenhouse gas inventory of the reporting organization, we attest that the information contained in this document is true.

Rafael da Silva Caldeira, Lead Verifier

Date: 03/11/2025

Mariana de Oliveira Klein, Revisor Independente

Date: 03/18/2025

REVISION (IF APPLICABLE)

Version:	00
Date:	03/19/2025
Justification:	Issue

Camila Pavão Chabar

Executive Sustainability Manager

Local Office: Rua Piauí, 435, Santa Paula,
São Caetano do Sul, SP, 09541-150, Brazil



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Camila Abel Correia da Silva

REPORT COORDINATION

Sustainability

Vivian Martins de Souza

CBA TEAMS

Sustainability

Raquel Martins Montagnoli

Ligia de Lima Carvalho

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Communication

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EXTERNAL CONTRIBUTIONS

TCFD consulting, writing and graphic design
Grupo Report

Photos

Panóptica Multimídia, Lacerda Estúdio, Andrei Pires (*Legado das Águas* photos), Luciano Candisani (*Legado Verdes do Cerrado* photos) and CBA Archive

Independent assurance of the GHG inventory and emissions disclosures

Bureau Veritas

Translation (other than Verification Statement)

LATAM – Latin American Translations – Ivan van Rheenen

Revision

Catalisando Conteúdo