



Additional Disclosures Supplement to the 2021 Annual Report

Damarees Prado da
Conceição, logistics
analyst, Corporate
Office (SP)





Willian Costa Correia
Leite, production
operator, Metalex (SP)

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to sustainability.....9
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Report overview

GRI 102-40, 102-42

MATERIALITY ASSESSMENT

Our materiality assessment process at CBA began with a multi-stakeholder survey of representatives from different business areas, with stakeholder categories prioritized based on dependence and influence. The following stakeholder engagement methods were used:

- * **Interviews** with key leadership at CBA.
- * An **internal panel** with the ESG Strategy Working Group.
- * **26 telephone or videoconference interviews**, with representatives from Academia, NGOs, Cooperatives, Customers, Experts, Suppliers, Financial Institutions, Investors, Community Leaders and Government.
- * **2 on-line surveys**, covering all of CBA's operations and all external stakeholder groups.

Daniele de
Oliveira Pedrosa,
communications
analyst, Mine
Operations

[Click here](#)

[to learn more](#)



GRI 102-44, 102-47
THE MATERIAL TOPICS IDENTIFIED IN THE SURVEY ARE DESCRIBED BELOW:

Material topic	Topic description	Related SDG	Related ESG pillar
Ethics and compliance	Ethical conduct and business practices. Anti-bribery and corruption. Policies on business integrity and compliance and anti-bribery provisions in procurement contracts.	16	Governance
Diversity and inclusion of minorities	Inclusion of women in leadership positions. Gender equality. Diversity in the Board of Directors. Nondiscrimination and inclusion of minorities (ethnicity, LGBTQIA+, indigenous peoples, people with disabilities, 50+, refugees, etc.).	4, 5, 8, 9, 10	Social
Employee health, safety and wellness	Employee and contractor safety. Preventing injuries/fatalities. Safe behavior. Occupational health. Mental health. Promoting employee wellness.	3, 8	
Local development and impacts on surrounding communities	Economic impact on the regions where we operate. Economic development, job and income opportunities, and taxes. Social investment and volunteering. Public management support.	4, 8, 10	
Waste management	Strategies and technologies to minimize waste and increase recoveries and reuse. Reducing and mitigating negative impacts from waste disposal.	12	Environmental
Climate change	Managing direct and indirect greenhouse gas (GHG) emissions. Commitment to decarbonization. Climate change risks. Adapting to climate change.	13	
Efficient and renewable energy	Energy savings and efficiency. A commitment to using renewable energy and biofuels.	7	
Dam safety management	Safety of surrounding communities. Reducing disposal and increasing the useful life of dams. Environmental monitoring. Dam monitoring and control and material handling.	1	
Water stewardship	Mapping water-stressed areas. Strategies for water management, recovery, reducing consumption, reuse and minimizing water intensity. Strategies for water security and to prevent contamination of water resources in the region, protecting the health of surrounding communities.	1, 6	
Protection of biodiversity	Actions to reduce negative impacts and enhance positive impacts on biodiversity. Biodiversity conservation practices. Research and development to leverage the potential of Brazilian biodiversity.	6, 15	
Materials efficiency and aluminum recycling	Resource efficiency. Using inputs/raw materials with less environmental impact. A circular aluminum value chain and using recycled materials.	8, 9, 12	Cross-cutting topic
Innovation and technology	Strategies and capabilities to rapidly create value from emerging technologies. Process automation across the value chain. Technological disruption. Leveraging advanced analytics to increase resilience and efficiency in remote operations. Data science-driven optimization.	8, 9	

GRI 102-46
SASB VS. CBA MATERIAL TOPICS

In general, all SASB disclosures are covered by the materiality matrix developed by CBA in accordance with the GRI Standards, although their descriptions may vary. It is important to note, however, that some specific SASB disclosures may not be covered by the GRI Standards



GRI 102-46
MATERIAL TOPIC IMPACTS

Material topics	Source of impact	Extent of impacts
Local development and impacts on surrounding communities	Within	Within CBA, related to local development
Climate change	Within and outside	Within CBA and in our value chain
Waste management	Within and outside	Within CBA and at suppliers, customers and consumers
Efficient and renewable energy	Within and outside	Within CBA and at suppliers and electricity providers
Innovation and technology	Within and outside	Within CBA and at business partners
Dam safety management	Within	Within CBA
Employee health, safety and wellness	Within and outside	Within CBA and at suppliers
Protection of biodiversity	Within and outside	Within CBA and at suppliers
Water stewardship	Within and outside	Within CBA and at suppliers
Diversity and inclusion of minorities	Within and outside	Within CBA and other stakeholders (e.g. suppliers, customers, etc.)
Materials efficiency and aluminum recycling	Within and outside	Within CBA and at other links in the value chain: suppliers, customers and consumers
Ethics and compliance	Within and outside	Within CBA and other stakeholders (e.g. government, customers, etc.)

CBA, from mine to end product



A bauxite yard
at the Alumínio
plant (SP)

CBA-1 INVESTMENT IN TECHNOLOGY AND INNOVATION

	2019	2020	2021	Unit of measure
Investment in co-creation with customers	3,248,288	3,590,369	4,249,471	R\$
Percentage of co-created products out of total Downstream Business revenue	14.80%	9.39%	9.8%	% of revenue

Note: the scope of this disclosure includes the Downstream Business only, i.e. our Alumínio and Itapissuma operations.

CBA has 84 projects in progress, including 22 that are generating revenues; of these, 30 are push-based and 54 are pull-based innovation projects. Although these rates are higher than the market average, there are opportunities to enhance impact from new projects on business results. The projects and research areas included in the scope of innovation include co-creation projects, development of aluminum applications and development of new markets, involving both disruptive and incremental innovation. The scope of innovation also includes product optimization initiatives to minimize emissions and improve energy efficiency; applications with higher aluminum content (e.g. in the general automotive, packaging, renewable energy, structural components, electric heavy vehicles and agriculture sectors); multilayer packaging recycling, and new business models for the building & construction industry.

GRI 102-1, 102-2, 102-6, 102-14
HIGHER PRODUCTION OF BAUXITE

Growing aluminum demand in 2021 led to higher aluminum production rates and, consequently, higher mining output. Bauxite production in Zona da Mata, in the municipality of Miraí, Minas Gerais, rose from 483,000 metric tons to 543,000 metric tons per year.

ITAPISSUMA INTEGRATION

After its acquisition by CBA in 2020, integration of the Itapissuma rolling mill in Pernambuco, northeastern Brazil, progressed into 2021. The integration has been successful in its effort to disseminate best practices and CBA's culture across the organization, improving operational process controls, efficiency, a sense of ownership and teamwork.

Throughout the year, our Process function was centralized into a single organization for both the Itapissuma and the Alumínio sites. In addition, 22 cross-site synergy initiatives were carried out in the year, including consolidation of the wood packaging contract, which introduced innovative and more competitive business concepts. In terms of performance and quality, the number of customer complaints decreased and the Itapissuma site obtained certification against the ASI Chain of Custody standard during the year.

GRI 102-3
LOCATION OF THE ORGANIZATION'S HEADQUARTERS

Avenida Engenheiro Luís Carlos Berrini, n.º 105, 14º andar, parte, conjunto 141 – Cidade Monções – CEP 04571-900, São Paulo (SP) – Brazil

GRI 102-35, 102-36
REMUNERATION POLICIES

CBA's remuneration policy is available at the [Investor Relation site](#).

GRI 102-48
RESTATEMENTS OF PRIOR-YEAR INFORMATION

Any identified restatements in relation to the 2020 report are described in the relevant topic.

GRI 102-51
DATE OF MOST RECENT REPORT
[2020 CBA Annual Report](#).

GRI 102-55
[GRI CONTENT INDEX](#).

GRI 102-56
EXTERNAL ASSURANCE

External assurance has been provided by an independent consultancy that meets CBA's supplier requirements. It is essential that the CBA Board of Directors and Executive Board ensure our reporting is transparent and traceable. External assurance is therefore important in that it lends credibility to the reporting process.

A mine in
Poços de
Caldas (MG)



A comprehensive commitment to sustainability

GRI 102-13 MEMBERSHIP OF ASSOCIATIONS

CBA is an active member of a wide range of trade associations:

- Brazilian Aluminum Association (ABAL)
- International Aluminium Institute (IAI)
- Aluminum Stewardship Initiative (ASI)
- Poços de Caldas Association of Mining Companies (ASMPC)
- Serra do Brigadeiro State Park Advisory Board
- Committee on Tributaries of the Pomba and Muriaé in Minas Gerais (COMPE)
- Committee for Integration of the Paraíba do Sul River Basin
- Brazilian Association for Business Communications
- Brazilian Packaging Association
- Brazilian Association of Aluminum Window and Door Manufacturers
- Brazilian Association for Photovoltaic Solar Power
- Brazilian Association of Truck Equipment Manufacturers
- Global Aluminium Foil Roller Initiative (ALUFOIL)

- Mining Industry Association of Goiás and the Federal District (SIEEG-DF)
- Mining Industry Association of Minas Gerais (SINDIEXTRA)
- American Chamber of Commerce (AmCham)

In addition, CBA executives regularly attend (virtual) international events in the aluminum market, such as LME Week, CRU World Aluminum, and the Wood Mackenzie LME Forum.

CBA believes that proactive and voluntary participation in these forums is important to assess, influence, implement and monitor policies, regulations, self-regulations and public policies applicable to the business.

CBA makes public its position on policy matters through the Brazilian Business Council for Sustainable

Development (CEBDS), such as in its [Letter in Support of Net Zero](#), in April 2021, and its [Business Statement on Climate](#), in August 2021.

CBA is also a member of the São Paulo State environmental regulator's (CETESB) Technical Chamber on Energy and Climate Change and of the Working Group on Tools, both linked to the São Paulo Agreement, where we support the development of documents and policies. For example, CBA collaborated in the development of Technical Standard 01 – Quantifying and Reporting Greenhouse Gas Emissions, issued April 2021. At COP 26, CETESB launched a [book of case studies](#) on addressing the climate agenda, one featuring CBA. For the PMR Brazil project, CBA answered several questionnaires on its position on carbon pricing in Brazil, and delivered a presentation on the topic to the ABAL sustainability working group in 2020.

CBA- 5 SUSTAINABILITY GAINS FROM CBA'S COMPETITIVENESS MANAGEMENT INITIATIVES

Sustainability gains			2021
Type of gain	Annualized gain from long-term initiatives	Unit of measure	
Greenhouse gas emissions avoided	109,000	tons	
Reduction of non-hazardous waste produced	557	tons	
Reuse of water from the Palmital dam in Alumina production	35,316	m³	
Electric power savings	2,527	MWh	
Reduced consumption of inputs (fluoride, caustic soda, flocculant, etc.)	944	tons	
Reduced consumption of rolling oil	26,988	liters	

Governance is essential

Beatriz Camargo Salles, junior management systems analyst, and Alexandre Esperandio Fidencio, senior production technician, at the Alumínio plant (SP)



GRI 102-18, 102-22, 102-23
COMPOSITION OF GOVERNANCE BODIES

Executive Board – 2021

Position	Name	Time in position	Holding position to	Gender	Age	Nationality
CEO	Ricardo Rodrigues de Carvalho	5/4/2015	2/28/2023	Male	64	Brazilian
CFO and Investor Relations Officer	Luciano Francisco Alves	9/1/2017 (CFO) and 5/14/2021 (Investor Relations Officer)	2/28/2023	Male	45	Brazilian
Primary Products VP	Alexandre Vianna da Silva	12/18/2020	2/28/2023	Male	57	Brazilian
Human & Organizational Development, Health & Safety, Environment and Sustainability VP	Andressa Rissato Brolacci Lamana	2/24/2021	2/28/2023	Female	46	Brazilian
Downstream Products VP	Fernando Varella Guimarães	3/31/2016	2/28/2023	Male	53	Brazilian
Legal, Governance and Compliance VP	Renato Maia Lopes	2/24/2021	2/28/2023	Male	46	Brazilian
Supply Chain and Procurement VP	Roseli Maria de Souza Milagres	9/21/2018	2/28/2023	Female	50	Brazilian

Board of Directors

Name	Number of other roles and duties	Term (years)	Gender	Age	Nationality	Independent (yes or no)	Executive or non-executive position	Board-specific position
Luis Ermirio de Moraes	4 Member of CBA's Remuneration & People Committee, the Board of Directors of Hejoassu S.A., the Board of Directors of Votorantim S.A., and the Board of Directors of Nexa Resources S.A.	2	Male	61	Brazilian	No	No	Chairman of the Board of Directors
Eduardo Borges de Andrade Filho	2 Member of the Remuneration Committee; member of the Board of Directors of Nexa Resources S.A.	2	Male	54	Brazilian	Yes	No	No
Franklin Lee Feder	9 Member of the Sustainability Committee; member of the boards of directors of Paccar Inc, Minerals Technologies Inc, Prumo Logística S.A., AES Brasil S.A., FS Bioenergia, Instituto Ethos, and WRI Brasil; member of the advisory boards of Sitawi Finanças para o Bem and the Forum on Business and LGBTI+ Rights	2	Male	70	American	Yes	No	No
Glaisy Peres Domingues	3 Director at Votorantim S.A. (VSA); member of the boards of directors of Companhia Energética de São Paulo (CESP) and Citrosuco Agroindústria S.A.	2	Female	44	Brazilian	No	No	No
José Roberto Ermirio de Moraes Filho	4 Member of CBA's Sustainability Committee, the boards of directors of Hejoassu and Instituto Votorantim, and the Independent Appraisal Board of Insper	2	Male	35	Brazilian	No	No	No
Sergio Ricardo Romani	5 Member of CBA's Statutory Audit Committee; partner at SR Assessoria e Consultoria de Negócios; member of the Audit Committee at Vale; member of the Board of Directors and coordinator of the Audit Committee at CESP	2	Male	61	Brazilian	Yes	No	No

Advisory Committees to the Board of Directors

Sustainability Committee

Name	Term (years)	Gender	Age	Nationality	Independent member
Franklin Lee Feder	2	Male	70	American	Yes
José Roberto Ermirio de Moraes Filho	2	Male	35	Brazilian	No
Sonia Aparecida Consiglio Favaretto	2	Female	54	Brazilian	Yes

Statutory Audit Committee

Name	Term (years)	Gender	Age	Nationality	Independent member
José Écio Pereira da Costa Júnior	5	Male	70	Brazilian	Yes
Sergio Citeroni	2	Male	63	Brazilian	Yes
Sergio Ricardo Romani	2	Male	61	Brazilian	Yes

Remuneration Committee

Name	Term (years)	Gender	Age	Nationality	Independent member
Luís Ermirio de Moraes	2	Male	61	Brazilian	No
Gilberto Lara Nogueira	2	Male	72	Brazilian	Yes
Eduardo Borges de Andrade Filho	2	Male	54	Brazilian	Yes

Evaluating the members of the Board of Directors

Members of the Board are evaluated every two years by an independent consultancy firm, and any opportunities for improvement are referred to the Board Chairperson. The evaluation includes benchmarking on the composition and operation of the Board, online questionnaires about the Board’s operation, peer-to-peer assessments, self-assessments, and assessments of effectiveness on the basis of questionnaires and in-person interviews. These evaluations also cover members’ individual contributions, areas for development and personal traits. The effectiveness assessment includes recommendations on improving aspects such as Board composition, structure and organization, dynamics, communication, strategy and results, risk management, succession and development, and the role of the chairperson and governance secretary.

Learn more [here](#).

GRI 102-24
POLICY ON APPOINTING MEMBERS TO THE BOARD OF DIRECTORS

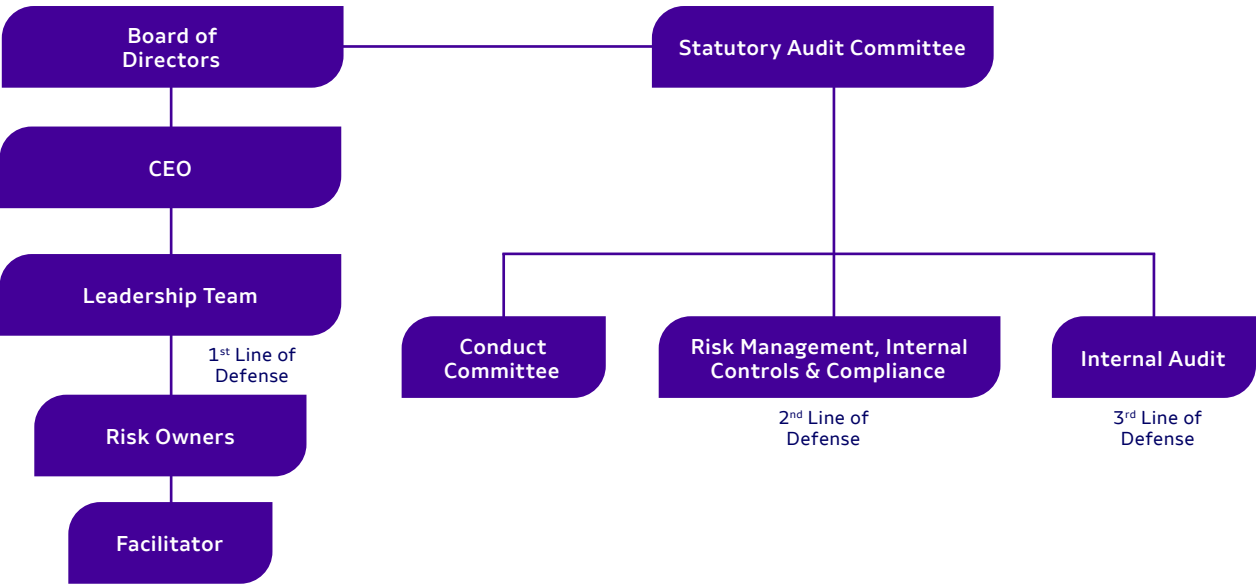
In addition to meeting legal and regulatory requirements and those established in the Company’s Bylaws, CBA’s Nomination Policy requires that prospective members of the Board of Directors satisfy eight criteria: (i) alignment with and commitment to CBA’s values and culture, its Code of Conduct, and internal policies; (ii) personal integrity and impeccable reputation, and no previous debarment by the Brazilian Securities Commission (CVM); (iii) not having held elective Executive

or Legislative office in the past three years; (iv) education compatible with the responsibilities of the members of the Board of Directors; (v) professional experience and expertise consistent with the position to which they are appointed; (vi) understanding of financial management and other areas of corporate administration, with the requisite skills and expertise for the position; (vii) no conflict of interest with CBA; and (viii) time available to devote themselves to the relevant roles and responsibilities, beyond mere attendance at Board meetings and prior reading of documents. The Nomination Policy allows Board members to be reappointed to their positions.

GRI 102-16
ETHICS AND COMPLIANCE

Since 2017, CBA has had a dedicated compliance team consisting of three analysts and one manager. The team reports every two months to the Audit Committee, and annually submits an Annual Compliance Program to the Board of Directors for approval. The roles and responsibilities of the Compliance team are detailed in CBA’s [Risk Management Policy](#).

Compliance Structure



GRI 102-43
STAKEHOLDER ENGAGEMENT

Internal stakeholders: several communications channels including Workplace, weekly newsletters (*Radar*), monthly Sustainability newsletter (Sustainability Reporting) and a corporate WhatsApp account.

External stakeholders: monthly newsletters featuring news about the industry and CBA for key partners (trade associations, investors, banks, organizations, customers and suppliers). Audience-specific announcements are generally sent by email.

Internal and external stakeholders: launched a new podcast, *Conecta CBA* and *ESG portal* in 2021. Monthly news updates on the Company website. LinkedIn and Instagram posts.

Investors: regular meetings with the Investor Relations team; livestreams/events for key individual (retail) investors, in which the CEO and CFO showcase CBA to the market; Non-deal Roadshows (NDRs) with institutional investors, mediated by partner banks; aluminum market reports to support investor education; attendance by the IR team, CFO and CEO at conferences organized by banks; organization of investor visits to the Alumínio plant; CBA Day, held November 19 (in a virtual format) to present CBA’s strategy and guidance for 2022 to investors; newly launched investor relations website.

GRI SECTOR SUPPLEMENT FOR
METALS AND MINING – MM7
GRIEVANCES RECEIVED IN 2021

Under our Integrated Management Policy, we have undertaken a commitment to: maintain a responsible and open channel of communication with all stakeholders to ensure their expectations are met; engage with and ensure our relations with stakeholders support ethics, good corporate citizenship, transparency and sustainable development by regularly assessing our social, economic and environmental impacts; and recognize, prevent, manage and mitigate environmental impacts from our operations: depletion of natural resources and changes in local biodiversity and water, air and soil quality.

Under this Policy, we have a procedure in place for documenting external communications, which aims to strengthen partnership and manage communications with communities in such a way as to improve our relations with stakeholders and monitor potential reputational damage and their perceptions of the Company and our operations. A spreadsheet is used to document community requests, claims, suggestions and complaints, and to monitor cases until resolution/response to the party concerned.

In 2021 only three grievances were received. All grievances were referred for resolution and responses given to stakeholders.

Extent to which grievance mechanisms were used to resolve disputes, and the outcomes	2019	2020	2021
Total number of grievances received in the periodo	26	16	3
Number of grievances relating to land use, customary rights of local communities and indigenous peopless	0	0	0
Status of grievances	Resolved	15 resolved 1 outstanding	1 resolved 2 outstanding (received mid-December)

Note 1: This information was compiled from External Communications Records, which document reports submitted by employees and/or communities surrounding our four active mines (Miraí, Itamarati de Minas, Poços de Caldas and Barro Alto).

GRI 103-1, 103-2, 103-3: 412 HUMAN RIGHTS
SASB EM-MM-210A.3
COMMITMENT TO HUMAN RIGHTS

Our commitment to human rights is evidenced in our day-to-day activities and is translated into actions both within and outside the Organization, including initiatives supporting SDG 8 – Decent work and economic growth and SDG 16 – Peace, justice and strong institutions. CBA’s international certification from the Aluminum Stewardship Initiative (ASI)—which attests that we adhere to internationally recognized social and governance standards in the production of aluminum—includes assessment criteria on governance, integrity, human rights, freedom of association and collective bargaining.

Our Code of Conduct, Diversity & Inclusion Policy, Sustainable Procurement Policy and Integrated Management Policy contain human rights-related guidelines, showing CBA concern to people integrity. Human-rights issues are also adressed in policies governing our relationships with suppliers and customers, which are aligned with the fundamental conventions of the International Labor Organization (ILO) on freedom of association, collective bargaining, forced and child labor, fair wages and discrimination. CBA also supports the United Nations Guiding Principles (UNGPs) on Business and Human Rights and the Global Compact Principles.

GRI 412-1
OPERATIONS THAT HAVE BEEN SUBJECT TO HUMAN RIGHTS REVIEWS OR IMPACT ASSESSMENTS

	Total number of suppliers	Number of operations that have been subject to human rights reviews or impact assessments	Percentage of operations that have been subject to human rights reviews
2019	13	5	38.5%
2020	13	7	53.8%
2021	13	8	61.5%

Note: Historical data has been restated, as the 2020 Annual Report did not consider the Due Dilingence of human rights made in the third-party that operates the Barro Alto Mine.

CBA has carried out a comprehensive human rights assessment at all active mines and plants operated by the Company within the Aluminum business, including the Alumínio, Poços de Caldas, Miraí, Itamarati de Minas, Escritório Central (2019), Itapissuma (2020) and Metalex (2021) sites.

The Barro Alto mine, which is operated by a third party, has undergone human rights due diligence (2020)

as part of the assessment process for suppliers of aluminum-making inputs, including bauxite, scrap and primary aluminum. The operations that have not undergone any human rights assessments are: Rondon, which is currently under environmental licensing and is not yet operational; São Miguel Paulista and Niquelândia, which are currently curtailed; the Caxias do Sul distribution center and Sorocaba facility, which are supporting facilities.

GRI 412-2
EMPLOYEE TRAINING ON HUMAN RIGHTS POLICIES OR PROCEDURES

2021		
Total number of hours in the reporting period devoted to training on human rights policies or procedures concerning aspects of human rights that are relevant to operations		10,488
Percentage of employees trained during the reporting period in human rights policies or procedures concerning aspects of human rights that are relevant to operations	Total workforce	5,590
	Total number of employees who have been trained	3,037
Percent		54%

Note: The figures are for onboarding training and training on our Code of Conduct. The scope of this disclosure includes all employees, interns and apprentices.

GRI 412-3

SIGNIFICANT INVESTMENT AGREEMENTS AND CONTRACTS THAT INCLUDE HUMAN RIGHTS CLAUSES OR THAT UNDERWENT HUMAN RIGHTS SCREENING

		2019	2020	2021
	Total number of significant investment agreements and contracts	490	539	718
	Total number of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	161	280	335
Percent		33%	52%	47%
The definition used for 'significant investment agreements'	Significant contracts are contracts with a term longer than six months and/or a value greater than R\$ 1 million.			

GRI 205-3

CONFIRMED INCIDENTS OF CORRUPTION

No incidents of corruption were confirmed in 2021.

GRI 102-9

OUR SUPPLIERS

- Approximately 3,600 active suppliers
- Located throughout Brazil, Europe, South and North America, and Asia

Supplier categories:

- Services
- CapEx
- Inputs
- Maintenance, repairs & operation (MRO)
- Logistics
- Delegated (purchases made directly by each department)

The most significant inputs and materials used in our production processes are natural gas, coal-tar pitch, coke, caustic soda and master alloys. We also have facilities suppliers providing services such as cleaning and housekeeping services, catering and shuttle services, and strategic partnerships with logistics suppliers, including rail and maritime shipping suppliers.

GRI 204-1

SUPPLIER MONITORING

CBA does not monitor the proportion of spending on local suppliers. Our geographical definition of “local suppliers” will be detailed in 2022 as part of our Sustainable Procurement Program.

SASB EM-MM-210B.1

SASB EM-MM-160A.1

PERFORMANCE STANDARDS ON SOCIAL AND ENVIRONMENTAL SUSTAINABILITY

Our policies and practices are aligned with the International Finance Corporation’s (IFC) Performance Standards on Environmental and Social Sustainability. This is attested by our ISO 14001 and ASI certifications, and policies such as our Integrated Management Policy. The Performance Standards we are aligned with include:

- Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts
- Performance Standard 3: Resource Efficiency and Pollution Prevention
- Performance Standard 4: Community Health, Safety, and Security
- Performance Standard 5: Land Acquisition and Involuntary Resettlement
- Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
- Performance Standard 8: Cultural Heritage.

CERTIFICATIONS, RATINGS, INDICES AND
OTHER RECOGNITION

CERTIFICATIONS

**Aluminium Stewardship Initiative (ASI)
2021, 2020, 2019**

CBA was the first aluminum company in the Americas to receive combined certification against the ASI Performance and Chain of Custody Standards for three mines, an integrated aluminum plant, and company headquarters. This certification attests that we produce aluminum to the highest industry standards for social and environmental responsibility. The ASI certifications cover three mine operations, two plants and our headquarters in São Paulo (SP), for the period 2019 to 2020. In 2021 our Metalex facility was also certified against the Performance Standard, and the Itapissuma rolling mill against the Chain of Custody Standard. Under our ESG Strategy, we have set a goal to have 100% of our Aluminum Business operations certified to the ASI Performance Standard and Chain of Custody Standard by 2030.

ISO14001:2015

CBA's aluminum production operations have been certified to ISO14001:2015 since 2010, and our mine operation since 2001. In 2021, we maintained our multisite certification for the Alumínio, Mirai and Itamarati sites. The Itapissuma site was recertified in 2021, and will be incorporated into our multisite certification in 2022.

ISO 9001: 2015

The Alumínio site's integrated management system has been certified to ISO9001:2015 since 1997. Our Metalex facility and Caxias do Sul distribution center were certified in 2020. and our Sorocaba facility in 2021. The Itapissuma site was recertified in 2021.

ISO/IEC 17025-2017

CBA's bauxite quality and environmental monitoring laboratory at the Mirai mine was accredited to ISO/IEC 17025-2017 in 2019 by the Minas Gerais Metrology Network(RMMG). The laboratory currently has 38 certified parameters, including 28 environmental parameters, 7 microbiological parameters and 3 bauxite essay parameters that support the mine's environmental management, bauxite exploration and production process requirements.

Resources & Reserves Certification

In 2021 our resources and reserves in Barro Alto (1 mine process) and Mirai (36 mine processes) were certified by SRK Consultores do Brasil Ltda. in accordance with "The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves", 2012 edition (the "JORC Code"), an internationally recognized reporting guide.

**IATF 16949:2016 (formerly ISO/TS 16949) –
International Automotive Task Force**

This standard sets out requirements on Quality Management Systems for companies in the automotive value chain. IATF 16949:2016 certification attests compliance with the safety, performance and design standards required by regulators. The Alumínio plant and Caxias do Sul distribution center have been certified since 2020. In 2021 these sites maintained their certification.

CBA also contributes to implementing more stringent audit rules and raising quality standards in the aluminum value chain to meet market requirements.



Mirela Maria
da Silva Lino,
production
operator,
Alumínio (SP)

RATINGS AND INDICES

CDP Climate Change
2020 and 2021

For the second consecutive year, we received a top-tier score for our response to the Carbon Disclosure Project’s (CDP) climate change questionnaire, the global gold standard for environmental reporting. CBA received a leadership-level score of “A-”, the highest among aluminum producers responding to the questionnaire, strengthening our position as a global leader on the climate agenda.

MSCI ESG Ratings
2021

CBA has been awarded an MSCI ESG Rating of “A”. An MSCI ESG Rating is designed to measure a company’s resilience to long-term environmental, social and governance (ESG) risks. ESG Ratings range from leader (AAA, AA), through average (A, BBB, BB) to laggard (B, CCC).

Reptrak
2021

CBA uses the Reptrak methodology to measure our corporate reputation based on stakeholders’ views on aspects such as admiration, trust, empathy and esteem. We initially chose to closely monitor two specific stakeholder groups in addition to the general public: suppliers and communities.

Our key Reptrak results in the year were:

Reputation with the general public



This is above the average score of 62.3 for the mining and metals industry.

Reputation with suppliers



75 suppliers responded to the survey, with the highest scores given to the following attributes: behaves ethically; has a positive influence on society; demonstrates concern for the health and well-being of its employees; delivers strong financial results; and delivers financial results that are better than expected.

Reputation with communities



500 people were surveyed in communities in Goiás, Pernambuco, São Paulo and Minas Gerais (Poços de Caldas and Zona da Mata). The highest-scoring attributes were the following: behaves ethically; demonstrates concern for the health and well-being of its employees; stands behind its products and services.



Monalisa Mendes
Goncalves, integrated
systems consultant,
Corporate Office (SP)

RECOGNITION IN 2021

**Mining Company of the Year –
Brasil Mineral Magazine**

CBA was named among the Mining Companies of the Year in the Environmental Governance category, in recognition of our bauxite mine rehabilitation efforts—leaving the soil with better-than-original fertility—and our *Legado Verdes do Cerrado* and *Legado das Águas* reserves.

**Valor Innovation Awards
(Prêmio Valor – Inovação Brasil)**

CBA ranked among the top five most innovative companies in the Mining, Metals & Steelmaking category of *Valor Inovação 2021*, an annual innovation list developed by the prestigious Brazilian business newspaper *Valor Econômico*.

**Mining & Metals Industry Excellence Awards
(Prêmio de Excelência da Indústria Minero Metalúrgica)**

CBA was presented with one of the most important awards in the mining industry. Two dam improvement projects involving the use of enhanced controls were recognized in the 23rd Mining & Metals Industry Excellence Awards (*Prêmio de Excelência da Indústria Minero Metalúrgica*), organized by the trade journal *Minérios e Minerales*.

**Brazil Leaders Awards 2021
(Prêmio Líderes do Brasil 2021) – Lide Magazine**

Our CEO, Ricardo Carvalho, received a Brazil Leaders Award 2021 from Lide Magazine, in the Mining category. These annual awards recognize companies and C-suite executives that demonstrate leadership in their respective industries. This important accolade is a testament that CBA is on the right path, guided by an ESG agenda that delivers on our commitment to building a sustainable mining legacy.

**Supplier of the Year
(Prêmio de Fornecedor Destaque) – Marcopolo**

CBA received an award in the New Programs/Innovation category of the Supplier of the Year awards organized by our customer, Marcopolo. The award recognizes excellence in customer service, relationship management and delivering solutions and services.

**Gold Seal in the Brazilian GHG
Protocol Program**

CBA’s greenhouse gas emissions inventories have received Gold reporting status since 2018; this indicates that they are independently assured and publicly available, ensuring our climate disclosures are robust and transparent.

**Ministry of the Environment –
COP 26 Case Study**

CBA represented Brazil’s aluminum industry at COP-26 in Glasgow Scotland. The Brazilian Ministry of the Environment selected a case study about the biomass boiler retrofits at CBA’s Alumina Refinery, as one of several case studies about energy-transition initiatives in Brazilian industry.

**“SEMAD-Recommended” seal of approval
(SEMAD Recomenda)**

Our Environmental Education Program (PEA) of 20 years at the Poços de Caldas and Zona da Mata sites received a “SEMAD-Recommended” seal of approval from the Minas Gerais state environmental authority, SEMAD. This certification is awarded to projects aimed at maintaining environmental health through practical environmental protection and conservation initiatives.

Great Place to Work Certificate

CBA has the Great Place to Work (GPTW) certificate, which is a recognition of our employees carried out through research that ensures that we are a great place to work.

Our people

GRI 102-8
SASB EM-MM-000.B

INFORMATION ON EMPLOYEES AND OTHER WORKERS

Total number of employees by employment contract (permanent and temporary), by gender	2019			2020			2021		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Permanent employment contract	4,355	407	4,762	4,860	564	5,424	4,928	754	5,682
Temporary employment contract	13	25	38	79	46	125	79	50	129
Total	4,368	432	4,800	4,939	610	5,549	5,007	804	5,811

Total number of employees by employment contract (permanent and temporary), by region.	2019				2020					2021				
	Midwest	Southeast	South	Total	Midwest	Northeast	Southeast	South	Total	Midwest	Northeast	Southeast	South	Total
Permanent employment contract	180	4,569	13	4,762	174	516	4,720	14	5,424	166	524	4,973	19	5,682
Temporary employment contract	3	35	0	38	2	0	123	0	125	19	0	110	0	129
Total	183	4,604	13	4,800	176	516	4,843	14	5,549	185	524	5,083	19	5,811
Percent temporary	1.6%	0.8%	0%	0.8%	1.1%	0%	2.5%	0%	2.3%	10.3%	0%	2.2%	0%	2.2%



Luiz Eduardo de Andrade, electromechanical technician, Metalex (SP)

	2019	2020	2021
Total direct employees	4,800	5,549	5,811
Total number of fixed third-party employees	1,327	819	1,134
Total number of mobile third-party employees	3,826	954	1,240
Total (direct + third-party + mobile third-party)	9,953	7,322	8,185
Percent third-party	22%	13%	16%

Note 1: Apprentices and interns are not included in these data.

Note 2: CBA has no operations in the North of Brazil.

Note 3: All employees work full-time.

Note 4: Information on employees was compiled from SAP and information on outsourced workers from each site’s local system. In 2021, outsourced workers performed services such as janitorial, security, shuttle bus, surveillance, and air conditioner and building maintenance services.

Note 5: The percentage of outsourced workers refers to fixed workers only.

GRI 401-1
SASB EM-MM-000.B
HIRES AND TURNOVER

	2021								
	Region				Age group			Gender	
	Midwest	Northeast	Southeast	South	<30	30-50	>50	Male	Female
New employee hires by age group, gender and region	27	59	704	2	274	497	21	527	265
	15%	11%	14%	11%	27%	12%	3%	11%	33%
Employee turnover by age group, gender and region	12	32	567	1	139	401	72	524	88
	6%	6%	11%	5%	27%	12%	3%	10%	11%

Note 1: Not including interns and apprentices.

Note 2: There are no operations in the North of Brazil.

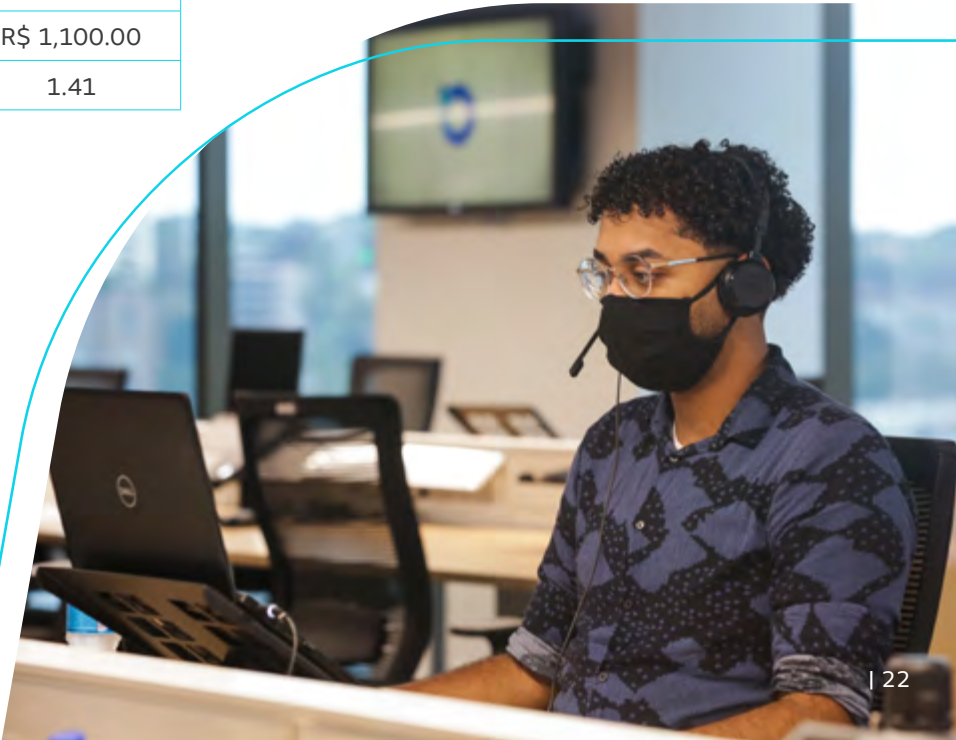
GRI 202-1
RATIO OF THE ENTRY LEVEL SALARY BY GENDER
AT SIGNIFICANT LOCATIONS OF OPERATION TO THE
MINIMUM WAGE

Employees are paid the entry-level salary established for their categories under collective bargaining agreements, with no gender-based differences. The salary gap between men and women is because there are no women in the entry-level salary category. The lowest entry-level salary is 10% higher than the current minimum wage.

	2019		2020		2021	
	Male	Female	Male	Female	Male	Female
Significant operations	Brazil		Brazil		Brazil	
Entry-level wage	R\$ 1,091.20	R\$ 1,091.20	R\$ 1,207.80	R\$ 1,207.80	R\$ 1,207.00	R\$ 1,555.40
Minimum wage	R\$ 998.00	R\$ 998.00	R\$ 1,045.00	R\$ 1,045.00	R\$ 1,100.00	R\$ 1,100.00
Ratio	1.09	1.09	1.16	1.16	1.10	1.41

Note: The 2019 and 2020 data were restated, as previous reports disclosed the minimum wage at the reporting date rather than for the reporting year.

Heitor Santos, tax analyst, Corporate Office (SP)



GRI 405-1
DIVERSITY

In 2020 diversity became a cross-cutting topic in CBA’s culture, and several initiatives have been undertaken to achieve progress on diversity. We created affinity groups—including Gender Equity, Racial Equity, LGBTQIA+ and People with Disabilities—who meet on a monthly basis.

DIVERSITY BY JOB CATEGORY, AGE GROUP AND GENDER

	2019					2020					2021				
	Age group			Gender		Age group			Gender		Age group			Gender	
	< 30	30-50	> 50	Men	Women	< 30	30-50	> 50	Men	Women	< 30	30-50	> 50	Men	Women
Apprentices	100%	0%	0%	84%	16%	100%	0%	0%	66%	34%	99%	1%	0%	37%	63%
Interns	97%	3%	0%	42%	58%	99%	1%	0%	35%	65%	98%	2%	0%	46%	54%
Operational	21%	70%	8%	94%	6%	19%	71%	10%	92%	8%	19%	71%	11%	89%	11%
Technician/ analyst/ supervisor	16%	76%	9%	74%	26%	16%	74%	10%	73%	27%	16%	76%	8%	69%	31%
Coordinator/ consultant	3%	83%	14%	85%	15%	3%	83%	14%	81%	19%	4%	83%	14%	81%	19%
Manager/ general manager	1%	82%	16%	85%	15%	0%	84%	16%	85%	15%	0%	86%	14%	84%	16%
Chief officer/ CEO	0%	40%	60%	80%	20%	0%	40%	60%	80%	20%	0%	57%	43%	71%	29%
Grand total	22%	69%	9%	90%	10%	21%	69%	10%	88%	12%	20%	70%	10%	85%	15%
Board of Directors members	N/A	N/A	N/A	N/A	N/A	0%	33%	67%	83%	17%	0%	33%	67%	83%	17%

Note 1: The data in this disclosure include direct employees, interns and apprentices.

Note 2: The “Trainee” employee category has been removed as it is not applicable.

GRI 102-41
SASB EM-MM-310A.1
COLLECTIVE BARGAINING AGREEMENTS

96% of employees are covered by collective bargaining agreements. The remaining 4% are in leadership positions, such as coordinators, managers, general managers and executive officers.

GRI 405-2
RATIO OF BASIC SALARY AND
REMUNERATION OF WOMEN TO MEN

In relation to the ratio of basic salary and remuneration of women to men, the entry-level wage is the same for each position with no gender-based differences.

In Leadership positions, the difference is explained by the fact that the highest salaries (men) are diluted across a four-times larger employee base than for women. As a result, the average salary for men is more diluted than the average salary for women.

For Operational positions, the average length of service for men is longer than for women, and there is a larger number of male employees. Consequently, there have been more salary increases for men under collective bargaining agreements.

Level	2021	
	Base Salary	Total Remuneration
Interns	1.00	1.00
Apprentices	0.99	0.99
Operational	0.79	0.77
Professional	1.01	0.99
Leadership	1.03	1.05

Damares Prado da
Conceição, logistics
analyst, Corporate
Office (SP)



GRI 103-1, 103-2, 103-3: 401 EMPLOYMENT TRAINING AND DEVELOPMENT

We provide continuous employee training through four initiatives:

Votorantim Academy: a learning hub that encourages employees to self-develop and share insights about consumer trends and new technologies.

Potenciar: an annual Votorantim S.A. program that encourages young talents to find solutions

to real-world problems at Group companies. Employees who pitch stand-out ideas are invited to participate in the program and undergo a selection process. In 2020 all tasks within the program were processed online. The CBA squad addressed the issue of “How to help sustain a culture of innovation.”

Leadership Development: a dedicated training pathway for leadership development, providing training on Safe Behavior, Culture, Management, Tools, Sustainability and Customers.

Collaborations: CBA also invests in collaborations with external institutions. Some of our key collaborations/partnerships include:

- Master’s and doctoral programs in innovation (MAI/DAI) offered by the Brazilian Counsel for Scientific and Technological Development (CNPq) to strengthen research, entrepreneurship and innovation capabilities at research institutes in collaboration with industry
- Inova Talentos Program, organized by Instituto Euvaldo Lodi (IEL) and CNPq to expand the contingent of researchers in Brazilian industry
- HackFacens, hackathons in partnership with Facens, a Brazilian university that uses an innovative, patented Smart Campus concept in which students are challenged to develop solutions to challenges posed by CBA in areas such as solid waste disposal, recycling and consumer awareness.

In addition, as part of our education benefits package, CBA pays part of the tuition fees for role-specific training, such as extension, foreign language and MBA programs.

Lucia Helena Quelhas Garcia,
DHO manager, and Anna Leticia
Amaral da Silveira, HR business
partner, Corporate Office (SP)



GRI 403-3, 403-6
OCCUPATIONAL HEALTH

Supporting our health and safety efforts, CBA's Occupational Health & Safety Department is staffed by occupational medicine and nursing professionals working within an Occupational Health & Safety Program (PCMSO). This program includes an employee health service that manages lost-time injuries, assists employees on illness or injury leave and refers them to proper treatment and rehabilitation, and assists employees returning to work, often on light duty as they recover from their condition. Health services are readily accessible directly at each site or via our corporate health insurance plan. Employees who are exposed to risks identified by the Occupational Safety department as part of our Workplace Risk Prevention Program (PPRA, as per NR* 9) and in Workplace Reports are referred for supplementary tests and healthcare procedures as part of Common Exposure Groups (GHE).

The effectiveness of our health services and programs is assessed and opportunities for improvement are identified using metrics such as medical procedures, occupational examinations, medical leave and absenteeism, medical leave under the public social security system, biological monitoring and inclusion of people with disabilities. CBA regularly organizes preventive health campaigns, including flu vaccination, DST/AIDS, cancer prevention, healthy nutrition, mental health, hearing health and dental health initiatives.

**NR are Brazilian regulatory standards for occupational health and safety*

EMPLOYEE BENEFITS

- Health and dental insurance | Life insurance | Pregnancy program
- "For You" Quality of Life Program, including Gympass, nutritional advice, road running, and prevention campaigns
- Private pensions
- Meal vouchers or cafeteria service, depending on the site
- Grocery kits or vouchers, depending on the site
- Chartered buses or bus tickets, depending on the site
- College discounts
- Employee Assistance Program, offering confidential counseling on day-to-day or delicate matters, including psychological, legal, financial and social counseling
- Daycare allowance for women and breast-feeding lounges

Ines Maria Do
Nascimento,
packager,
Itapissuma (PE)



GRI 403-9
WORK-RELATED INJURIES

Direct employees	2019		2020		2021	
	Total Aluminum	Total Nickel	Total Aluminum	Total Nickel	Total Aluminum	Total Nickel
Number of fatalities as a result of work-related injuries	0	0	0	0	0	0
Rate of fatalities as a result of work-related injuries	0	0	0	0	0	0
Number of high-consequence work-related injuries (excluding fatalities)	4	0	11	0	7	0
Rate of high-consequence work-related injuries (excluding fatalities)	0.42	0	1.06	0	0.64	0
Number of recordable work-related injuries	16	0	22	0	12	0
Rate of recordable work-related injuries	1.69	0	2.12	0	1.11	0
Number of hours worked	9,484,314	333,172	10,382,117	308,758	10,857,448	694,529
Number of lost days	1,271	0	209	0	127	0
Injury severity rate	134.0	0	20.13	0	11.7	0.0

Note: The main types of work-related injury in 2021 were hand injuries and sprained ankles.

Other workers	2019		2020		2021	
	Total Aluminum	Total Nickel	Total Aluminum	Total Nickel	Total Aluminum	Total Nickel
Number of fatalities as a result of work-related injuries	0	0	0	0	0	0
Rate of fatalities as a result of work-related injuries	0	0	0	0	0	0
Number of high-consequence work-related injuries (excluding fatalities)	1	0	4	0	0	1
Rate of high-consequence work-related injuries (excluding fatalities)	0.24	0	1.05	0	0	0.35
Number of recordable work-related injuries	8	0	13	0	7	2
Rate of recordable work-related injuries	1.91	0	3.42	0	1.54	0.69
Number of hours worked	4,194,453	303,441	3,802,486	1,207,106	4,545,817	2,896,023.69
Number of lost days	23	0	60	0	0	3
Injury severity rate	113.2	0	15.78	0	0	1.04

The main types of work-related injury in 2021 were pinch-point and hand injuries.

Note 1: Basis for rate calculation (hours worked): 1,000,000.

Note 2: "Days lost" are counted in calendar days.

Note 3: No workers have been excluded from this disclosure.

Note 4: Disclosures are consolidated in accordance with NBR 14280. The injury frequency rate is based on reportable injuries, and "days lost" within the severity rate are measured in calendar days.

The main hazards identified in connection with incidents are work at heights, poor housekeeping, and trip hazards. The primary risks are related to pinch points and tripping and falling. The key actions taken in response include improvements to working conditions, instructions on performing tasks, and more frequent monitoring of tasks by the leadership team.

Appropriate mitigation action is taken in response to all incidents. In relation to administrative control measures, CBA has a risk management system in place to identify hazards, risks and key control measures. We also have a “Rudimentary Activities” program that targets

investment to activities that are deemed critical following a risk assessment.

GRI 403-10
WORK-RELATED ILL HEALTH

In 2021 CBA recorded no fatalities as a result of work-related ill health or any cases of recordable work-related injury or ill health. This disclosure includes direct employees and contractors. The main hazards identified in connection with work-related ill health are occupational risks, which are managed through regular workplace assessments, occupational examinations and biological monitoring. Disclosures are compiled in accordance with NR 7 – Occupational Health Program and CBA’s Health Policy.

SASB EM-MM-320A.1
ALL-INCIDENCE RATE AND NEAR-MISS
FREQUENCY RATE

Near-miss frequency rate: 3.08

A near miss is defined as any event that has all but caused, or could potentially have caused, an accident or injury. Incidents are classified based on the worst-case consequences for employees, the environment and property within a given scenario resulting from the incident.

Health, safety, and emergency response training at the Alumínio plant includes:

- General onboarding (safety) training and department-specific onboarding training provided to both employees and contractors. This training has an average duration of 10 hours per person.
- Refresher training on Managerial Standards provided every 1 or 2 years, depending on the procedure, to both employees and contractors. This training has an average duration of 8 hours per person.

CBA created two metrics at year-end 2021 to measure performance: the average frequency rate over the previous five years, and the potential frequency rate, which indicates what CBA could achieve if all delivered the same performance over that period.

Note: The scope of this disclosure includes the Alumínio plant only.

GRI 403-8
WORKERS COVERED BY AN OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM

Whether the organization has implemented an occupational health and safety management system based on legal requirements and/or recognized standards/guidelines:	2021	
	Direct employees	Indirect
Total employees covered by such a system	6,022	3,478
Percentage of employees covered by such a system	100%	100%
Total employees who are covered by such a system that has been internally audited	6,022	3,478
Percentage of employees who are covered by such a system that has been internally audited	100%	100%
Total employees who are covered by such a system that has been audited or certified by an external party	0	0
Percentage of employees who are covered by such a system that has been audited or certified by an external party	0%	0%

Community support

CBA-10 CBA SOCIAL INVESTMENT

(in R\$)	2019	2020	2021
Funded by CBA	3,658,000	1,093,438	4,018,727
Funded by the Votorantim Institute	1,124,000	1,263,000	-
Funding raised from the Votorantim Institute	140,000	147,000	704,487
BNDES onlending	946,000	-	-
VSA COVID-19 Fund	-	5,200,000	450,000
CBA Match Funding for COVID-19 Response	-	2,100,000	636,891
Tax-deducted funds	330,000	600,000	-
Total investment	6,198,000	10,403,438	5,810,105

Note: This budget includes eight sites: Alumínio, Mirai, Niquelândia, Barro Alto, Itapissuma, Rondon, Araçariгуama and Poços de Caldas.

GRI 413-1 OPERATIONS WITH LOCAL COMMUNITY ENGAGEMENT, IMPACT ASSESSMENTS, AND DEVELOPMENT PROGRAMS

	2019	2020	2021
Total number of suppliers	13	13	13
Total operations with programs and impact assessments	6	8	8
Percentage of operations with programs implemented	46.2%	61.5%	61.5%

Note 1: All 32 projects in 2021 at CBA's 8 sites are included in this disclosure as engagement and local development initiatives.

Note 2: The CBA operations with local community engagement, impact assessments, and development programs in place in 2021 were: Alumínio, Mirai, Niquelândia, Barro Alto, Itapissuma, Metalex, Poços de Caldas and Rondon (undergoing licensing).

GRI 413-2 OPERATIONS WITH SIGNIFICANT ACTUAL OR POTENTIAL NEGATIVE IMPACTS ON LOCAL COMMUNITIES

Operations with actual and significant negative impact or potential impact on local communities	2021
Total number of suppliers	13
Total operations with significant potential impacts	4
Location of operations with significant potential impacts	Alumínio (SP), Mirai (MG), Itamarati de Minas (MG) and Niquelândia (GO)

Note: This disclosure includes all operations that have dams.

CBA's operations involve significant potential impacts, but no actual negative impacts have been identified. Potential impacts are listed in a strategic risk matrix, in which the social dimension indicates impacts affecting the community. Risks are considered significant if rated as "extreme" in terms of social impact. This category includes the risk of dam failure at the four operations listed in the table, although the likelihood of occurrence is extremely low due to the controls that are in place.

Another way CBA identifies potential impacts is using a Prioritization of Communities for Social Action spreadsheet based on the potential impact from the decommissioning of the relevant operation, denoting economic dependence. The Alumínio and Mirai operations have an impact rated as significant. For dam-related impacts, a management system is in place to ensure safe operation. In relation to economic dependence, affected locations are covered by social action plans providing public management support and development of local supply chains.

Environmental preservation



GRI 103-1, 103-2, 103-3 307
ENVIRONMENTAL COMPLIANCE

Environmental compliance is the cornerstone of CBA’s environmental management system. It is a prerequisite for developing and operating our mines and facilities, and ensures they conform to applicable environmental laws and regulations and the requirements of all agencies involved in our operations.

CBA conforms to both legal as well as other environmental requirements, including those established by customers, under agreements

and in environmental certification standards (ISO 14001:2015 and ASI). We also work preventively to eliminate any risk of noncompliance with applicable legislation. All reporting channels at CBA can be used to address environmental compliance concerns.

Our operations use systems-based tools for compliance checks and managing environmental licenses, contracts and requirements. Internal, external and compliance audits are also carried out regularly. In addition to these audits, in 2021 the Metalex and Itapissuma sites underwent certification to ASI standards.

LIFECYCLE ASSESSMENT

Lifecycle Assessment (LCA) is an internationally recognized method of assessing the potential environmental impacts from a product or service. It can also support decision-making and comparing two or more materials, products or services. CBA

conducts LCA assessments on all main products. LCA assessments were conducted for our mines and integrated aluminum plant in 2019, and for the Itapissuma and Metalex sites in 2021. These two sites will also undergo external assurance so that LCA claims can be showcased and used by customers as necessary.

GRI 307-1
COMPLIANCE WITH LAWS AND REGULATIONS

CBA was not subject to any significant fines or non-monetary sanctions for non-compliance with environmental laws and/or regulations in the reporting period. In 2020 CBA received notices of environmental violations against which the Company submitted its defense to the relevant authorities, and no decisions have been issued to date imposing fines/sanctions. However, in 2021 CBA elected to pay a fine under an environmental violation notice issued in 2017, totaling R\$ 57,120.31.

GRI 301-2
RECYCLED INPUT MATERIALS USED

Recycled input materials used	2019		2020			2021		
	Alumínio	Metalex	Alumínio	Metalex	Itapissuma	Alumínio	Metalex	Itapissuma
Customer scrap recycled (t)	19,389	42,599	15,048	42,752	2,459	10,785	45,164	948
Third party-purchased scrap (t)	4,372	913	3,283	88	0	2,529	0	0
Total raw materials consumed – including molten aluminum, ingots and scrap (t)	337,947	69,288	386,087	76,837	70,770	444,470	85,068	77,899
Percentages recycled (%)	7.0%	62.8%	4.45%	55.8%	3.5%	3.0%	53.1%	1.2%
	16.5%		11.1%			9.8%		

Note: only Aluminum Business sites included.

GRI 305-1, GRI 305-2, GRI 305-3
EM-MM-110A.1
GHG EMISSIONS

(in thousands of metric tons of CO ₂ e)	2019	2020	2021
DIRECT (SCOPE 1) GHG EMISSIONS			
Stationary combustion	421.6	284.7	258.4
Mobile combustion	17.6	15.3	17.3
Fugitive emissions	6.5	4.2	4.7
Industrial processes	813.5	759.6	878.1
Agricultural activities	0.1	0.08	0.1
Changes in land use	-	-	0.0
Waste (solid waste + effluents)	0	0.001	0.0
Total Scope 1 emissions	1,259.30	1,063.90	1,158.6
Biogenic CO2 emissions (Scope 1)	2.8	2.3	2.7
Biogenic CO2 removals (Scope 1) 7	7.6	11.9	4.2
INDIRECT (SCOPE 2) GHG EMISSIONS			
Electric power (market-based approach)	9.8	66.0	0
Transmission and distribution losses (location-based approach)	0.0	1.3	0
Purchased heating	0,0	5.1	7.0
Total Scope 2 emissions (market-based)	9.8	72.5	7.0
Biogenic CO2 emissions (Scope 2)	0.0	266,2	369.5
OTHER INDIRECT (SCOPE 3) GHG EMISSIONS			
Category 1 – Goods and services purchased	-	-	2,052.20
Category 3 – Fuel- and energy-related activities not included in Scope 1 or Scope 2	-	-	36.9
Category 4 – Transportation and distribution (upstream)	25.0	22.2	79.7
Category 9 – Transportation and distribution (downstream)	-	-	31.6
Total Scope 3 emissions	25.0	22.2	2,200.40
Biogenic CO2 emissions	2.6	2.6	11.5

GRI 305-4
GHG EMISSIONS INTENSITY

(tCO ₂ e/tons of products)	2019	2020	2021
Mines (Beneficiated Bauxite)	0.008	0.008	0.008
Smelters (liquid aluminum)	2.560	2.665	2.557
Alumínio plant (finished products*)	4.179	3.499	2.984
Metalex (billets)	0.250	0.270	0.257
Itapissuma (rolled products)	-	1.010	0.959

* Primary and downstream aluminum products produced for the market. Not including cast product transfers to the Downstream production stage

Note 1: All greenhouse gases are included in the calculation (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃).

Note 2: GHG intensity calculations include Scope 1 and Scope 2 GHG emissions.

Note 3: The Smelting stage is included in the data for the Alumínio integrated aluminum plant; however, it is also reported separately as the most GHG-intensive stage in the process.

In accordance with CBA's commitment to improve management and increase transparency on emissions, in 2021 the Company significantly expanded Scope 3 emissions inventory. Until 2020, the Company disclosed only category 4 (partial disclosure, referring to transport bauxite), and started to disclose, in 2021, categories 1, 3, 9, in addition to expanding the scope of category 4. Comparative information on these emissions for the years 2020 and 2019 are not available.

Data compiled using the market-based approach under the GHG Protocol framework. All greenhouse gases are included in the calculation (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃). For Scope 1 and 2, our Sorocaba facility, São Paulo office and Duque de Caxias distribution center have not been included in the scope of this disclosure, as their emissions are negligible.

SASB EM-MM-110A.2
CLIMATE RISKS IDENTIFIED BY CBA

CBA has carried out a climate risk assessment (learn more in the chapter Environmental preservation of the Annual Report) that identified the following risks:



Transition risks:

- * **Legal and political:** carbon pricing and carbon border taxes on aluminum
- * **Technology risks:** the risk that technology may not be available to reduce our carbon footprint or develop solutions and processes to meet growing demand for low-carbon aluminum. CBA considers this risk to be low, as our aluminum has a comparatively small carbon footprint
- * **Market risks:** fluctuation in aluminum pricing as a result of climate-change effects on producing countries
- * **Reputational risks:** the risk that the overall aluminum industry could be stigmatized as carbon-intensive, despite CBA's low carbon footprint. This risk is low, but requires communications and transparency around our positive performance.



Physical risks:

- * **Chronic:** the risk that lower rainfall, extended dry seasons and warmer temperatures could result in reduced hydropower output, production disruptions and conflicts over water use
- * **Acute:** the risk that extreme weather events could cause landslides at mine sites, loss of seedlings used in mined land, power system overloads, damage to CBA's operations.

Note: physical risks are based on climate projections using the INPE, WorldClim and AqueDuct tools.



Carbon pricing

Discussions on carbon pricing, including carbon trading and taxes, have gained momentum globally. In Brazil there was extensive debate on related topics in 2021, such as a new law project (PL528/2021) creating a carbon trading system. Internationally, discussions are underway on the creation of a Carbon Border Adjustment Mechanism (CBAM) in Europe. Other countries have signaled plans to create similar systems, which would give companies with low-carbon operations a competitive advantage. These mechanisms remain highly tentative, and this creates both benefits and risks for CBA.

In 2021 we continued an internal carbon pricing assessment to prepare for the future. Working with FGVces (Entity responsible for the Brazilian GHG Protocol), we reviewed proposed mechanisms and developed a simulator to assess financial impacts from carbon pricing. We also approved an internal carbon fee to be factored in assessments of CAPEX projects, Competitive Management improvement projects, and co-innovation projects. The goal is to factor carbon pricing in the assumptions informing our Strategic Plan 2022. The internal carbon fee approved for the year was R\$ 22.85 based on likely carbon pricing scenarios in Brazil and globally over an average of ten years, assuming estimated export volumes, free permit allocations and purchased offsets.

TCFD ADOPTION

CBA has implemented the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). The table below provides details on CBA initiatives in line with these recommendations.

To learn more about CBA's climate change-related initiatives, see the chapter Environmental preservation in the 2021 Annual Report.

GOVERNANCE	STRATEGY	RISK MANAGEMENT	METRICS AND TARGETS
The organization's governance around climate-related risks and opportunities	Actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	How the organization identifies, assesses, and manages climate-related risks	Metrics and targets used to assess and manage relevant climate-related risks and opportunities
Annual Report: p. 48, 78,79 e 84	Annual Report: p. 78 a 84	Annual Report: p. 48, 78,79 e 84	Annual Report: p. 48, 78,79 e 84
Additional Disclosures Supplement: p. 31 e 32	Additional Disclosures Supplement: p. 31 e 32	Additional Disclosures Supplement: p. 31 e 32	Additional Disclosures Supplement: p. 31 e 32
CDP Questionnaire: items C1.1, C1.2, C1.3	CDP Questionnaire: items C2.1, C2.2, C2.3, C2.4, C3.1, C9.1	CDP Questionnaire: items C2.1, C2.2, C2.3	CDP Questionnaire: items C4.1, C4.2, C4.3, C5.1, C6.1, C6.3 e C6.5

GRI 103-1, 103-2, 103-3: 305 EMISSIONS
AIR EMISSIONS

CBA monitors its air emissions of particulate matter (PM), sulfur and nitrogen oxides (SOx, NOx), Volatile Organic Compounds (COV) and fluorides in accordance with applicable regulations. In 2021 we benchmarked how each site manages its emissions in order to standardize related controls.

At the Alumínio Plant, fixed-source emissions of NOx, SOx, MP and fluorides (from the stacks of the calciners, smelters and casthouse furnaces) are monitored on a six-monthly basis. At the Itapissuma site, emissions are monitored by a third-party firm and a monitoring plan is submitted to the environmental authority, with proposed emissions sources to be monitored. At Metalex, the melting furnace stacks are

monitored for these same gases every two years. Other sites have no active fixed sources.

The Alumínio site has a weather and air quality control station that monitors PM, NOx, SOx and ozone levels, and has biomonitoring, passive monitoring and ammofluorine monitoring capabilities for fluorides. At our mines, we self-monitor particulate emissions around our operations.

GRI 305-7
SASB EM-MM-120A.1
SIGNIFICANT AIR EMISSIONS BY CATEGORY (in metric tons)

	2019			2020				2021
	Alumínio Plant	Metalex	Total	Alumínio plant	Metalex	Itapissuma	Total	Alumínio Plant
NOx	361.2	31.6	392.8	253.0	11.0	61.4	325.4	133.0
SOx	58.1	1.9	60.0	33.0	2.0	0.5	35.5	34.0
Volatile Organic Compounds (VOCs)	-	4.1	4.1	-	0.7	7.6	8.3	-
Particulate Matter (PM)	1,069.2	3.2	1,072.4	907.0	4.0	27.1	938.1	995.0
Total fluoride	156.7	-	156.7	172.0	0.0	0.0	172.0	170.0

Note 1: Data compiled from fixed-source monitoring at our sites. Itapissuma and Metalex compile fixed-source monitoring data every 2 years under plans agreed with the appropriate environmental authorities; the most recent assessment was in 2020.
Note 2: At the Alumínio site, the increase in particulate matter (10%) and fluoride (1%) emissions was less than the significant increase in molten aluminum production (12%).

GRI 103-1, 103-2, 103-3: 306 WASTE, 306-2

WASTE MANAGEMENT

Compliant waste management is central to sustainability and our business strategy. We aim to construct a circular economy and implement initiatives to minimize the impact from waste generation and disposal, in accordance with the Brazilian Solid Waste Policy.

Our mining and smelting operations produce hazardous and nonhazardous waste materials that need to be transported, managed and disposed of compliantly. Failing to properly dispose of these materials can lead to contamination and create environmental liabilities resulting in fines and reputational damage. As part of our environmental management practices,

we conduct waste-related audits on our customers and suppliers. CBA works to continuously improve its waste management processes in line with the Waste Transportation Manifest (MTR) systems run by environmental agencies.

GRI 306-1
SASB EM-MM-150A.9
WASTE-RELATED IMPACTS

There are a number of actual and potential impacts arising from waste materials generated by our operations. Internally, improper segregation can alter the composition of waste materials and prevent compliant disposal. To mitigate this risk, we have controls in place such as regularly raising employee awareness about proper waste segregation and

storage, and operational procedures providing detailed instructions on these activities.

In the transportation stage, there is a risk that trucking and shipping companies could commit environmental violations. This risk is mitigated by inspecting transportation vehicles when loading materials at our sites, and managing required regulatory documentation, such as Waste Transportation Manifests.

Finally, the contractors handling final disposal could fail to comply with applicable regulations, leading to waste disposal disruptions. CBA screens and periodically audits suppliers engaged in waste management to mitigate this risk.

GRI 306-3
SASB EM-MM-150A.4
SASB EM-MM-150A.7
WASTE GENERATED BY COMPOSITION

(in metric tons)	2020			2021		
	Aluminum Business	Nickel Business	Total	Aluminum Business	Nickel Business	Total
Hazardous waste (Class I)	6,821	2,858	9,679	8,909	589	9,498
Nonhazardous waste (Class II)	1,256,206	393	1,256,599	1,443,053	165	1,443,218
Non-inert (Class II A)	1,247,636	227	1,247,863	1,437,189	64	1,437,253
Inert (Class II B)	8,571	165	8,736	5,863	102	5,965
Total	1,263,027	3,250	1,266,277	1,451,962	754	1,452,716

Note: Historical data from 2019 is not comparable due to the adoption of GRI 306 Waste in 2020.

GRI 306-4
WASTE DIVERTED FROM DISPOSAL

Waste diverted from disposal, broken down by composition and recovery operation (in metric tons)	2020						2021					
	Aluminum Business		Nickel Business		Total		Aluminum Business		Nickel Business		Total	
	Onsite	Offsite	Onsite	Offsite	Onsite	Offsite	Onsite	Offsite	Onsite	Offsite	Onsite	Offsite
Hazardous waste (Class I)												
Preparation for reuse	331	2,507	0	948	331	3,455	1,607	2,759	0	561	1,607	3,320
Recycling	0	1,473	0	12	0	1,485	0	1,533	0	13	0	1,546
Other recovery operations	0	549	0	1,800	0	2,349	0	594	0	0	0	595
Total hazardous waste	331	4,529	0	2,760	331	7,288	1,607	4,886	0	574	1,607	5,460
Nonhazardous waste (Class II)												
Preparation for reuse	17,196	30	0	0	17,196	30	15,551	73	0	0	15,551	73
Recycling	0	34,742	0	170	0	34,911	0	41,715	0	140	0	41,855
Other recovery operations	0	2,046	0	0	0	2,046	0	4,189	0	0	0	4,189
Total non-hazardous waste	17,196	36,817	0	170	17,196	36,987	15,551	45,977	0	140	15,551	46,117
Total waste diverted from disposal	61,802						68,735					

Note: Historical data from 2019 is not comparable due to the adoption of GRI 306 Waste in 2020.

SASB EM-MM-150A.8
TOTAL WEIGHT OF HAZARDOUS WASTE RECYCLED

2020	2021
1,485	1,546

GRI 306-5
WASTE DIRECTED TO FINAL DISPOSAL

Waste directed to disposal, by disposal operation (in metric tons)	2020						2021					
	Aluminum Business		Nickel Business		Total		Aluminum Business		Nickel Business		Total	
	Onsite	Offsite	Onsite	Offsite	Onsite	Offsite	Onsite	Offsite	Onsite	Offsite	Onsite	Offsite
Hazardous waste (Class I)												
Incineration (with energy recovery)	0	874	0	0	0	874	0	1,090	0	561	0	1,652
Incineration (without energy recovery)	0	2	0	0	0	2	0	1	0	0	0	1
Landfilling	0	1	0	2	0	3	0	1	0	0	0	1
Other disposal operations	0	1,085	0	0	0	1,085	0	1,318	0	0	0	1,318
Total hazardous waste	0	1,962	0	2	0	1,964	0	2,412	0	562	0	2,973
Nonhazardous waste (Class II)												
Incineration (with energy recovery)	0	5,454	0	10	0	5,465	0	7,197	0	7	0	7,204
Incineration (without energy recovery)	0	0	0	0	0	0	0	0	0	0	0	0
Landfilling	26	309	28	190	54	500	19	382	16	24	35	406
Other disposal operations	1,192,485	0	0	0	1,192,485	0	1,367,224	22,397	0	0	1,367,224	22,397
Total non-hazardous waste	1,192,511	5,764	28	201	1,192,539	5,965	1,367,243	29,976	16	31	1,367,259	30,007
Total waste directed to disposal	1,200,468						1,400,239					

Note: Historical data from 2019 is not comparable due to the adoption of GRI 306 Waste in 2020.

Waste materials generated at the Alumínio, Metalex and São Miguel Paulista sites are managed by third-party firms. Waste materials at Itapissuma are managed directly by CBA. At our mine sites, all organic waste is sent for composting, and other waste materials are disposed of by duly licensed contractors. At Niquelândia, regular waste is sent to a landfill that is managed by CBA, and other waste materials are disposed of by third-party firms. CBA uses the mitigation hierarchy under the Brazilian Solid Waste Policy, and considers available technologies depending on the nature of the waste materials.

Alternative methods of waste disposal are considered based on waste volumes, the performance of waste-related projects, and opportunities to create value from selling waste materials. The higher waste volumes in the Aluminum Business reflect higher production rates in the year.

CBA-7
SIGNIFICANT SPILLS AND ENVIRONMENTAL ACCIDENTS

Significant spills can cause impacts such as contamination of the soil and water, potentially affecting neighboring communities. To mitigate these risks, CBA has a chemicals management procedure that includes requirements on adequate storage and use of chemicals. Chemical storage areas are required to be bunded and have emergency kits available to respond in the event of any spills. Our operations also have emergency responder teams who are trained to respond in these situations.

We have a procedure on managing contaminated areas that includes preliminary assessments of potentially contaminated sites, investigation of the soil and groundwater at these sites, and adequate remediation where contamination is detected.

No significance spills occurred in 2021. Incidents are classified on a severity scale of I to VI. Spills are deemed significant at a severity level of IV or greater—spills at these severity levels can cause environmental damage, affect off-site areas or require remediation operations. All spill incidents that occurred in 2021 were classified as tier I to III.

The only environmental accidents classified as level IV were six forest fires that occurred in 2021. For all fire incidents, we responded by activating our Emergency/Fire Responder Team at the relevant site.

SASB EM-MM-160A.1
ENVIRONMENTAL POLICIES AND PRACTICES FOR ACTIVE SITES

Mining activity is unique in that it cannot be carried out at an alternative site, i.e. ore needs to be mined where it is found. Measures to mitigate impacts from mining in Brazil are typically established in mine construction and operation licenses. Renewal of a mine operation license is directly contingent on the mine owner meeting environmental covenants contained in an Environmental Management Plan (PCA). There are different methods of mining each type of ore, with each involving different technical

requirements and mitigation measures within the licensing process.

Bauxite ore mines in Minas Gerais are typically short-cycle, localized, open-cast operations, differing from other types of mines. The mining operation moves from one property to another in short cycles lasting an average of five months on each property.

When a mine is closed, CBA develops a Mine Closure Plan containing effective mitigation measures and offsets. The future use of a mine site is defined based on a multi-criteria assessment covering environmental, financial and engineering aspects. This assessment informs the mine closure design and reclamation efforts. In 2021 we revised our internal mine decommissioning procedure with assistance from specialized consultants, further improving our mine closure practices.

CBA’s mine reclamation processes ensure that mined land is returned to landowners in the same or better condition than before it was mined. When a mine is exhausted, work begins on re-sloping, soil amendment and aeration, and crop cultivation. Within 3 to 5 years, the property is fully reclaimed with the dominant crops in the region, such as coffee, eucalyptus and pastureland. Another reclamation option is the use of native Atlantic Forest species, mainly as part of environment offsets.

CBA-6
PAYMENT OF MINING TAXES

	2019	2020	2021
Total mining taxes paid to the Brazilian Mining Agency (R\$ million)	2.29	3.06	3.63

SASB EM-MM-540A.1
DAM INVENTORY

CBA’s dam safety teams work in synergy with and a focus on our dam safety management system, and CBA treats dam safety as a priority. Our commitment to and investments in dam safety measures have supported good outcomes for dam safety, our communities and the environment.

Dam inventory - 2021													
Facility name	Location	Ownership status	Operational status	Construction method	Maximum permitted storage capacity (t)	Current amount of residue stored (t)	Consequence classification	Date of most recent independent technical review	Has the most recent independent technical review resulted in material findings?	If the answer to the above is yes, provide a summary of material findings	If the answer to the above is yes, indicate whether mitigation measures have been implemented	If the answer to the above is yes, provide a summary of the relevant mitigation measures	Is a site-specific Emergency Preparedness and Response Plan in place?
Palmital Dam	Alumínio (SP), Brazil	Operated by CBA	Active	Downstream	~27.6 MM m³	~23.4 MM m³	Extreme	December 2021	Yes	Dam safety has been certified, with only a recommendation to continue routine inspection and preventive maintenance activities	Yes	Routine dam safety activities are managed via a Dam Management System and include fortnightly inspections, monitoring, clearing, pest control, and WL drawdown control	Yes
Miraí Dam	Miraí (MG), Brazil	Operated by CBA	Active	Downstream	~27.5 MM m³	~12 MM m³	Extreme	August 2021	Yes	Dam safety has been certified, with only a recommendation to continue routine inspection and preventive maintenance activities	Yes	Routine dam safety activities are managed via a Dam Management System and include fortnightly inspections, monitoring, clearing and pest control	Yes

Dam inventory - 2021

Facility name	Location	Ownership status	Operational status	Construction method	Maximum permitted storage capacity (t)	Current amount of residue stored (t)	Consequence classification	Date of most recent independent technical review	Has the most recent independent technical review resulted in material findings?	If the answer to the above is yes, provide a summary of material findings	If the answer to the above is yes, indicate whether mitigation measures have been implemented	If the answer to the above is yes, provide a summary of the relevant mitigation measures	Is a site-specific Emergency Preparedness and Response Plan in place?
Itamarati de Minas Dam	Itamarati de Minas (MG), Brazil	Operated by CBA	Active	Downstream	~11.4 MM m ³	~10.1 MM m ³	Extreme	August 2021	Yes	Dam safety has been certified, with only a recommendation to continue routine inspection and preventive maintenance activities	Yes	Routine dam safety activities are managed via a Dam Management System and include fortnightly inspections, monitoring, clearing and pest control	Yes
Jacuba Dam	Niquelândia (GO), Brazil	Operated by CBA	Active	Centerline	79 million m ³	63796273.03	Extreme	November 2021	Yes	Dam safety has been certified, with only a recommendation to continue routine inspection and preventive maintenance activities	Yes	Routine dam safety and maintenance activities are managed via a Data Management System and include fortnightly inspections, monitoring, clearing, pest control, and special measures, such as beach erosion control, restaking and cleaning hydraulic structures	Yes

Note 1: Information compiled from Regular Safety Inspection Reports and site-specific reports.
Note 2: An internal dam management report submitted on a monthly basis to top management provides information on whether safety conditions are satisfactory and all dam safety actions have been completed on a timely basis.

CBA-4
DAM MANAGEMENT

Our dams are designed to be safe with the water level at the minimum freeboard level. In addition, CBA works to keep reservoir levels even lower, creating an optimally safe freeboard. In 2021, 317,994 m³ of water were removed from the Palmital dam in Alumínio. From the dams peak level in January 2017, more than 1,723,584 m³ have been removed to date, this represents an 85.9% reduction in the volume of liquid stored.

At the Miraí and Itamarati de Minas residues facilities, water drawdown results have been satisfactory, and projects improvements were implemented throughout 2021 to maximize water drawdown efficiency. At the Jacuba residues facility in Niquelândia, a project to lower the spillway by three meters has delivered results, and initiatives are underway to further reduce the residual volume of impounded water.

Volume of dam water removed, by site (em m³)	2020	2021
Alumínio (Palmital Dam - industrial dam)	541,273	317,994
Miraí (residue dam)	2,527, 140	2,231,427
Itamarati de Minas (residue dam)	4,482,981	3,542,595
Niquelândia (Jacuba Dam, industrial dam)	1,307,543	1 ,245,915
Total	8,858,937	7,337,931

Nota: The information is based on elevation x volume curves contained in site-specific reports. Dam water levels are monitored on a daily basis, and topobathymetric surveys are carried out annually to obtain up-to-date information about water and dams volumes.

GRI SECTOR SUPPLEMENT FOR METALS AND MINING- MM3
SASB EM-MM-150A.5
SASB EM-MM-150A.6
RESIDUES DESTINED FOR DAMS

(thousand metric tons)	2019			2020			2021		
	Alumínio Plant	Mines	Total	Alumínio Plant	Mines	Total	Alumínio Plant	Mines	Total
Mining wasteland	0	0	0	0	0	0	0	0	0
Residue (sand + other waste) ¹	141	0	141	110	0	110	106	0	106
Mud	507	763	1,270	457	610	1,067	525	727	1,252
Total	648	763	1,411	567	610	1,177	631	727	1,358

¹ 1 Process waste at the Alumina Refinery, such as tank cleaning waste.
Note: This disclosure is relevant only to our bauxite mines and the Refinery at the Alumínio plant

Production and ore volumes are the primary factors affecting mud volumes at all sites.

GRI 303-1, 303-2
WATER STEWARDSHIP

The water and effluents in our operations are periodically monitored to avoid impacts on the water cycle and recharge. In addition to mandatory legal requirements, CBA adheres to the good-practice requirements for ASI certification.

At the Alumínio plant, water withdrawals are retrieved from four surface sources and two groundwater sources. At this plant, 100% of the water used in the production processes is treated and reused on-site, and no water is discharged off-site. Quality specifications for treated water for reuse are defined depending on the requirements of the process where the water is consumed.

At the Itapissuma rolling mill, water withdrawals are taken from two groundwater wells. At Metalex, water is supplied by public utilities for

general-purpose use at offices, restrooms and cafeterias; water is withdrawn from a groundwater source for use in the plant’s recirculation system and cooling tower. Our Mirai and Itamarati de Minas mine sites have two water withdrawal sources: a groundwater and a surface water source. At the Poços de Caldas site, water withdrawals are sourced from six locations, and utility water is used for human consumption.

Because our Nickel operations are currently curtailed, their water consumption levels are negligible. At Niquelândia, water withdrawals are sourced from surface water, while the São Miguel Paulista site uses utility water and rainwater. Aluminum Business operations for which water data is not provided use water for human consumption only.

In our mine operations, effluents are treated at a water treatment plant and recipient water bodies are regularly monitored to ensure the water we discharge is within regulatory limits. In our other operations, effluents are discharged into municipal sewage systems in accordance with water quality requirements contained in applicable legislation.

Due to the restrictions stemming from the COVID-19 pandemic, educational content relating to water consumption was disseminated on corporate TVs and via other communications channels.



The Legado das Águas Reserve (SP), Reservas Votorantim

CBA-11
WATER INTENSITY BY PRODUCT

Water intensity by product in m³/t	2019	2020	2021
Mines (beneficiated bauxite)	0.08	0.06	0.06
Alumínio plant (finished products*)	9.78	7.91	6.33
Metalex (billets)	0.85	0.79	0.84
Itapissuma (rolled products)	N/A	4.71	5.44

* Water intensity data for primary aluminum and downstream aluminum products exclude cast product transfers to the Downstream production stage
Note: water intensity calculations consider water consumption to be equivalent to water withdrawals

GRI 303-3, 303-4
SASB EM-MM-140A.1 (1)
WATER WITHDRAWAL AND EFFLUENT DISCHARGE

(in megaliters)	2019			2020			2021		
	Aluminum Business	Nickel Business	Total CBA	Aluminum Business	Nickel Business	Total CBA	Aluminum Business	Nickel Business	Total CBA
Total water withdrawals	3,042	134	3,176	2,716	137	2,854	2,691	123	2,814
Total water discharge	4,447	557	5,004	6,921	220	7,141	5,930	245	6,175

Note 1: No water is consumed in areas with water stress.
Note 2: Nickle Business - Water discharge exceeds withdrawals as groundwater is collected, treated and returned to its source without being consumed.
Note 3: In the Nickel Business, the reduction of water wirhdrawal is connected with the reduction of São Miguel Paulista third-part.
Note 4: 2020 historical data has been restated.

GRI 303-3
SASB EM-MM-140A.1 (1)
WATER WITHDRAWAL, BY SOURCE

(in megaliters)	2019			2020			2021		
	Aluminum Business	Nickel Business	Total CBA	Aluminum Business	Nickel Business	Total CBA	Aluminum Business	Nickel Business	Total CBA
Surface water	2,900	110	3,010	2,131	117	2,248	1,932	112	2,043.58
Groundwater	136	0	136	579	0	579	754	0	754
Utility-supplied water	6	1	7	7	1	9	6	1	7
Rainwater (harvested and stored directly by the organization)	0	22	22	0	19	19	0	10	10
Total water withdrawals	3,042	133	3,175	2,716	137	2,854	2,692	123	2,814.3

Nota 1: No water is consumed in areas with water stress.
Note 2: At the Alumínio site, consumption is not broken down by the level of total dissolved solids. The volume reported is the actual volume of water withdrawals.
Note 3: All water withdrawals are freshwater.
Note 4: Nickle Business - Water discharge exceeds withdrawals as groundwater is collected, treated and returned to its source without being consumed

GRI 303-4
WATER DISCHARGE

(in megaliters)		2019			2020			2021		
		Aluminum Business	Nickel Business	Total CBA	Aluminum Business	Nickel Business	Total CBA	Aluminum Business	Nickel Business	Total CBA
Surface water	Freshwater (total dissolved solids ≤1,000 mg/L)	4,442	516	4,958	6,913	173	7,086	5,774	212	5,986
	Other water (total dissolved solids >1,000 mg/L)							147	0	147
	Total							5,921	212	6,133
Utility-supplied water	Freshwater (total dissolved solids ≤1,000 mg/L)	5	41	46	8	47	55	5	33	37
	Other water (total dissolved solids >1,000 mg/L)							4	0	4
	Total							9	33	42
Total water discharge	Freshwater (total dissolved solids ≤1,000 mg/L)	4,447	557	5,004	6,921	220	7,141	5,779	245	6,024
	Other water (total dissolved solids >1,000 mg/L)							151	0	151
	Grand total							5,930	245	6,175

Note 1: The Alumínio plant uses a closed-circuit system that recycles 100% of water withdrawals, which means no effluents are discharged.

Note 2: The 2020 water discharge data for the Poços de Caldas mine have been restated in this report.

Note 3: No water is discharged in areas with water stress.

Note 4: 2020 historical data has been corrected and restated in this report.

The substances that are monitored in discharged water are specified in the operation license issued by the relevant environmental authorities. The limits for these substances are established in CONAMA Resolution

430/11—which sets our rules and requirements for discharging wastewater—and in applicable technical standards issued by environmental agencies. In 2021 CBA identified no incidents of non-compliance with

discharge limits. At the Poços de Caldas mine, a water/oil separator system was found to contain surfactant levels exceeding the prescribed limit, but within the testing laboratory’s margin of error.



SASB EM-MM-140A.2
NUMBER OF INCIDENTS OF NON-COMPLIANCE ASSOCIATED WITH WATER QUALITY PERMITS, STANDARDS, AND REGULATIONS

In 2021 there were no incidents related to water quality.

GRI 103-1, 103-2, 103-3: 304 BIODIVERSITY BIODIVERSITY MANAGEMENT

CBA’s mine operations maintain three Private Natural Heritage Reserves (PNHR): the Boa Esperança and São Lourenço reserves, in the municipalities of Descoberto and Itamarati de Minas, in the Zona da Mata region of the state of Minas Gerais, and the Morro Grande reserve in Poços de Caldas.

The Zona da Mata reserves cover a total area of 304 hectares and harbor more than 200 species of fauna and flora, as identified in their Biodiversity Management Plans. The reserves have hosted a wide range of scientific research, environmental protection and social and environmental programs, and continue to support forest conservation efforts. Among the reserves’ highly diverse fauna and flora are a number of threatened species, such as the ocelot (*Leopardus pardalis*), the brown howler (*Alouatta guariba*), Brazilian sassafras (*Ocotea odorifera*) and Bahia rosewood (*Dalbergia nigra*). The Morro Grande Reserve covers an area of 426 hectares. The most recent flora survey on the reserve identified 282 plant species across 66 botanical families.

Below are some of the significant biodiversity initiatives at our mine sites during the reporting period:

- * Research on planting native species to enhance biodiversity in Zona da Mata
- * Research on edaphic diversity and the effects of plant cover on mine site rehabilitation in Zona da Mata
- * Cultivation of eucalyptus saplings in partnership with a private company, for landowners in the Poços de Caldas (MG) area
- * Bauxite mine rehabilitation: demonstrating that ecological rehabilitation, soil preparation and conservation, and forest fragment preservation efforts have been effective and are helping to increase forest cover in the area, playing an important role in conserving and restoring regional biodiversity
- * Studies featured in chapters of the book *Águas e Florestas*. The book describes three projects involving environmental monitoring and bioindicators of forest rehabilitation
- * Industry-first large-scale adoption of tall-grown saplings in reforestation offsets, improving plant development with less frequent maintenance and minimal replanting. Tall-grown saplings also serve immediately as perches for birds, increasing seed dispersal and enhancing biodiversity

CBA also owns the Legado Verdes do Cerrado nature reserve and is a co-founder of the Legado das Águas reserve. Learn more about these two private reserves in the [2021 CBA Annual Report](#).

The Itapissuma rolling mill in Pernambuco, northeastern Brazil, is located within the Santa Cruz Protected Area. Spread across the municipalities of Itamaracá, Itapissuma and a portion of Goiana, the reserve’s 38,692 hectares of area include 24,943 hectares of terrestrial ecosystems and 13,749 hectares of marine ecosystems (PERNAMBUCO, 2008). In 2021 a Biodiversity Assessment was conducted in the area surrounding Itapissuma, in two separate campaigns: one during the dry season, in October 2020, and the other during the rainy season, in June 2021. The resulting environmental assessment report will inform improvements in protected area management, in order to reconcile the plant operations with biological conservation. An action plan has been developed for implementation beginning in 2022.

At the Alumínio plant, flora and fauna are monitored every four years and two years, respectively. In 2020, both (fauna and flora) were monitored concurrently. In 2022, an assessment will be carried out to inform actions to regenerate local flora, with consequent benefits for local fauna. At Metalex, fauna and flora monitoring was carried out during the dry season. Fauna monitoring will also be conducted during the wet season in 2022 to provide inputs for conservation planning.

In 2021 CBA implemented a Disturbed Land Rehabilitation Program in Zona da Mata to rehabilitate areas where vegetation has not regenerated naturally. Nucleation techniques are used to enhance local biodiversity by mimicking the natural stages of ecological succession in a native forest. In 2022 the program will continue with a review of the RPPN (Private Natural Heritage Reserve, a protected area) Management Plan, capturing new sustainable development opportunities. Improvements will also be implemented in environmental rehabilitation techniques, as well as projects such as rotating pastureland as a technique for sustainable beef production, and intercropping corn and beans with coffee on family farms in a collaboration with the Federal University of Viçosa.

**GRI SECTOR SUPPLEMENT FOR
METALS AND MINING – MM7
APPROACH TO BIODIVERSITY MANAGEMENT**

All three mining operations (Miraí, Poços de Caldas, and Itamarati de Minas) have biodiversity management procedures in place.

**CBA – 9
CONTAMINATED SITE REMEDIATION**

CBA uses best practices in evaluating contaminated sites, implements the most restrictive regulations applicable to each site, and works transparently with environmental agencies in remediating environmental liabilities in its operations.

Contaminated site management at CBA is designed so that all operations achieve the highest level of maturity, ensuring that any risks are promptly mitigated and any deviations are adequately addressed. In addition to the contractors engaged to conduct contaminated site investigations, we also engage technical consultants with extensive expertise to assist us in investigations and crosscheck all investigation reports, as well as supporting decision-making.

In 2021 alone, CBA spent more than R\$ 6.7 million on preliminary analyses, confirmatory investigations, detailed investigations and risk assessments in our Alumínio, Metalex, Itapissuma and mine operations, demonstrating that we genuinely value environmental preservation in our activities.

**GRI 304-2
SIGNIFICANT IMPACTS OF ACTIVITIES,
PRODUCTS, AND SERVICES ON BIODIVERSITY**

At the Alumínio and Itapissuma plants, impacts on biodiversity are largely caused indirectly by industrial and adjacent activities. These impacts include noise, vibration, air emissions and vehicle and pedestrian traffic. On the Legado Verdes do Cerrado reserve, managed by Reservas Votorantim, both direct and indirect impacts can occur in connection with the use of pesticides and fertilizers.

Our mine sites are the most significant source of impacts on biodiversity; these result from clearing vegetation and stripping the soil for mining. In 2021 we recorded no infestations with pests and pathogens, plant health was well-preserved in reclaimed areas, and there was no reduction of species or any clearing of native vegetation causing changes in species’ ecological processes. Ore bodies are localized and geographically confined, and are mined in short cycles. After the ore body is exhausted, mined land is reclaimed to its original use. In 2021, all areas that were reclaimed prior to the wet season were successfully and fully re-vegetated. CBA aims to reclaim all mine sites to their original or better condition.

GRI 304-3
HABITATS PROTECTED OR RESTORED

(km²)	2019			2020			2021		
Areas where restoration measures have been approved by independent specialists or in accordance with external parameters/ protocols	Yes	No	Total	Yes	No	Total	Yes	No	Total
Cerrado	0	384	384	275	0	275	275	0	275
Atlantic Forest	0	240	240	325	36	361	364	0	364
Total	0	624	624	600	36	636	639	0	639

Note 1: Metalex is not included in the scope of this disclosure.
Note 2: Historical data has been restated, as the 2020 Annual Report did not consider the protected areas of the Legado das Águas and Legado Verdes do Cerrado private reserves in which CBA is a founder and maintainer.



The Legados reserves retained the same area as in the previous reporting period, under a strategic plan. On a farm within the Legado Verdes do Cerrado reserve, 80% of the area’s native vegetation is preserved, interspersed with agricultural activities (crops, cattle farming and native seedling nurseries), supporting biodiversity conservation in the Cerrado biome. In the Santo da Serra Negra area, the native vegetation is 100% preserved. At the Poços de Caldas (MG) mine site, the area of protected habitats has expanded from the previous year, as determined in a survey of protected areas and legal reserves on all properties.

Legado Verdes do Cerrado.
Photograph: Candisani

Financial management

GRI 102-10 CBA DEVELOPMENTS

In a meeting on July 13, 2021, the Board of Directors approved a price per share of R\$ 11.20 for CBA's primary offering of common shares. This resulted in a capital increase of R\$ 700,000,000.00, within the prescribed limit on the Company's authorized share capital, which increased from R\$ 4,049,459,728.46 to R\$ 4,749,459,728.46 through an issue of 62,500,000 registered, book-entered, no par value common shares priced at R\$ 11.20 each, with the Company's capital stock increasing from 533,333,333 common shares to 595,833,333 common shares. [Learn more here.](#)

SUPPLY CHAIN

There were no significant changes in the structure of the supply chain.

GRI 102-45 ENTITIES INCLUDED IN THE CONSOLIDATED FINANCIAL STATEMENTS

The entities included in the financial statements are: Companhia Brasileira de Alumínio (all operations: Alumínio plant, mines, Nickel business, and CBA-owned hydropower plants), Metalex Ltda., CBA Itapissuma Ltda., CBA Energia e Participações S.A., CBA Machadinho Geração de Energia Ltda., Baesa – Energética Barra Grande S.A., Enercan – Campos Novos Energia S.A. and Santa Cruz Geração de Energia S.A.

Energy subsidiaries, such as CBA Energia Participações S.A., CBA Machadinho Geração de Energia Ltda., Campos Novos Energia S.A. (Enercan) and Energética Barra Grande S.A. (Baesa), are covered by the consolidated financial statements but not by this report, and are not omissions.



A caster roll at CBA's
Alumínio Plant (SP)

GRI 419-1
NON-COMPLIANCE WITH LAWS AND REGULATIONS IN THE SOCIAL AND ECONOMIC AREA

		2021	
		Tax	Civil/labor
Significant fines and non-monetary sanctions for non-compliance with laws and/or regulations in the social and economic area:	Total number of significant fines	7	187
	Monetary value of significant fines	R\$ 392,514,001.89	R\$ 17,922,155.86
	Total number of non-monetary sanctions	N/A	0

Note 1: CBA tracks all legal proceedings through a software-based management system. Civil/labor: refers to settlements and indemnities awarded in labor claims. Tax: refers to delinquency notices in which fines were imposed during 2021.

INTENSITY BY SALES VOLUME

Water withdrawal intensity

(m³/R\$ million in sales)	2019	2020	2021
Water withdrawal intensity	0.60	0.53	0.33

Water consumption intensity

(m³/R\$ million in sales)	2019	2020	2021
Water consumption intensity	0.60	0.53	0.33

Note: water intensity calculations consider water consumption to be equivalent to water withdrawals

GHG emissions intensity

(t CO ₂ e / R\$ million in sales)	2019	2020	2021
GHG emissions intensity	241.1	210.0	138.4

Air emissions intensity

(t/ R\$ million in sales)	2019	2020	2021
Air emissions intensity	0.29	0.24	0.17

Note 1: includes NOx, SOx, PM and Volatile Organic Compound (VOC) emissions.
Note 2: At the Metalex and Itapissuma sites, data is collected every 2 years and therefore the data for 2021 are the same as for 2020.

Waste intensity

(t/ R\$ million in sales)	2019	2020	2021
Waste intensity	N/A	234.0	172.5

Hazardous waste intensity

(t/ R\$ million in sales)	2019	2020	2021
Hazardous waste intensity	N/A	1.79	1.13

Note: with the exception of air emissions intensity, which includes only Aluminum Business operations (Alumínio, Itapissuma and Metalex), the intensity figures are for all of CBA's operations.

Supplementary information to the SASB Content Index in the 2021 CBA Annual Report

**SASB EM-MM-160A.3, EM-MM-210A.1,
EM-MM-210A.2**
**PERCENTAGE OF PROVED AND PROBABLE
RESERVES IN OR NEAR AREAS OF CONFLICT,
INDIGENOUS LAND, PROTECTED AREAS OR
SITES WITH PROTECTED CONSERVATION
STATUS OR ENDANGERED SPECIES HABITAT**

A mineral reserve is the economically mineable part of a measured mineral resource or indicated mineral resource. Mineral reserves are subdivided into probable and proved reserves. Proved reserves have a higher degree of confidence of economic extraction than probable reserves.

CBA has 8.7 million metric tons of bauxite in proved reserves and 23.2 million metric tons of probable reserves at the Miraí Mine (Zona da Mata – MG) and Barro Alto Mine (in the municipalities of Barro Alto and Santa Rita – GO).

CBA is unaware of any active conflict in or adjacent to the areas hosting our reserves. Our reserves are not located in or near indigenous land or sites with protected conservation status or endangered species habitat. Our Zona da Mata (MG) bauxite reserves are at a distance of approximately 7 kilometers from the Core Zone and virtually within the Buffer Zone of an Atlantic Forest Biosphere

Reserve (RBMA). Core Zones are responsible for protecting biodiversity, while Buffer Zones are intended to both minimize impacts on the core zones and improve quality of life for local communities, especially traditional communities.

SASB EM-MM-310A.2
There have been no strikes and/or lockouts in the previous three years.

SASB EM-MM-210B.2
There were no non-technical delays in the reporting period.

Collective negotiations are due to take place within the following 12 months.

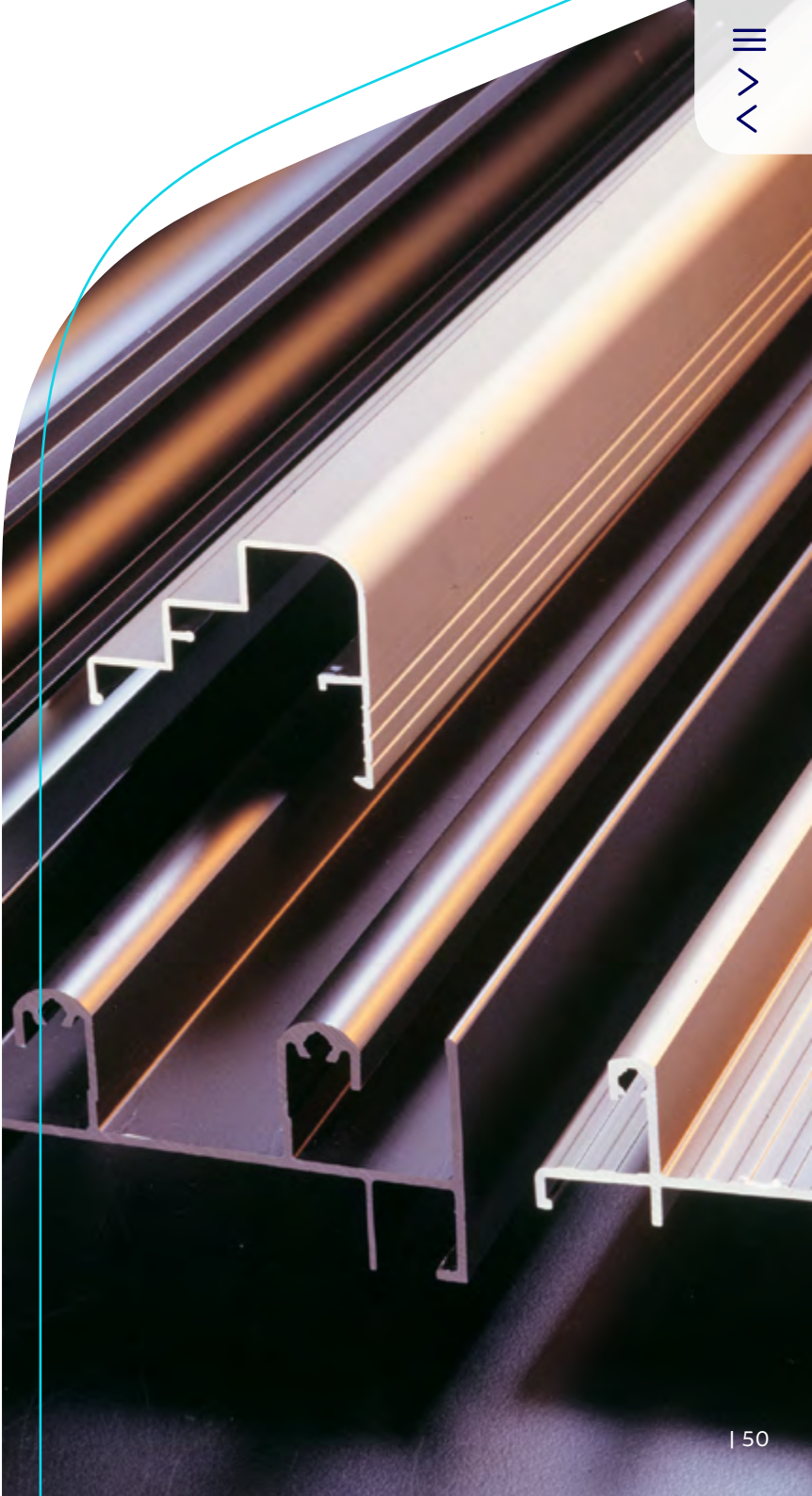
Employee salaries have no performance-based variable components.

Employees receive no non-remuneration benefits, such as retirement or other pensions.

SASB EM-MM-510A.2
Not applicable.

SASB EM-MM-160A.2
Not applicable.

Extruded
profiles



Basis of Preparation 2021

REPORTING CRITERIA FOR THE 2021 ANNUAL REPORT DISCLOSURES

1. Introduction

The 2021 CBA Annual Report has been prepared in accordance with the GR Standards and the Sustainability Accounting Standards Board’s (SASB) Metals and Mining Standard 2021 (for CBA’s mines and industrial plants, as applicable).

CBA has applied the amended PwC Assurance Framework, based on ISAE 3000 (Revised), which became effective in June 2021, to ensure the information in the Annual Report is accurate, traceable, transparent and comparable. PwC conducted its independent assurance engagement between February and March, 2022. The scope of disclosures that have been assured is described in the GRI/SASB Content Index on pages 120 to 136 of the Annual Report. The Report provides added detail on disclosures relating to CBA’s material topics, as requested during the Independent Assurance process. In certain cases, disclosures lack a sufficiently detailed explanation to allow an understanding of the context surrounding the data, and in these cases supplementary information has been included either directly in the body of the report, in footnotes or in tables. This supplementary information includes, for example, the organizational boundaries used in reporting sustainability information and exceptions to those boundaries, the calculation methodology, assumptions and criteria used for reported data, and the primary systems used to collect, record and report sustainability information.

2. Organizational boundaries and exceptions to the reporting scope

The information presented in the report covers key environmental, social, economic, operational and governance aspects across all of CBA’s operations, including the following:

- Aluminum Business: four bauxite mines, one integrated aluminum plant, from alumina to downstream products, one aluminum sheet and foil rolling mill (Itapissuma), two distribution centers, one scrap recycling facility (Metalex), and one machining facility (Sorocaba)
- Nickel Business: one mine and one plant, both currently curtailed
- 21 hydropower plants (interests in energy joint ventures such as CBA Energia Participações S.A., CBA Machadinho Geração de Energia Ltda., Campos Novos Energia S.A. (Enercan) and Energética Barra Grande S.A. (Baesa) are covered by the consolidated financial statements but not by this report).
- Two private reserves: Legado das Águas (“Water Legacy”) and Legado Verdes do Cerrado (“Cerrado Green Legacy”), both managed by Reservas Votorantim

- Corporate Office
- Bauxita Rondon: an operation currently undergoing licensing

CBA’s Energy business and Alux do Brasil are not included as they are currently being integrated into CBA. In 2022 they will have been fully integrated into the Company and will therefore be included in next year’s report.

Where the scope of a given disclosure excludes any of CBA’s operations, these exceptions are listed in the Disclosures and Criteria Table (see PDF file). Disclosures GRI 103-1, 103-2, 103-3: 301 Materials, 301-2 and CBA-8 Recycled input materials used are examples of these exceptions; these disclosures relate to CBA’s Aluminum Business sites only as all Nickel Business operations are currently curtailed.

3. Accounting information, currencies and translation

The financial information in the Annual Report is derived from CBA’s independently audited individual and consolidated financial statements for the same reporting period (2021).

The individual and consolidated financial statements use the historical cost basis of accounting; certain financial assets and liabilities, including derivative instruments, have been measured at fair value, and details on the basis of preparation are provided in notes to the financial statements.

Other monetary information included in GRI Standard disclosures is stated in Brazilian reais. Transactions in foreign currency are translated into reais at the prevailing exchange rates on the transaction or appraisal dates.

4. Reporting systems

The main systems and tools used by CBA in compiling the primary data underlying the reported disclosures include: the Company’s SAP system, Espaider, the Brazilian GHG Protocol calculation tool, Excel spreadsheets used as internal controls, and internal reports.

A specialized consultancy provided assistance in compiling disclosures. Each CBA department and site consulted its systems and completed Excel data collection forms, which were then submitted to the consultancy for consolidation.

A description of the monitoring and data storage systems used internally for each of the disclosures is provided in the notes throughout the report or in the [PDF table](#).

5. Detailed reporting criteria

The [PDF table](#) provides information supplementing the report, in addition to the disclosures required by the relevant reporting standards. The table contains only those disclosures under the GRI Standards, the SASB Metals and Mining Standard 2021, the GRI Sector Supplement for Metals and Mining and CBA disclosures which lacked the information specified in points 2, 3 and 4 above under the PwC Framework.


Click here
to access the *Table of Disclosure Items and Criteria*



CBA’s listing ceremony at B3

