Companhia Brasileira de Alumínio - Climate Change 2022

C0. Introdução

C0.1

(C0.1) Faça uma descrição e uma introdução geral da organização.

Founded in 1955, Companhia Brasileira de Alumínio (CBA) is a vertically integrated, sustainable producer of high-quality aluminum products. With hydroelectric generation capacity for 100% of our energy requirement, CBA's operations span both bauxite mining and processing into primary aluminum (ingots, plate sheets, billets and rod*) and semi-fabricated products (caster rolls, sheet, foil, extruded profiles and parts and components). Working closely with clients, CBA also develops tailored solutions and services, primarily for the packaging, automotive and transportation markets, helping clients to produce more lightweight, durable and sustainable products. CBA is also in the Nickel Business, currently under a temporary shutdown due to unfavorable macro-economic and market conditions.

C0.2

(C0.2) Indique a data de início e de fim do ano para o qual os dados estão sendo reportados.

	Data de início	Data de fim	Indique se estão sendo fornecidos dados de emissões de anos de reporte passados	Selecione o número de anos de reporte passados cujos dados de emissões estão sendo fornecidos
Ano de reporte	janeiro 1 2021	dezembro 31 2021	Sim	3 anos

C0.3

(C0.3) Selecione os países/áreas onde a empresa opera.

Brasil

C0.4

(C0.4) Selecione a moeda usada para todas as informações financeiras divulgadas na resposta.

BRL

C0.5

(C0.5) Selecione a opção que descreve os limites de reporte para os quais os impactos climáticos da organização estão sendo reportados. Observe que esta opção deve estar alinhada com o método de consolidação escolhido para o inventário de GEEs.

Controle operacional

C-MM0.7

(C-MM0.7) Em qual parte da cadeia de valor dos metais e da mineração a organização opera?

Linha 1

Mineração

Bauxita

Níquel

Processamento de metais

Alumínio

Alumina

Níquel

C0.8

(C0.8) A organização tem um código ISIN ou outro identificador único (por ex., Ticker, CUSIP etc.)?

Indique se é possível apresentar um identificador único para a organização	Forneça o identificador único
Sim, um símbolo no Ticker	CBAV3

C1. Governança

C1.1

(C1.1) Existe supervisão pelo Conselho sobre as questões climáticas na organização?

Sim

C1.1a

(C1.1a) Identifique o(s) cargo(s) do(s) indivíduo(s) do conselho responsável(is) pelas questões relacionadas ao clima (não inclua os nomes).

Cargo do(s) indivíduo(s)	Explique
Diretor Executivo (CEO)	The CBA CEO is a member of the Sustainability Committee and the Executive Sustainability Committee. He is responsible for approving projects and decisions related to climate change. For example, he was responsible for approving the study for internal carbon pricing and climate adaptation analysis, participated in preparing and approving the 2030 ESG Strategy, which provides for GHG reduction goals, and also approved our science-based target proposal sent for SBTi approval.
Diretor Financeiro (CFO)	The CBA CFO also accumulates responsibilities of CRO, CIO and CCO. He is also a member of the Executive Sustainability Committee. His role in the Committee is to assess the risks and opportunities for sustainability, including climate issues, from a financial point of view. For example, he was responsible for approving CBA's participation in CDP due to the visibility of investors. He also participated in preparing and approving of the 2030 ESG Strategy, which provides for goals for GHG reduction goals, and was responsible for approval to buy RECs to neutralize our scope 2 emissions from use of electricity.
Diretor Operacional (COO)	The CBA COO for processed aluminum products is also a member of the Executive Sustainability Committee. His role in the Committee is to assess sustainability risks and opportunities for operations and clients, including climate issues. For example, he was responsible for approving a carbon neutralization study on aluminum foil. He also participated in preparing and approving the 2030 ESG Strategy, which provides for GHG reduction goals.
Diretor de Compras (CPO)	The CBA CPO is also a member of the Executive Sustainability Committee. His role is to assess sustainability opportunities and risks in the supply chain, including climate issues. For example, he was responsible for approving a Sustainable Supplies project that aims to commit our main suppliers on relevant issues, including climate. He also participated in preparing and approving the 2030 ESG Strategy, which provides for GHG reduction goals.
Outro, especifique (Sustainability General Manager)	The Sustainability General Manager is responsible for defining relevant topics, scheduling meetings, supporting and monitoring decisions by the Executive Sustainability Committee. For example, he was responsible for adopting climate change guidelines for evaluation by the Executive Sustainability Committee, including advancement of carbon pricing studies in Brazil, internal approval of science-based targets and implementation of the ESG 2030 Strategy. The Sustainability Manager is responsible for analyzing new topics raised by the Executive Sustainability Committee and sharing with his team to evaluate and structure new sustainability projects and initiatives.
Outro, especifique (Environmental Manager)	The Environmental Manager is also a member of the Executive Sustainability Committee. He is responsible for the environmental viewpoint in the topics discussed. For example, he is responsible for performing ASI audits. ASI is an association of best practices in the aluminum industry, which has specific certifications, including topics on greenhouse gas emissions. CBA is ASI-certified since 2019, with excellent results in audits, including GHG emissions management.
Outro, especifique (Engineering and Technology Director)	The Engineering and Technology Director is also a member of the Executive Sustainability Committee. He is responsible for evaluating possible improvements that can be made through projects and innovation. For example, he is responsible for approving the inclusion of climate change issues when prioritizing projects. An example of this is a project to replace fuels in boilers, which will use biomass to replace natural gas and fuel oil. The new boiler system started operating in 2020 and obtained a 46.2% decrease in Alumina Refinery emissions compared to 2019. He is also responsible for implementing projects that contribute in reducing GHG emissions in CBA's operations and for seeking new technologies that contribute to achieving ESG 2030 Strategy goals.
Outro, especifique (Casting General Manager)	The Casting General Manager is also a member of the Executive Sustainability Committee. He is responsible for the operational and primary aluminum client view on sustainability issues, including climate. For example, he is responsible for investments in a new scrap treatment line at the Metalex and Aluminio Units, with the aim of increasing use of scrap and reducing the carbon footprint from billets produced.
Outro, especifique (Legal, Governance and Compliance Director)	The Legal, Governance and Compliance Director is also a member of the Executive Sustainability Committee. He is responsible for the legal aspects of decisions made by this board and supporting assessment of legal impacts by the company's activities in terms of sustainability matters and projects.
Outro, especifique (Independent members)	The CBA Executive Sustainability Committee has three independent members. The first two are the director of the Votorantim Institute and the general manager of the Votorantim Reserves. They are responsible for an external view of relevant sustainability issues, including climate. For example, they have raised synergy opportunities for carbon neutralization in CBA's private reserves and in places where local communities enjoy social benefits. The last independent member is a Brazilian reference in Sustainability and is responsible for an external view in Committee discussions, benchmarks and transparency in CBA's activities.
Comitê do conselho	A member of the board is also on the Sustainability Committee. He is responsible for the board's opinions in the discussions. He also manages the Board's Sustainability Committee, of which the Chairman is a member. The Sustainability Committee is responsible for providing technical support to the board on sustainability issues, including climate change topics.
Comitê do conselho	In 2021 the Sustainability committee was created, to operate on a permanent basis, to advise the Company's Board of Directors on the following issues, among others: (i) Recommend to the Board of Directors approval of the Sustainability strategy and objectives; (ii) Recommend to the Board of Directors approval of the GRI Annual Report; (iii) Evaluate, monitor and recommend improvement of policies involving the Company's sustainability issues to the Executive Board, and when applicable to the Board of Directors; and (iv) Meet any other sustainability demands as requested by the Board of Directors. The Sustainability Committee is an advisory body to the Company's board of directors and has own internal laws.
Diretor de Sustentabilidade (CSO)	The CBA organizational, human development, health, safety, environment and Sustainability director is a member of the sustainability executive committee and is responsible for monitoring the main sustainability projects (including those focused on climate change) that are and will be developed by the company. This representative participated in the approval of initiatives such as submission and approval of a SBTi emission reduction target, climate adaptation project, carbon pricing, among others.

C1.1b

(C1.1b) Dê mais detalhes sobre a supervisão das questões climáticas por parte do conselho.

Frequência com a qual as questões climáticas são um item da pauta programada	Mecanismos de governança nos quais as questões climáticas estão integradas	Escopo da supervisão por parte do conselho	Explique
Programado – algumas reuniões	Análise e orientação de estratégia Análise e orientação dos principais planos de ação Análise e orientação de políticas de gestão de riscos Análise e orientação de orçamentos anuais Análise e orientação de planos de negócios Definição de objetivos de desempenho Monitoramento da implementação e do desempenho dos objetivos Supervisão dos principais gastos de capital, aquisições e desinvestimentos Monitoramento e supervisão do progresso em relação aos objetivos e metas para tratar questões climáticas Outro, especifique (Partnerships planning)	<Not Applicable>	The Sustainability Committee and Executive Sustainability Committee are in charge of treating sustainability topics, and emissions are one of the most important subjects to the company, it appears very frequently in both committee's agenda. The sustainability committee is in charge of advising the Board of Directors on the development and implementation of the Sustainability Strategy, which includes corporate guidelines and actions in the management of environmental, social and governance issues. At the same time, the Executive Sustainability Committee was created in 2019, with the purpose of supporting the definition and implementation of the sustainability strategy, ensuring commitment by the leadership team and the topic's transversality with the company's business areas. This includes definitions related to climate change. We understand the importance of a high level of integration across the social, environmental and governance dimensions. This committee gets together once every two months and in each meeting agenda there is at least one ESG topic to be discussed. At least twice a year the goals and targets are discussed and analyzed, including water-related goals. Each time there is a need to evaluate an action plan or when our Board has to approve an ESG document/assessment, the Committee evaluates it first and gives their suggestions as specialists in the field. The committee must have at least one member who is a Sustainability expert and at least one member of the Board. This Committee is also responsible for bringing the most relevant topics to shareholders. As an example of actions, this committee was responsible for approving the CBA ESG 2030 Strategy, the SBTi target proposal, our carbon pricing and even the climate change adaptability study.

C1.1d

(C1.1d) A organização tem pelo menos um membro do conselho com competências para questões climáticas?

	O(s) membro(s) do conselho tem(têm) competências para questões climáticas	Critérios utilizados para avaliar as competências do(s) membro(s) do conselho para questões climáticas	Razão principal para que não haja competências por parte do conselho para questões climáticas	Explique por que a organização não tem pelo menos um membro do conselho com competências para questões climáticas, e quais são os eventuais planos para abordar as competências por parte do conselho no futuro
Linha 1	Sim	CBA has an independent member with sustainability and climate change experience and considered a reference in the topic in the Brazilian market. As published in CBA's 2021 Annual Report, one of its members is also a member of the Advisory Board of Instituto Ethos and WRI Brasil (World Resources Institute), both of which are widely known for their involvement in water issues, natural resources in general and SDGs. As these are important positions in renowned institutions, the member's technical knowledge on water-related topics can be affirmed. This member is responsible for advising our Sustainability Committee and bringing improvement ideas by means of his market vision of best practices.	<Not Applicable>	<Not Applicable>

C1.2

(C1.2) Indique o(s) comitê(s) ou o(s) cargo(s) de gerência de nível mais alto com responsabilidade pelas questões climáticas.

Nome do(s) cargo(s) e/ou comitê(s)	Linha de reporte	Responsabilidade	Abrangência da responsabilidade	Frequência de reporte das questões climáticas para o conselho
Diretor Executivo (CEO)	<Not Applicable>	Tanto avaliação quanto gestão de riscos e oportunidades climáticos	<Not Applicable>	Frequência maior que trimestral

C1.2a

(C1.2a) Descreva em que ponto da estrutura organizacional encontra(m)-se este(s) cargo(s) e/ou comitê(s), quais são suas responsabilidades associadas e como são monitoradas as questões relacionadas ao clima (não inclua os nomes dos indivíduos).

The Sustainability Committee is the highest body dealing with climate issues in the CBA. It was created in April 2021, with aim to advise the Board of Directors on the development and implementation of the Sustainability Strategy, which includes corporate guidelines and acts in the management of environmental, social and governance issues. It includes some members of the board, like the Chairman, and the CBA's CEO.

Addicionally, CBA has the Executive Sustainability Committee since 2019. It includes the CEO, Directors, General Managers and independent members. Most recently a member of the board and an external Sustainability Specialist was joined the Committee. The responsibilities of this Committee in relation to climate issues, refer to reviewing the performance strategy, monitoring trends, assess risks and opportunities, approving projects, providing resources for implementation, defining climate goals, monitoring results. The responsibilities for climate-related issues have been assigned to CEO because the theme is strategic for the aluminum sector, which is electro-intensive and known for having high greenhouse gas emissions.

Committee meetings take place every 2 months.

Examples of decisions made by the Committee in relation to climate change:

- Emission reduction targets for senior leadership.

- Approval for commitment to Science Based Targets and to the proposal target that was sent to SBTi;.

- Approval for the ESG Strategy, including GHG emissions reduction targets and Materiality studies.

- Approval to study Carbon Neutralization of some products.

- Approval for carbon pricing value and to the climate change adaptability study.

- Approval to RECs purchase.

C1.3

(C1.3) Há incentivos para a gestão de questões relacionadas ao clima, incluindo o cumprimento de metas?

	Dar incentivos pela gestão das questões climáticas	Comentários
Linha 1	Sim	Sustainability targets (including greenhouse gas emissions) aligned with company strategy and linked to cash bonuses to eligible employees (leaders at all levels).

C1.3a

(C1.3a) Dê mais detalhes sobre os incentivos oferecidos pela gestão das questões climáticas (não inclua os nomes dos indivíduos).

Com direito a incentivo	Tipo de incentivo	Atividade incentivada	Comentários
Presidente do Conselho	Recompensa monetária	Meta de redução de emissões	Sustainability goals (including greenhouse gas emissions) aligned with the strategy and linked to cash bonuses to eligible employees (leaders at all levels).
Conselho/Conselho Executivo	Recompensa monetária	Meta de redução de emissões	Sustainability goals (including greenhouse gas emissions) aligned with the strategy and linked to cash bonuses to eligible employees (leaders at all levels).
Diretor do Conselho	Recompensa monetária	Meta de redução de emissões	Sustainability goals (including greenhouse gas emissions) aligned with the strategy and linked to cash bonuses to eligible employees (leaders at all levels).
Equipe executiva corporativa	Recompensa monetária	Meta de redução de emissões	Sustainability goals (including greenhouse gas emissions) aligned with the strategy and linked to cash bonuses to eligible employees (leaders at all levels).
Diretor Executivo (CEO)	Recompensa monetária	Meta de redução de emissões	Sustainability goals (including greenhouse gas emissions) aligned with the strategy and linked to cash bonuses to eligible employees (leaders at all levels).
Diretor Financeiro (CFO)	Recompensa monetária	Meta de redução de emissões	Sustainability goals (including greenhouse gas emissions) aligned with the strategy and linked to cash bonuses to eligible employees (leaders at all levels).
Diretor Operacional (COO)	Recompensa monetária	Meta de redução de emissões	Sustainability goals (including greenhouse gas emissions) aligned with the strategy and linked to cash bonuses to eligible employees (leaders at all levels).
Gerente de Operações de Processos	Recompensa monetária	Projeto de redução de emissões Meta de redução de emissões	Sustainability goals (including greenhouse gas emissions) aligned with the strategy and linked to cash bonuses to eligible employees (leaders at all levels).
Outro, especifique (Todos os empregados profissionais (RV))	Recompensa monetária	Outros, especifique (ESG Goals related to variable remuneration)	Sustainability goals to disseminate our 2030 ESG Strategy to all the company, including greenhouse gas emissions knowledge.

C2. Riscos e oportunidades

C2.1

(C2.1) A organização dispõe de um processo para identificar, avaliar e responder aos riscos e oportunidades climáticos?
Sim

C2.1a

(C2.1a) Como a organização define "horizontes temporais de curto, médio e longo prazo"?

	De (anos)	A (anos)	Comentários
Curto prazo	0	1	Risk mitigation actions enter in the budget for the following year
Médio prazo	1	5	The Company's strategic planning is evaluated for the next 5 years.
Longo prazo	5	30	Some long-term risk costs are provisioned in the ARO and ORO accounts, such as risks associated with decommissioning.

C2.1b

(C2.1b) Como a organização define um impacto financeiro ou estratégico "significativo" nos seus negócios?

The topics and risks, including climate-related assessment risks, are classified according to their potential for financial, reputational, environmental, social, legal and health and safety impact. In the case of climate-related risks, the financial aspect is considered substantial from R$ 45 MM (minor impact) up to values above R$ 180 MM (extreme impact).

Reputational impact for climate-related risks starts to be considered strategic when there is a negative exposure at the local level with an impact restricted to only one stakeholder (CBA legal representatives, government authorities, society, opinion makers, market and internal public) and reaches the extreme level when it affects clients or a critical supplier, or if there is long-term damage to reputation, with negative exposure at national and/or international levels by the press and social networks with impacts to all stakeholders.

For environmental issues, a climate-related risk becomes strategic if there is an event of environmental liability, and becomes an extreme climate-related risk when this environmental liability causes an impact of great magnitude with financial unfeasibility for reverting damage to species, habitats and ecosystems, and prevents continuity of operations.

For social issues, a climate-related risk becomes strategic when there is an impact on a specific neighborhood or community, reaching the economic (employment or income), environmental (natural resources) or physical (health and safety) spheres of residents; the extreme level would happen if there is a severe regional impact with communities and/or public entities capable of interrupting operations; Significant impact on social dynamics, with permanent or lasting changes in the way of life..

For health issues, climate-related risks are relevant if they impact employees, leading to the need for medical leave (example: hot flashes in warmer temperatures), and can be classified extreme for weather events that can lead to deaths.

Legal issues are not yet relevant to climate-related risks because Brazil does not have relevant laws to address these issues with the private sector, but any emerging regulations such as carbon regulations (carbon national pricing or border defense mechanisms) that may have a financial impact on the company are also considered a strategic climate-related risk.

Within the company's risk mapping structure, impacts can be divided into four categories, namely: Minor, Moderate, Major and Extreme. For CBA, significant risks are those rated as Major or Extreme

C2.2

(C2.2) Descreva o(s) processo(s) para a identificação, a avaliação e a resposta aos riscos e às oportunidades climáticos.

Etapa(s) da cadeia de valor abrangida(s)
Operações diretas
Upstream
Downstream

Processo de gestão de riscos
Integrado no processo de gestão de riscos multidisciplinar da empresa como um todo

Frequência da avaliação
Mais de uma vez por ano

Horizonte(s) temporal(is) abrangido(s)
Curto prazo
Médio prazo
Longo prazo

Descrição do processo
CBA has a Risk Management Policy for managing financial, operational, socio-environmental, strategic and compliance risks that consider climate risk analysis and climatic attributes. The Company's Risk Management Policy is based on (i) governance guidelines, Company corporate bylaws; (ii) applicable rules issued by the Brazilian Securities Commission(“CVM”); (iii) the Novo Mercado Listing Regulations by B3 S.A. - São Paulo Stock Exchange; (iv) the guidelines and principles described in the Company's Code of Conduct as well as in the internal regulations of the Statutory Audit Committee and the Board of Directors; and (v) the COSO-ERM model - Committee of Sponsoring Organizations of Treadway Commission – Enterprise Risk Management (“COSO ERM”); and (iv) the ABNT NBR ISO 31000:2018 standard - Risk management - guidelines.
The Risk Management Policy has the main objective of establishing guidelines and responsibilities for the Company’s Risk Management, as well as guiding the processes of contextualizing, identification, evaluation, analysis, treatment, recording, monitoring and communication of risks inherent to its activities, incorporating risk elements into strategic decision-making and in accordance with best market practices. The Risk Management Policy is applicable to all areas of the Company and its units, which must use the tools made available by Risk Management and Internal Controls to support the conduct of its processes in order to seek reduction of risk exposure, internal or external, inherent to CBA's business and that were detected, contextualized, identified,
prioritized, evaluated, recorded, treated and monitored.
For the Company, “Risk” is the possibility that an event will occur and adversely affect achieving objectives, with “Risk Management” being a set of coordinated activities to direct and control an organization as it pertains to risk, the purpose of which is to create and protect value, to improve performance, encourage innovation and support the achievement of strategic objectives

The company has a risk identification step that performs search, recognition and description of Risks, based on the established context and supported by communication and consultation with the parties’ stakeholders, internally and externally. The aim is to produce a comprehensive list of Risks, including
causes, sources and events, which may have an impact on achieving objectives identified in the context establishment stage. In addition, there is the Risk Analysis stage, responsible for understanding the nature of the Risk and determining the level of Risk, providing the basis for assessment and for decisions on the treatment of Risks. The result of the Risk analysis will be to assign, for each identified Risk, a rating both for “Probability” (measure of the possibility of a Risk event) and for the "Impact" (consequence of materialization of a Risk event in the objectives), which combination
will determine the level of Risk. Next, there is the risk assessment stage, with the purpose of carrying out a Risk assessment and assisting in decision making.
based on the results of the Risk analysis, in which Risks need treatment and priority for implementing treatment. This involves comparing the level of Risk with the criteria of Risks established when the context has been considered, to determine whether the Risk and/or its magnitude is acceptable or tolerable or if any treatment is required.
Finally, there is the risk treatment stage, which involves selection of one or more options to modify the level of Risk and prepare treatment plans, which once implemented, will imply introducing new controls or modifying those existing

The purpose of risk identification is to find, recognize and describe risks that can affect CBA in achieving objectives defined. This analysis is carried out considering all the risk factors detected through the risk assessment process and are evaluated according to the impact and probability of the risk. The evaluation criteria involve the comparison between risk rules and probability of occurrence in internal and external environments, as well as the controls in place to mitigate the risks. The result of the assessment must be registered, communicated and validated by the governance bodies: Executive Board, Audit Committee and Board of Directors. Inside our risks document there is a space to select if the risks are related to some climate change attribute, and if so, the respondent should complete a climate change annex where there is more detailed information on how climate attributes can increase, or the impact or the probability and financial impact (This document was revised considering TCFD recommendations). Inside the annex will be seen if it is a transition or physical risk, and if it has any political/legal, technological, market or reputation bias.
Opportunities are mapped by each area of the company and registered in a multi-disciplinary Competitiveness Management platform. Assessments are made several times during the year and actions and indicators are systematically monitored. This platform also evaluates the magnitude of the opportunity to determine whether it would have a significant financial or strategic impact. Opportunities are also considered in the short, medium and long term. The main opportunities are also submitted to the Board of Directors. Climate opportunities may involve mitigation projects that have financial gains, possibilities for increasing margins or share in low-carbon products, development of the supply chain to be prepared for climate change, among others.
Climate risks and opportunities can be physical (acute or chronic) or transitional (current and emerging regulation, technology, legal, market and reputational).

C2.2a

(C2.2a) Quais tipos de riscos são levados em conta nas avaliações de riscos climáticos da organização?

	Relevância e inclusão	Explique
Regulamentação atual	Relevante, às vezes incluído	Current regulations do not offer significant risks to CBA, since today, only the company is required to report its scope 1 and 2 emissions. CBA reports its total and assured emissions inventory within the public emissions registry. The company considers this disclosure important to ensure transparency of one of the most material topics for the company, and failing to publish this data is not an option for the company's climate change management, and goes against the ESG 2030 strategy and its positioning of a reference in sustainability. We follow the regulation updates closely to assess whether this risk may arise, and always prioritize following discussions of regulatory changes and being aligned with best market practices, that way we can reduce impacts by significant changes to the company's activities. To CBA, an extreme risk would be if the change in current regulations has the power to stop our operations. CBA has a risk form that must be completed every time a new risk is detected. Inside this document there is an option "Governance and Conformity" in the risk assessment form to classify the type of risk, for signaling whether the risk can adversely impact current regulations applicable. In the same document we have the option to select if the risk has any kind of climate change bias, and if so, the person responsible for this risk should complete an annex with more information on how climate aspects can increase the probability or impact the scenario in question.
Regulamentação emergente	Relevante, sempre incluído	This topic can cause significant financial impacts to the company since we have processes with relevant direct emissions, although our emissions are low compared to other primary aluminum producers in the world. This can be applied to border protection mechanisms such as European CBAM (Carbon Border Adjustment Mechanism) as well. In Brazil, carbon pricing is being studied and it could become a regulation. There is a "Governance and Conformity" option in the risk assessment form to rate the type of risk, in which emerging regulations should be considered. In the same document we have the option to select if the risk has any kind of climate change bias, and if so, the person responsible for this risk should complete an annex with more information on how climate aspects can increase the probability or impact the scenario in question.
Tecnologia	Relevante, sempre incluído	With the introduction of new technologies that are more competitive in terms of emissions, former ones start to have a commercial disadvantage. Considering the inclusion of carbon pricing systems and border protection systems, companies with "backward" technologies with higher emission intensity would have to pay more in carbon pricing systems, increasing the cost of its product and impacting CBA's competitiveness in the market. After development of our Climate Change Adaptability study, technology risks were deemed relevant to the company. With the evidence of global warming (IPCC report) and the increase in discussions and market demands on the role of the private sector in the process of reducing GHG emissions. There is a "Strategic topic" option in the risk assessment form to classify the type of risk. Inside the annex it is possible to select the “Technological” rating for this climate risk. In the same document we have the option to select if the risk has any kind of climate change bias, and if so, the person responsible for this risk should complete an annex with more information on how climate aspects can increase probability or impact the scenario in question.
Legal	Relevante, às vezes incluído	Current regulations and the legal system do not offer significant risks to CBA, as the company only is currently required to report its scope 1 and 2 emissions. CBA reports its total and ensured emissions inventory within the public emissions registry. The company considers this disclosure important to ensure transparency of one of the most material topics for the company and failing to publish this data is not an option for the company's climate change management, and goes against the ESG 2030 strategy and its positioning as a reference in sustainability. We comply with current legislation and watch all the updates closely to assess whether this risk may arise or not in coming years. To CBA an extreme risk would be if the change in current regulations has the power to stop our operations. There is a "Governance and Conformity" option in the risk assessment form to classify this type of risk.
Mercado	Relevante, sempre incluído	This topic can generate financial results, since it would lose market share. CBA and the aluminum sector as a whole has as its main manufacturing model counter-arguments of dealumination in the activity and low carbon emissions are being studied. The aluminum market may suffer a significant impact from climate change, mainly due to stigmatizing in it as a major polluter. Thus, some clients may look for alternative materials to be used instead of aluminum. In the world some companies are already trying to create aluminum-free packaging known as alu-free, causing a decrease in aluminum demand throughout the market. As a result, CBA's sales may be affected, directly impacting its revenues. This has not yet occurred, but it is a real risk that the company and all the aluminum sector are structuring a decarbonizing strategy to decrease the risk's probability and impact (Today this kind of discussion is more frequent among packaging companies). There is a "strategic topic" option in the risk assessment form to classify the type of risk in which the market may be considered. Market is a relevant topic for CBA that should always be considered.
Reputação	Relevante, sempre incluído	Reputation is an important issue for CBA and can result in market loss, and adversely impact the company's share price in the B3 stock exchange. Several mining and metallurgy companies are suffering criticism for taking few actions or not ambitious measures on climate issues. In this way CBA also runs the risk of having its reputation impacted by this topic, and that is why we have several actions to engage with climate change issues inside our value chain to mitigate this risk. CBA has plans to be a sustainability market reference and one of our main topics is our carbon strategy and management, one of our materiality topics, and hence we care about the perception that society and the market have of our activities There is a "strategic topic" option in the risk assessment form to rate the type of risk. Inside the annex it is possible to select the “Reputational” rating for this climate risk.
Físico agudo	Relevante, sempre incluído	CBA has exercised climate projections for all of its units in the aluminum business to increase its climate resilience to acute physical risks. One of our acute risks is the impact on critical suppliers due to climate-related events, whether extreme weather events and/or reduced rainfall can impact suppliers' operations, reducing availability of critical materials for CBA's production. That could lead to a situation that CBA may have to stop or reduce its operations, which could lead to a reduction in income generation. There is the "operational" option in the risk assessment form to classify the type of risk, in which acute physical risks should be considered.
Físico crônico	Relevante, sempre incluído	CBA has produced climate projections for all of its units in the aluminum business to increase its climate resilience to chronic physical risks. Climate projections indicate a risk of drought and reduced rainfall, causing a possible water crisis which may limit use of water in the operation and have adverse impacts on CBA's structure with production downtime. In the event of a lack of water, the community can also be impacted and the government can act to reduce the volume of grants for industrial processes. This could lead to a situation whereby CBA would have to stop or reduce operations, which could lead to a reduction in income generation. There is the "operational" option in the risk assessment form to classify the type of risk in which chronic physical risks should be considered.

C2.3

(C2.3) Foi identificado algum risco climático inerente com potencial para causar um impacto financeiro ou estratégico significativo nos negócios?
Sim

C2.3a

(C2.3a) Dê detalhes dos riscos identificados com potencial para causar um impacto financeiro ou estratégico significativo para os negócios.

Identificador
Risco 1

Em que ponto da cadeia de valor ocorre o fator de risco?
Operações diretas

Tipo de risco e Principal fator de risco climático

Regulamentação emergente	Mecanismos de precificação do carbono

Principal impacto financeiro em potencial
Maiores custos diretos

Tipo de risco climático mapeado conforme a classificação de risco tradicional do setor de serviços financeiros
<Not Applicable>

Descrição específica da empresa
Brazil does not currently have regulations on climate change, but through the PMR Brasil Project and other state projects that were studying alternatives to apply carbon pricing in the country aligned to an emissions trade scenario. The pricing proposal will be applied to aluminum industries producers with significant emissions (above 25,000 t CO2e/year). Currently, the plant's emissions by the unit located in the town of Alumínio (SP) are roughly 1,093,700.00 t CO2e (scope 1) and Itapissuma (PE) roughly

40,070.00 t CO2e (scope 1) in 2021. This increase in costs may affect CBA's competitiveness in relation to other smaller domestic companies, which will not have such significant pricing or regarding aluminum imported into Brazil from countries that do not have carbon pricing. CBA has a vertically integrated plant with all the production steps of the aluminum chain (Refinery, Smelters, Casthouse and Downstream production), however the great majority of other companies in the area have one or two of these steps within their operations, which can lead to a scenario whereby not every aluminum company has to pay the price for carbon emissions, causing financial impacts to CBA due to loss of market competitiveness.

Horizonte temporal
Médio prazo

Probabilidade
Muito provável

Magnitude do impacto
Alta

É possível indicar um valor para o potencial impacto financeiro?
Sim, uma faixa estimada

Valor do potencial impacto financeiro (moeda)
<Not Applicable>

Valor do potencial impacto financeiro – mínimo (moeda)
21259000

Valor do potencial impacto financeiro – máximo (moeda)
44369000

Explicação do valor do impacto financeiro
The financial impact was calculated through CBA's internal pricing study. The study relied on the assessment by an external carbon pricing expert and looked at the proposed structure of PMR Brasil and PL 528/21, pricing systems in countries of interest (CBA exports) and considered the
Company's Mitigation Projects.
The potential financial impact reported refers to the annual impact on the company's operating profit based on its scope 1 emissions in that year for both plants (Aluminio and Itapissuma). In this study it was calculated that our carbon pricing will be R$22.85. Following PMR statements, emissions threshold (it was taken into account that the business units to be included in a carbon pricing mechanism are those that emit more than 25000 t CO2e/year).
Assumptions for final value: (i) Same current export profile for processed (%); (ii) Carbon pricing system implementation in Brazil: early 2025, price (R$40.00) increases and free allocation (50%) + offsets (20%) gradually reduced; (iii) CBAM system implementation: start 2026, gradual increase; (iv) Dollar: BRL 5.69; (v) Discount rate=0.
Indicator calculation:
Final result = Purchase of licenses (CP) + Purchase of offsets (CO) + Boundary adjustment value (AF)
For CP, CO and AF, the volume of emissions needing reconciliation was established, following PMR and the European CBAM assumptions, applying to the CBA emissions scenario.
CP = Volume of emissions priced by the PMR * Licensing cost (R$40.00 for 2025 and R$60.00 for 2035);
CO = Volume of offsets allowed by the PMR * Offset cost (R$21.57);
AF = Volume of emissions priced by CBAM * Cost of border adjustment (R$13.97 for 2025 and R$19.19 for 2035);
This calculation was performed twice, once for 2025 (lower value reported) and once for 2035 (higher value reported)

Custo da resposta ao risco
25000

Descrição da resposta e explicação do cálculo do custo
With the Brazilian scenario showing the risk of including carbon pricing, it became clear to CBA of the importance to understand the concepts of carbon pricing and how to operate in the market. For this reason, we searched for clear references on this topic and found that the Center for Sustainability Studies at FGV has been working on this topic for some time, being a reference in Brazil in simulating the carbon market. Thus, we opted to conduct training on the topic at FGV and then to perform simulations to better understand how to operate in a carbon market in previous years. The training and simulation were very useful and we have evolved a lot in simulations, being able to buy allowances at much better prices at the end of the year than at the beginning of simulations. In addition, we are now able to understand much more the details of the documents released by the PMR Brasil Project to represent CBA and our activity during public consultations on the project. CBA has already answered 3 questionnaires from the PMR Brasil Project and we are able to provide clear answers to impacts by the project according to the suggested paths. In 2021 we engaged FGV again to deepen our first analysis of internal carbon prices.
Explanation of cost calculation: Value is the cost of the complementary study made with FGV in 2021.
Other actions consist of internal management decisions, which we understand will not generate additional cost in response to the risk. For example: decision on the internal price of carbon for investment approval; establishment of governance on the issue; reporting and monitoring by the company's leadership. We also consider several emission reduction projects, but they are accounted as opportunities. We understand that, should the risk materialize, response to the risk would be based on managerial decisions as well, such as adapting carbon price values used from project data to the value stipulated by the pricing instrument to be implemented.

Comentários
CBA regularly monitors the progress of this carbon pricing project around the world.
As the implementation project in Brazil demonstrates more clarity in definitions, financial calculations are revised.

Identificador
Risco 2

Em que ponto da cadeia de valor ocorre o fator de risco?
Operações diretas

Tipo de risco e Principal fator de risco climático

Físico agudo	Outro, especifique (Increased severity and frequency of extreme weather events such as cyclones and floods)

Principal impacto financeiro em potencial
Queda nas receitas devido a uma redução na demanda por produtos e serviços

Tipo de risco climático mapeado conforme a classificação de risco tradicional do setor de serviços financeiros
<Not Applicable>

Descrição específica da empresa
In its industrial unit in the town of Alumínio (SP), we have our integrated plant featuring all the aluminum chain production steps. Today water is used in the refinery stage

(raw material digestion), smelter stage (gas treatment), casthouse and downstream stages (product cooling). Water is essential to our production process, and with climate change aggravation projections there is a possibility of rainfall reduction and increase in hydro stress in water basins. CBA has produced climate projections for all of its units in the aluminum business with the purpose of taking the results and creating an action plan to increase CBA's climate resilience. With the changes in rainfall parameters, our units are exposed to the risk of lack of water, that can compromise our production and as a consequence our revenues. In the projections carried out by CBA as a result, some changes in weather patterns for the coming decades can be observed:
1) Rainfall can be reduced by up to 10%;
2) The risk of drought will increase to a medium-high degree;
3) Seasonal variability will increase in all units;
4) There may be an increase in minimum and maximum temperatures of up to 10%
5) Heavy rain can increase by up to 20% in two regions evaluated by the company.

Horizonte temporal
Médio prazo

Probabilidade
Tão provável quanto improvável

Magnitude do impacto
Média-alta

É possível indicar um valor para o potencial impacto financeiro?
Sim, uma estimativa de valor único

Valor do potencial impacto financeiro (moeda)
64500000

Valor do potencial impacto financeiro – mínimo (moeda)
<Not Applicable>

Valor do potencial impacto financeiro – máximo (moeda)
<Not Applicable>

Explicação do valor do impacto financeiro
To measure this financial impact, it was considered that CBA did not have water available for six months, in a way that would interrupt 100% of its aluminum production operations. The company would then have a drop in the volume of aluminum sales during this period, so that only what was in the company's inventories would be sold. In a possible scenario of production stoppage, the company would have reduced costs from raw material purchases for the production process, including electricity that is currently supplied to us largely by its own plants, so in a stoppage scenario this generated energy could be sold in the market to reduce the financial impacts created by the lack of aluminum production.
Calculation of the indicator:
Final result (R$64,500,000) = Reduction in revenue from aluminum sales (RR) – Sale of inventories (SI) – Sale of Energy (SE) – Reduced costs due to declining purchases of raw materials (RCPRM)

Custo da resposta ao risco
1100000

Descrição da resposta e explicação do cálculo do custo
With the increased risk of water shortages (inserted in our climate projections and the aggravation of the drought period that Brazil faced in 2021) CBA traced an action plan to build a new water collection well and approved a total investment of MMR$ 1.1. To prevent the lack of water that could adversely impact its operations and reduce our production capacity, the company organized itself to carry out feasibility studies for the project's development, carried out an analysis and prepared the budget for the service that will include drilling a new well and construction of a new network of pipes to transport the collected water in order to serve as a supply support in periods of low rainfall and when the reservoirs are at lower than expected levels. The project has not yet started, but is expected to do so in 2022.
Cost calculation: This investment was made through the service budget sent by the companies responsible for the new well construction. Approximately 27% of the total investment will be for drilling. The remaining sum will be applied to construction of the structure, in addition to other adaptations to the company's current structure to receive water produced by the new well.

Comentários
So far, CBA's actions have been effective and have been able to prevent the occurrence of this risk, even in events of intense rain.

C2.4

(C2.4) Foi identificada alguma oportunidade relacionada ao clima com potencial para causar um impacto financeiro ou estratégico significativo nos negócios?
Sim

C2.4a

(C2.4a) Dê detalhes sobre as oportunidades identificadas com potencial para causar um impacto financeiro ou estratégico significativo para os negócios.

Identificador
Opp1

Em que ponto da cadeia de valor ocorre a oportunidade?
Operações diretas

Tipo de oportunidade
Eficiência de recursos

Principal fator de oportunidade climática
Uso de reciclagem

Principal impacto financeiro em potencial
Menores custos diretos

Descrição específica da empresa
Aluminium is recognized as a solution for developing less resource-intensive and more circular supply chains that re-utilize materials and minimize waste and environmental impact. Reusing materials is an important way to reduce pressures on the world's natural resources, while also minimizing waste from discarding end-of-life products. This makes recycling process scrap one of the most important processes at CBA. Recycling provides an additional source of raw materials in the value chain by reusing scrap produced on- and off-site. This supports not only higher production volumes but also increased cost efficiency. It also provides savings on raw materials, inputs and electric power, generating higher value-added aluminium and reduced environmental impact. In a process known as remelting, process scrap is recycled into new products. At the CBA unit called Metalex located in Araçariguama/SP, investments are planned to increase scrap consumption in the casting stage. With more efficient furnaces using the sidewell technology, the expected increase is to achieve 80% of the scrap consumption in this process between 2023 and 2027.

Horizonte temporal
Médio prazo

Probabilidade
Virtualmente certo

Magnitude do impacto
Alta

É possível indicar um valor para o potencial impacto financeiro?
Sim, uma estimativa de valor único

Valor do potencial impacto financeiro (moeda)
66424761

Valor do potencial impacto financeiro – mínimo (moeda)
<Not Applicable>

Valor do potencial impacto financeiro – máximo (moeda)
<Not Applicable>

Explicação do valor do impacto financeiro
The project to increase scrap consumption will be dealt with on two different fronts. The first deals with the purchase and installation of a new Sidewell furnace, while the second deals with the adaptation of Metalex's cold production line, which will make it possible to increase both the plant's production to 72,000 tons of aluminum/year and increase the percentage of scrap in the composition of the Metalex product.
The installation of the new furnace will bring gains in the improvement of the metallic yield of the process, which will be responsible for 1% of the positive financial impact of the project.
Meanwhile, the adaptation of the cold line (which will represent 99% of the gains) will bring benefits such as increasing the metallic yield of scrap at the Metalex plant (29% of the impact), gain in the increase of the weighted margin (12% of the impact), gain in metallic yield at the CBA plant (13% of the impact), gain in the purchase price of scrap that will replace the input of external ingot (34% of the impact), gain in the disposal of process waste (2% of the impact) and others gains from making the scrap line viable (13% of the impact).

Custos para concretizar a oportunidade
115000000

Estratégia para concretizar a oportunidade e explicação do cálculo dos custos
Scrap is an additional source of raw material in the value chain, allowing an increase in aluminum production and dilution of the fixed costs of the process, once the existing structure is optimized. With this in mind, CBA structured the project to install a scrap treatment line at Metalex unit, allowing the Company to use different types of scrap and, therefore, have more flexibility in the metal supply secondary in the market, contributing to the increase of recycled content in its products and adding around 50ktpa of additional production capacity by 2025. In the Company's view, from the point of view of the ESG strategy, the projects contribute to the circularity of aluminum through (i) increased use of recycled aluminum in production; (ii) reduction of CO2 emissions since the energy used for production at from recycling is 95% lower compared to regular production; (iii) innovation that results in the possibility of recycling multi-layer packaging. The project have an expected investment amount of R$115,000.000.00. Project in progress, with disbursements expected until 2023.
Cost Calculation: Approximately 16% of the reported amount was from the purchase of the new Sidewell oven, 64% of the investment was for the acquisition of materials and equipment necessary for the adaptation of the production area, 12% was for contracting services to support the adaptation, 6% for project management and maintenance and 2% for engineering expenses.

Comentários
Not applicable.

Identificador
Opp2

Em que ponto da cadeia de valor ocorre a oportunidade?
Operações diretas

Tipo de oportunidade
Eficiência de recursos

Principal fator de oportunidade climática
Uso de processos de produção e distribuição mais eficientes

Principal impacto financeiro em potencial
Menores custos diretos

Descrição específica da empresa
CBA uses Söderberg technology in its Smelting operations (Alumínio city), where aluminium oxide is transformed into smelting aluminum. Our Updating Smelter technology project (initially called Green Söderberg project), launched in 2018, is automating the furnace feed process to reduce emissions from the process while also improving efficiency and safety. Currently 72 cells have the technology installed to test and optimize results. All pots are expected to be converted by 2026. Once the project is properly installed and stabilized, it could be able to reduce the emissions of this process by 20%. The Smelters' operation represents about 70% of the emissions of the entire CBA and, therefore, this project is very representative for climate change. To make the point feeder project viable, two other projects are also being developed. The first one is in the Smelters plant it reduces the production of black mud and anode effect, which generates PFC emissions. The second one is a project to upgrade the structures where the anode paste is produced, which aims to improve the quality of the anodic paste, according to the quality parameters required by the point feeder technology.

Horizonte temporal
Longo prazo

Probabilidade
Provável

Magnitude do impacto
Alta

É possível indicar um valor para o potencial impacto financeiro?
Sim, uma estimativa de valor único

Valor do potencial impacto financeiro (moeda)
53113282.92

Valor do potencial impacto financeiro – mínimo (moeda)
<Not Applicable>

Valor do potencial impacto financeiro – máximo (moeda)
<Not Applicable>

Explicação do valor do impacto financeiro
This project will have positive financial impacts through the following points: (i) reduction of electricity consumption (26% of the impact); (ii) reduction in fluoride consumption (7% of the impact); (iii) reduction in pulp consumption (12% of the impact); (iv) reduction in oxide consumption (6% of the impact) and reduction in the need for the wet gas treatment step (50% of the impact). Considering these improvements, the project has the potential of MMR$53.1 (Amount reported in previous items).
Another possible financial impact would be the implementation of a carbon regulation system through pricing in Brazil, and using our pricing study it was possible to point out that for this project that has the potential to reduce more than 130 thousand tCO2e by 2026, and considering our internal carbon price (R$22.85), in a future scenario it will be possible to have a positive impact of approximately MMR$3.0 (This value was not added to the previous item as it is a forecast).

Custos para concretizar a oportunidade
620000000

Estratégia para concretizar a oportunidade e explicação do cálculo dos custos
- Strategy to realize opportunity: To execute this project at the CBA Smelter located in Alumínio city (SP), it is being necessary to carry out several studies (since 2013). In addition, pilot point feeder systems were installed in 72 cells to understand how the systems work and to refine the project. For the complete execution, these systems will be installed in all CBA Smelter pots by 2030. During installation, all process parameters will be monitored. If the emission reduction is significant, it will be possible to turn off the gas treatment system that works with a high volume of water and caustic soda, generating residues of oxide particles. With the shutdown of the gas treatment system, this consumption of water and caustic soda will be eliminated, as well as the generation of waste from this process. The forecast is that this will reduce emissions from this process by about 20% and bring financial savings related to increased efficiency and reduced resources.
- Explanation of cost calculation:Considered costs for basic engineering design and project management, for the acquisition of machinery, equipment, and other materials, for electromechanical assembly, operational expenses, and others. sts, such as pre-operational expenses

Comentários
The Smelters' operation represents about 70% of the emissions of the entire CBA and, therefore, this project is very representative for climate change.

Identificador
Opp3

Em que ponto da cadeia de valor ocorre a oportunidade?
Operações diretas

Tipo de oportunidade
Fonte de energia

Principal fator de oportunidade climática
Uso de fontes de energia com menor índice de emissões

Principal impacto financeiro em potencial
Menores custos diretos

Descrição específica da empresa
At the aluminum oxide Refinery located in the city of Alumínio (SP), it was necessary to use boilers that used fuel oil and natural gas to run the processes. There is an opportunity to significantly reduce emissions from this process by replacing these boilers by another boiler that works with wood chip biomass from forests planted for this purpose. This opportunity was responsible to reduce 63% of the Refinery's emissions that are the second most emissive step from the aluminium chain (responsible in 2019, before the biomass boiler implementation, for 27% of all Aluminio plant emissions). With this project the emissions intensity from refinery phase decreased from 0.55 tCO2e/t oxide to 0.20 tCO2e/t oxide. In addition to the benefits of reducing the carbon footprint of this process, it will be possible to obtain financial gains by eliminating the consumption of natural gas and fuel oil (CBA had cost savings, as biomass is cheaper compared to the previously used fossil fuels). This project started the implementation phase in march 2020, and in 2021 was the first year that the Biomass boiler worked all year. Lower carbon emissions from the Refinery mean end products now have a reduced carbon footprint—and aluminium produced with low carbon emissions has a higher market value and can unlock new markets.

Horizonte temporal
Curto prazo

Probabilidade
Virtualmente certo

Magnitude do impacto
Alta

É possível indicar um valor para o potencial impacto financeiro?
Sim, uma estimativa de valor único

Valor do potencial impacto financeiro (moeda)
77850670

Valor do potencial impacto financeiro – mínimo (moeda)
<Not Applicable>

Valor do potencial impacto financeiro – máximo (moeda)
<Not Applicable>

Explicação do valor do impacto financeiro

To the biomass boiler we calculated CBA havepositive financial impacts by/;
Process impact (Considering the natural gas consumption and it substitution by steam from biomass combustion) – It was calculated the sum of steam generated by natural gas and biomass and the cost of both to produce the same amount of steam. At last we subtracted the cost of steam from natural gas to the cost of biomass steam and it lead to a result of 77,850,670 (de 96.137.133 m³ of natural gas) – Leading to the reported value before.
The company can in the future have more financial impacts when considering carbon pricing (considering the possibility of the implantation of a carbono regulation system) – To this value it was considered the reduction into our scope 1 emissions due to our natural gas consumption reduction. This value (in tCO2e) was multiplied by our internal carbon price (R$22.85) and lead to a financial impact of R$4,544,926. As this is only an estimated value it wasn't included in the reported value.

Custos para concretizar a oportunidade
15500000

Estratégia para concretizar a oportunidade e explicação do cálculo dos custos
As the second most emissive phase from all the aluminium chain production, the refinery are one of the most important steps analysed to cut GHG emission. Responsible for the consumption of natural gas and oil, the alumina production has great potential to new projects that can help to reduce its emissions just by exchanging the fuels used into the process. With this in mind, CBA forged a partnership alongside with Combio Energia S.A., and in March 2020, utility partner company started operation of a new biomass boiler system at the Alumina Refinery. CBA replaced its natural gas- and oil-fired boilers with a new boiler fueled by wood-chip biomass. To execute this opportunity, CBA needed to find a company specializing in biomass-operated boilers. After establishing this partnership, several studies were carried out that confirmed the benefits of the project for the CBA refinery. CBA needs to install the new boiler in its unit and monitor all process parameters to ensure that the execution is adequate. The biomass boiler is operating properly and is monitored according to the legislation of the state of São Paulo, and was responsible for a decrease of 63% of the refinery's scope 1 and 2 emissions.
Cost to realize opportunity: 80% of the cost is related to equipment acquisition and the rest was directed to project management, civil construction, and electromechanical assembly.

Comentários
Not applicable

Identificador
Opp4

Em que ponto da cadeia de valor ocorre a oportunidade?
Downstream

Tipo de oportunidade
Mercados

Principal fator de oportunidade climática
Acesso a novos mercados

Principal impacto financeiro em potencial
Aumento de receita resultante de uma maior demanda por produtos e serviços

Descrição específica da empresa
CBA products have low emissions compared to aluminum produced by competitors. This can attract customers concerned about climate issues.

Horizonte temporal
Médio prazo

Probabilidade
Mais provável que improvável

Magnitude do impacto
Média

É possível indicar um valor para o potencial impacto financeiro?
Não, não temos esse valor

Valor do potencial impacto financeiro (moeda)
<Not Applicable>

Valor do potencial impacto financeiro – mínimo (moeda)
<Not Applicable>

Valor do potencial impacto financeiro – máximo (moeda)
<Not Applicable>

Explicação do valor do impacto financeiro
Today, we still have no way of estimating the financial impacts of opening new markets with a focus on low-emission products, as there is still no premium added to the value paid for the product for having a good result in GHG emissions. For now, this indicator only brings a more positive image of the CBA product and was a differentiating factor in choosing between more than one supplier.

Custos para concretizar a oportunidade
0

Estratégia para concretizar a oportunidade e explicação do cálculo dos custos
The costs would be associated with disclosure and communication, but these costs have already been considered as an action to mitigate risks

Comentários
We will have no cost, as CBA products already have low emissions.

C3. Estratégia de negócios

C3.1

(C3.1) A estratégia da organização inclui um plano de transição que se alinhe a um mundo de 1,5 °C?

Linha 1

Plano de transição
Sim, temos um plano de transição que se alinha com um mundo de 1,5 °C

Plano de transição publicamente disponível
Sim

Mecanismo pelo qual o feedback dos acionistas sobre o plano de transição é coletado
Temos um mecanismo de feedback diferente implantado

Descrição do mecanismo de feedback
The CBA currently has two different feedback mechanisms where it is possible to address impacts on the topic of climate change. The first is a communication channel called the ethics line in which anyone (whether internal or external to the company) can leave feedback on occurrences of any nature, including environmental impacts and climate change. This mechanism is monitored throughout the year, and comments are directed to the responsible areas. The second mechanism is the materiality study, in which the company assesses which are the most significant issues for the company. During this evaluation, which is carried out with the company's top leadership, there is a public consultation phase, in which it is open for suppliers, customers and other external participants to give their perceptions about the company's practices and the most representative themes of its activities.

Frequência de coleta do feedback
Frequência maior que anual

Anexe eventuais documentos relevantes que deem detalhes sobre o plano de transição (opcional)
CBA_Annual_Report_2021-min.pdf

Explique por que a organização não tem um plano de transição que se alinhe a um mundo de 1,5 °C, e se há eventuais planos para desenvolvê-lo no futuro
<Not Applicable>

Explique por que os riscos e as oportunidades climáticos não exerceram influência na estratégia
<Not Applicable>

C3.2

(C3.1a) A organização usa a análise de cenários climáticos para informar sua estratégia?

	Uso da análise de cenários climáticos para informar a estratégia	Razão principal pela qual a organização não usa a análise de cenários climáticos para informar sua estratégia	Explique por que a organização não usa a análise de cenários climáticos para informar sua estratégia, e se há eventuais planos para usá-la no futuro
Linha 1	Sim, qualitativa e quantitativa	<Not Applicable>	<Not Applicable>

C3.2a

(C3.2a) Forneça detalhes do uso da análise de cenários climáticos pela organização.

Cenário climático	Abrangência da análise de cenários	Alinhamento de temperatura do cenário	Parâmetros, suposições, escolhas analíticas
Cenários climáticos físicos: RCP 4.5	Divisão de negócios	<Not Applicable>	CBA used three diferent plataforms/tools to structure its climate-related scenarios analysis (AqueDuct, from WRI, INPE and WorldClim). We used the coordinates of each of our units to study our business specific climate change projections. We looked to climate aspects as temperature, precipitation, drought risk, seasonal and interannual variability and hydric stress.
Cenários climáticos físicos: RCP 8.5	Divisão de negócios	<Not Applicable>	CBA used three diferent plataforms/tools to structure its climate-related scenarios analysis (AqueDuct, from WRI, INPE and WorldClim). We used the coordinates of each of our units to study our business specific climate change projections. We looked to climate aspects as temperature, precipitation, drought risk, seasonal and interannual variability and hydric stress.

C3.2b

(C3.2b) Dê detalhes sobre as questões prioritárias que a organização busca abordar utilizando a análise de cenários climáticos, e faça um resumo dos resultados com relação a estas questões.

Linha 1

Questões prioritárias

CBA observed throughout its participation in climate commitment initiatives, such as Global Compact, Cebds, the São Paulo Agreement, among others, that the market seeks and values companies with greater climate resilience, which would enable them to undergo climate change in a safer way and with controlled negative impacts. With this in mind, the company focused, with the climate adaptation project, on assessing the risks that it had already considered and confirmed if any of them had an interface with climate change, and in addition plotted new physical and transitional risks following the TCFD recommendations. Aware of the risks to which the company was exposed and their respective impacts and probabilities, the company invested in analyzing climate projection scenarios to help develop our risk assessment, and verify which areas were in more sensitive regions in terms of rainfall, risk of drought and water stress. The projections also helped us to assess which risk mitigation activities should be prioritized.

So basically the questions we wanted to answer were: Do we already have plotted risks that have interface with climate change? Are we able to detect new risks when we look specifically at climate change aspects? Can our company be considered resilient to market recommendations (TCFD)? Is our risk management system aligned with TCFD standards? Which of our units are most exposed to the consequences of climate change? What do we need to prioritize to create a climate adaptation plan? How will our units be impacted by climate change?

Resultados da análise de cenários climáticos com relação às questões prioritárias

We confirmed that we already had plotted risks that interfaced with climate change, but the study helped us to increase our plotting by including new risks. We found that our risk map-plotting system would need adjustments in order to enable correlating climate issues more clearly, objectively and in line with TCFD recommendations and ratings (already performed). Observing the projections made for all CBA units in the aluminum business, we now saw that we do not have units in critical regions, especially with regard to water aspects, but with projections for future decades we were able to plot a number of opportunities for actions that the company may undertake in coming years to minimize the impacts by climate change. In 2022, we are continuing the study but are now looking for a way to use projected results in a more practical manner, making it possible to deepen our analysis.

C3.3

(C3.3) Descreva onde e como os riscos e as oportunidades climáticos exerceram influência na estratégia.

	As oportunidades e os riscos climáticos exerceram influência na estratégia desta área?	Descrição da influência
Produtos e serviços	Sim	There is an opportunity to gain market share by means of emission lower than competitors in the Smelting process. In 2021 this opportunity rose through brand repositioning, which involves disclosing our low emissions. CBA has increasingly conquered space in some market sectors, such as packaging, automotive and transportation due to aluminum sustainability attributes. The Market Development and Innovation team inform clients of sustainability gains provided by increased use of aluminum. This task provides recognition of the benefits of using aluminum and also raises new opportunities for its applications. It also makes CBA a supplier of choice by virtue of the low carbon aluminum produced by the company. In addition, CBA develops solutions with clients and, monitors sustainability gains of new products in all the development stages. In 2021 this team was responsible for developing 2 projects reducing emissions and 10 projects avoiding emissions (considering emissions inside CBA and our clients) which resulted in a total of 195.091,99 t CO2e impacted. A successful case is a holder for electric bus batteries. One of the challenges for the electric vehicle sector is reducing weight of vehicles, as the batteries required for their operation are heavy (each module weighs about 120 kg). CBA developed with the client an aluminum battery holder substituting the holder previously made of steel. The aluminum holder is 280 kg lighter than the steel holder, reducing about 64% of weight and allowing to install 2 more battery modules. CBA built 3 prototypes installed in the client's vehicles. It is estimated that, due to this application, the emission of 12 t CO2e will be avoided throughout the useful life of each bus. The prototypes passed the end client's tests and had results validated and approved. With this project CBA was able to place a new low carbon aluminum product to the market. CBA has been now named supplier and co-engineering participant in developing this product and is undergoing an audit, certification and approval process with our end client, having already received the first order for manufacturing this new product. The next step is to scale up production in order to increase volume and supply on a serial scale as of June 2022 (Investment: R$ 4.000,000. 00).
Cadeia de fornecimento e/ou cadeia de valor	Sim	There is a plotted risk of having greater difficulty and costs to acquire raw materials of fossil origin due to repositioning by investors in relation to climate change. Assessing these and other supply chain risks, a project is being developed to commit our suppliers, to assess their level of maturity and what actions can be taken to influence them. In supplier relations, we developed our Sustainable Procurement program, an initiative in partnership with the Votorantim Institute that aims to build commitment across the value chain—from mine to downstream. The program is a way to raise awareness among different departments at CBA on the role that the supply chain should play in sustainability, and on important issues to consider besides pricing, quality and lead times. Social, environmental and governance considerations have now been included in supplier assessments, including aspects with the potential to generate significant impacts on the environment and local communities, supplier commitment with climate change and the level of ethics and transparency that suppliers demonstrate in doing business. The new Sustainable Procurement Policy was approved in 2021, and is an essential part of our efforts to further establish CBA as a sustainability leader in our industry. This year the project continued to advance, so that evaluation standards have already been established for each ESG category in order to be able to rank our suppliers. Plotting critical suppliers for the company was also performed and the task of evaluating ESG performance by these suppliers has already started. It is expected that in coming years this assessment will cover all our suppliers and support us in decision making of which suppliers we wish to work with, evaluating climate change aspects, among others. This project will be concluded in 2025.
Investimento em P&D	Sim	R&D is one of the most important items in CBA's strategy to ensure reduced emissions in conjunction with efficiency improvements and financial gains. Since 2018 we have a strategy with targets for reducing greenhouse gases inside our operating stages (In 2021, we have targets to Refinery, Smelters, Casthouse and Metalex). We annually update projects that can help us achieve this goal and this is done with the R&D and Technology team. One example is the Upgrading Smelter technology, which despite having a high initial investment allows us future financial gains and significant reductions in GHG emissions (can lead to a 20% reduction in our smelting plants that currently represents 70% of CBA's entire emissions). The project was started as a pilot in 2018 and will be completed in 2026, and is part of the actions to obtain a reduced GHG emission by 2030. We currently have 72 cells that already passed through the process of adapting the technology.
Operações	Sim	We evaluate all the projects that improve efficiency of operations and also reduce GHG emissions. These projects are included in our medium-term strategy. As an example, fuzzy logic is an advanced control system that performs an analysis of multiple inputs and action on multiple outputs continuously, from the viewpoint of the behavior by the best operators in industrial processes. The fuzzy logic implementation project ensured a better operational performance of the calcinators, reduced GHG emission and reduced energy use by this equipment. In 2019, the system reflected a 0.53% reduction in the specific use of natural gas. Applying this advanced control system in the Alumina refinery brought higher efficiency with less variability, more competitive production costs, better performance of fuel use (oil and natural gas) and consequently, reduction of GHG emissions. The project was replicated in the Casting stage in 2020. In the production of caster rolls, existing controls were limited by the fact that they analyze one single input and act on one output at a time. Their replacement by multivariable controls based on fuzzy logic allowed reduced variability in the controller response, productivity gains and also operational improvements. Focusing on the redesign of the temperature control strategy in one of the caster melting furnaces during the loading and pouring stages (by monitoring temperature measurement at various points of the basin), it was possible to achieve a 20% drop in specific use of natural gas. Since the beginning of the first uses by this software in 2017, this initiative has already led to a reduction of over 545 tons in fuel oil and over 4.7 million m3 in natural gas needs, equivalent to 11.6 thousand tons of CO2e. Projects that involve recycling processes are also important to reduce the carbon footprint of CBA products. Here CBA is committed to increase the ratio of aluminum recycled from industrial and end-of-life scrap at Metalex to 80%, to increase the ratio of aluminum recycled from industrial and end-of-life scrap in billet production at the Alumínio (SP) plant to 50% and to recycle 40,000 metric tons of cartons and flexible packaging per year by 2030.

C3.4

(C3.4) Descreva onde e como os riscos e as oportunidades climáticos exerceram influência no planejamento financeiro.

	Elementos do planejamento financeiro que sofreram influência	Descrição da influência
Linha 1	Custos diretos Custos indiretos Gastos de capital Alocação de capital Acesso ao capital	Climate-related risks and opportunities have influenced direct costs with the strategy of reducing use of raw materials and improving process efficiency In our 2030 ESG Strategy (time span: 10 years) we have a lever to develop our climate change objectives: (i) Reduce by 40% the indicator of CO2e emissions (on average of the melts from mining) – In 2021, we saw a 25.4% reduction in emissions as of 2019 (base year); (ii) Obtain a carbon neutral product line available for clients; (iii) Structure carbon credit generation programs in partnership with Reservas Votorantim. Taking care of biodiversity –Reflora CBA; (iv) Define the path for neutralizing emissions by 2050 (Recently we had SBTi approval of our new emissions targets for scopes 1, 2 and 3); (v) Define a plan to adapt to climate change. As part of our planning structure, every year we carry out our PE (Strategic Planning), which provides a projection of CBA's investments over the next 5 years. Within this analysis, all the projects with potential for implementing are taken into account and within this portfolio that is evaluated are our project opportunities focused on reducing GHG emissions. In 2021 CBA went public on the São Paulo Stock Exchange (B3) and floated part of its shares in the market. In our strategy to allocate the sum received by the IPO, the company decided to invest the proceeds obtained through the Initial Offering to finance the Company's organic growth for the next two years and will be directed to the following projects (capital allocation): (i) upgrading of furnace room technology; (ii) dry disposal of waste; (iii) production of additional aluminum from recycling; and (iv) additional production of primary aluminum. Due to the IPO CBA received R$ 663.385,80 (net), to be used 70% for organic growth, and 30% to inorganic growth (M&A). Climate change also influenced indirect costs (Time span: annual) with the Sustainability area budget to participate in training, events and commitment actions related to climate change. In 2021, CBA's participation in the disclosure of emissions by the Public Register of the GHG Protocol (investment: R$13.000). In 2021, R$ 25,000 was spent for studies on internal carbon pricing and another R$ 25,000 also spent for participation in the CDP Benchmark club. In 2021, in addition to the same sum planned for 2020, an additional R$ 288,000 was spent on hiring the consulting company that conducted studies required for submitting the goal to SBTi and R$ 17,000 for data assurance. This year the company has paid a consultant to analyze its carbon footprint calculation methodology (Investment: R$52,000). Regarding access to capital, In September 2021 CBA obtained a revolving credit facility of US$ 100 million to replace a US$ 200 million credit facility in favor of Votorantim S.A., to which CBA was party. Securing this facility underlines our commitment for reducing greenhouse gas (GHG) emissions by our operations—the agreement contains sustainability-linked pricing terms requiring annual emission reductions by 2025. In December CBA also carried out its first issue of debentures for a total of R$ 230 million. The debentures were issued as green bonds under a framework which consulting firm Sitawi reviewed and confirmed as being aligned with green bond principles, as the net proceeds will be used toward projects aiming to improve environmental performance by CBA's production facilities. The debentures mature on June 15, 2029 and will be amortized in equal instalments on June 15, 2028 and December 15, 2028. In addition, the Brazilian Federal Development Bank (BNDES) disbursed R$ 79 million under a loan primarily used to maintain production capacity and modernizing the Alumínio Plant. This was the last disbursement under a loan agreement entered into in 2019 and maturing in 2034 Climate change also influenced capital expenditures with the approval of projects potentially able to reduce greenhouse gas emissions. As planned in the ESG Strategy, R$ 990 million has also been planned in projects to be implemented by 2030 and aimed to reduce GHG emissions.

C3.5

(C3.5) Na contabilidade financeira da organização, são identificados gastos/receitas alinhados com a transição da organização para um mundo de 1,5 °C?
Sim

C3.5a

(C3.5a) Quantifique a participação percentual dos gastos/receitas alinhados com a transição da organização com um mundo de 1,5 °C.

Métrica financeira
CAPEX

Participação percentual da métrica financeira selecionada alinhada com um mundo de 1,5 °C no ano de reporte (%)
12

Participação percentual da métrica financeira selecionada que se planeja estar alinhada com um mundo de 1,5 °C em 2025 (%)
34

Participação percentual da métrica financeira selecionada que se planeja estar alinhada com um mundo de 1,5 °C em 2030 (%)
33

Descreva a metodologia utilizada para identificar os gastos/receitas alinhados com um mundo de 1,5 °C
To define the sums reported in the previous columns, the CBA strategic planning document was used. This document shows the company's future investments for the next 5 years (The document used reflects the period from 2022 to 2026). To calculate percentages, the projects invested through the PE with impacts on emission reductions were highlighted and compared with the total investment for the period evaluated in each column (2021; by 2025; by 2030). Please note that our EP incudes up to 2026 and we have no information beyond this period.

All projects are included in the PE and therefore the values for 2025 and 2030 are the same.

C4. Metas e desempenho

C4.1

(C4.1) Havia uma meta de emissões ativa no ano de reporte?
Meta absoluta
Meta de intensidade

C4.1a

(C4.1a) Forneça detalhes da(s) meta(s) de emissões absoluta(s) e do progresso em relação a essas metas.

Número de referência da meta
Abs 1

Ano em que a meta foi definida
2021

Abrangência da meta
Na empresa como um todo

Escopo(s)
Escopo 1
Escopo 2

Método de contabilização do Escopo 2
Com base no mercado

Categoria(s) do Escopo 3
<Not Applicable>

Ano-base
2018

Emissões de Escopo 1 do ano-base abrangidas pela meta (toneladas métricas de CO2e)
128014

Emissões de Escopo 2 do ano-base abrangidas pela meta (toneladas métricas de CO2e)
7502

Emissões de Escopo 3 do ano-base abrangidas pela meta (toneladas métricas de CO2e)
<Not Applicable>

Emissões totais do ano-base abrangidas pela meta em todos os Escopos selecionados (toneladas métricas de CO2e)
135516

Emissões de Escopo 1 do ano-base abrangidas pela meta como % das emissões totais do ano-base no Escopo 1
9

Emissões de Escopo 2 do ano-base abrangidas pela meta como % das emissões totais do ano-base no Escopo 2
33

Emissões de Escopo 3 do ano-base abrangidas pela meta como % das emissões totais do ano-base no Escopo 3 (todas as categorias do Escopo 3)
<Not Applicable>

Emissões do ano-base abrangidas pela meta em todos os Escopos selecionados, como % das emissões totais do ano-base em todos os Escopos selecionados
10

Ano da meta
2030

Meta de redução com relação ao ano-base (%)
35

Emissões totais no ano da meta abrangidas pela meta em todos os Escopos selecionados (toneladas métricas de CO2e) [calculadas automaticamente]
88085.4

Emissões de Escopo 1 no ano de reporte abrangidas pela meta (toneladas métricas de CO2e)
128151

Emissões de Escopo 2 no ano de reporte abrangidas pela meta (toneladas métricas de CO2e)
0

Emissões de Escopo 3 no ano de reporte abrangidas pela meta (toneladas métricas de CO2e)
<Not Applicable>

Emissões totais no ano de reporte abrangidas pela meta em todos os escopos selecionados (toneladas métricas de CO2e)
128151

% da meta alcançada com relação ao ano-base [calculada automaticamente]
15.527950310559

Status da meta no ano de reporte
Nova

Esta é uma meta com base científica?
Sim, essa meta foi aprovada como sendo de base científica pela Science Based Targets initiative

Meta desejada
Outro, especifique (Well-below 2ºC aligned)

Explique a abrangência da meta e identifique eventuais exclusões
This target covers scope 1 and 2 emissions and for the following units: Metalex, Itapissuma, Mining (Miraí, Itamarati de Minas e Poços de Caldas units) and Aluminio (only the casthouse and downstream steps are considered).

Plano para alcançar a meta e progresso realizado até o fim do ano de reporte
This target covers about 10% of CBA's gross emissions, and for its reduction, we are considering process improvements and support from projects of the competitiveness management area and also in the engineering area.

Liste as iniciativas de redução das emissões que mais contribuíram para se atingir essa meta
<Not Applicable>

Número de referência da meta
Abs 2

Ano em que a meta foi definida
2021

Abrangência da meta
Na empresa como um todo

Escopo(s)
Escopo 3

Método de contabilização do Escopo 2
<Not Applicable>

Categoria(s) do Escopo 3
Categoria 1: Bens e serviços adquiridos
Categoria 3: Atividades relacionadas a combustíveis e energia (não incluídas nos Escopos 1 ou 2)
Categoria 4: Transporte e distribuição upstream
Categoria 9: Transporte e distribuição downstream

Ano-base
2019

Emissões de Escopo 1 do ano-base abrangidas pela meta (toneladas métricas de CO2e)
<Not Applicable>

Emissões de Escopo 2 do ano-base abrangidas pela meta (toneladas métricas de CO2e)
<Not Applicable>

Emissões de Escopo 3 do ano-base abrangidas pela meta (toneladas métricas de CO2e)
1441295

Emissões totais do ano-base abrangidas pela meta em todos os Escopos selecionados (toneladas métricas de CO2e)
1441295

Emissões de Escopo 1 do ano-base abrangidas pela meta como % das emissões totais do ano-base no Escopo 1
<Not Applicable>

Emissões de Escopo 2 do ano-base abrangidas pela meta como % das emissões totais do ano-base no Escopo 2
<Not Applicable>

Emissões de Escopo 3 do ano-base abrangidas pela meta como % das emissões totais do ano-base no Escopo 3 (todas as categorias do Escopo 3)
100

Emissões do ano-base abrangidas pela meta em todos os Escopos selecionados, como % das emissões totais do ano-base em todos os Escopos selecionados
100

Ano da meta
2030

Meta de redução com relação ao ano-base (%)
13.5

Emissões totais no ano da meta abrangidas pela meta em todos os Escopos selecionados (toneladas métricas de CO2e) [calculadas automaticamente]
1246720.175

Emissões de Escopo 1 no ano de reporte abrangidas pela meta (toneladas métricas de CO2e)
<Not Applicable>

Emissões de Escopo 2 no ano de reporte abrangidas pela meta (toneladas métricas de CO2e)
<Not Applicable>

Emissões de Escopo 3 no ano de reporte abrangidas pela meta (toneladas métricas de CO2e)
91

Emissões totais no ano de reporte abrangidas pela meta em todos os escopos selecionados (toneladas métricas de CO2e)
2200378.18

% da meta alcançada com relação ao ano-base [calculada automaticamente]
-390.124046109254

Status da meta no ano de reporte
Nova

Esta é uma meta com base científica?
Sim, essa meta foi aprovada como sendo de base científica pela Science Based Targets initiative

Meta desejada
Alinhada com os 2 °C

Explique a abrangência da meta e identifique eventuais exclusões
This target covers scope 3 emissions and for the following units all the CBA units from aluminium business. In 2021, CBA had an increase in scope 3, mainly due to the improvement of the maturity in the calculation of emissions in this scope (mainly in categories 4 and 9 in scope 3)

Plano para alcançar a meta e progresso realizado até o fim do ano de reporte
Within the scope 3 category, the most representative is category 1, which deals with the purchase of goods and services, and which of the reported categories represents 93% of our scope 3 emissions. Within this category, our largest source of emission is the purchase of ingot that we mainly use in the Metalex and Itapissuma units, which have only the casthouse and downstream stages. Today we do not have a rule that bars the purchase of ingot according to the carbon footprint of the product, which

negatively impacts our scope 3 result since we buy ingot from all over the world. With the Sustainable Supply project, the idea is to draw a rule that limits the purchase of ingots based on their carbon footprint performance, and this will be the main initiative to reduce emissions in this scope. Note: Our emissions in 2021 were higher than in the base year due to the increase in production at the Metalex, Itapissuma and Alumínio units, which resulted in a greater purchase of ingots from the market to supply our raw material demand (Today in the market, the carbon fluctuates between 4tCO2e/t ingot and 28tCO2e/t ingot)

Liste as iniciativas de redução das emissões que mais contribuíram para se atingir essa meta
<Not Applicable>

C4.1b

(C4.1b) Dê detalhes da(s) meta(s) de intensidade de emissões e do progresso em relação a essa(s) meta(s).

Número de referência da meta
Int 1

Ano em que a meta foi definida
2021

Abrangência da meta
Na empresa como um todo

Escopo(s)
Escopo 1
Escopo 2

Método de contabilização do Escopo 2
Com base no mercado

Categoria(s) do Escopo 3
<Not Applicable>

Métrica de intensidade
Toneladas métricas de CO2e por tonelada métrica de alumínio

Ano-base
2018

Valor de intensidade no ano-base para o Escopo 1 (toneladas métricas de CO2e por unidade de atividade)
1282230

Valor de intensidade no ano-base para o Escopo 2 (toneladas métricas de CO2e por unidade de atividade)
15556

Valor de intensidade no ano-base para o Escopo 3 (toneladas métricas de CO2e por unidade de atividade)
<Not Applicable>

Valor de intensidade no ano-base para todos os Escopos selecionados (toneladas métricas de CO2e por unidade de atividade)
3.697

% das emissões totais do ano-base de Escopo 1 abrangida por este valor de intensidade de Escopo 1
91

% das emissões totais do ano-base de Escopo 2 abrangida por este valor de intensidade de Escopo 2
67

% das emissões totais do ano-base de Escopo 3 (em todas as categorias do Escopo 3) abrangida por este valor de intensidade de Escopo 3
<Not Applicable>

% das emissões totais do ano-base em todos os Escopos selecionados abrangidos por este valor de intensidade
91

Ano da meta
2030

Meta de redução com relação ao ano-base (%)
40

Valor de intensidade no ano da meta para todos os Escopos selecionados (toneladas métricas de CO2e por unidade de atividade) [calculado automaticamente]
2.2182

Porcentagem de variação prevista nas emissões absolutas de Escopo 1+2
40

Porcentagem de variação prevista nas emissões absolutas de Escopo 3
0

Valor de intensidade no ano de reporte para o Escopo 1 (toneladas métricas de CO2e por unidade de atividade)
2.98

Valor de intensidade no ano de reporte para o Escopo 2 (toneladas métricas de CO2e por unidade de atividade)
0.02

Valor de intensidade no ano de reporte para o Escopo 3 (toneladas métricas de CO2e por unidade de atividade)
<Not Applicable>

Valor de intensidade no ano de reporte para todos os Escopos selecionados (toneladas métricas de CO2e por unidade de atividade)
3.01

% da meta alcançada com relação ao ano-base [calculada automaticamente]
46.4565864214228

Status da meta no ano de reporte
Nova

Esta é uma meta com base científica?
Sim, essa meta foi aprovada como sendo de base científica pela Science Based Targets initiative

Meta desejada
Alinhada com menos de 2 °C

Explique a abrangência da meta e identifique eventuais exclusões
This target used the SDA scenario (Aluminium ambition traced by SBTi to aluminium specific companies). This target covers only the refinery and smelter steps (Both phases represent more than 85% of CBA's absolute emissions).

Plano para alcançar a meta e progresso realizado até o fim do ano de reporte
This target count with 3 big projects to support its reduction path (Biomass boiler, smelters technology upgrade and increase of scrap use inside casthhouse plants – Metalex and Alumínio plants). Until now we could achieve 21,1% of emissions reductions compared to our base year (Target to reduce 40%).

Liste as iniciativas de redução das emissões que mais contribuíram para se atingir essa meta
<Not Applicable>

Número de referência da meta
Int 2

Ano em que a meta foi definida
2019

Abrangência da meta
Divisão de negócios

Escopo(s)
Escopo 1
Escopo 2
Escopo 3

Método de contabilização do Escopo 2
Com base no mercado

Categoria(s) do Escopo 3
Categoria 1: Bens e serviços adquiridos

Métrica de intensidade
Toneladas métricas de CO2e por tonelada métrica de alumínio

Ano-base
2019

Valor de intensidade no ano-base para o Escopo 1 (toneladas métricas de CO2e por unidade de atividade)
3.07

Valor de intensidade no ano-base para o Escopo 2 (toneladas métricas de CO2e por unidade de atividade)
0.02

Valor de intensidade no ano-base para o Escopo 3 (toneladas métricas de CO2e por unidade de atividade)
0.93

Valor de intensidade no ano-base para todos os Escopos selecionados (toneladas métricas de CO2e por unidade de atividade)
4.02

% das emissões totais do ano-base de Escopo 1 abrangida por este valor de intensidade de Escopo 1
87

% das emissões totais do ano-base de Escopo 2 abrangida por este valor de intensidade de Escopo 2
58

% das emissões totais do ano-base de Escopo 3 (em todas as categorias do Escopo 3) abrangida por este valor de intensidade de Escopo 3
16

% das emissões totais do ano-base em todos os Escopos selecionados abrangidos por este valor de intensidade
95

Ano da meta
2030

Meta de redução com relação ao ano-base (%)
40

Valor de intensidade no ano da meta para todos os Escopos selecionados (toneladas métricas de CO2e por unidade de atividade) [calculado automaticamente]
2.412

Porcentagem de variação prevista nas emissões absolutas de Escopo 1+2
40

Porcentagem de variação prevista nas emissões absolutas de Escopo 3
0

Valor de intensidade no ano de reporte para o Escopo 1 (toneladas métricas de CO2e por unidade de atividade)
2.29

Valor de intensidade no ano de reporte para o Escopo 2 (toneladas métricas de CO2e por unidade de atividade)
0.01

Valor de intensidade no ano de reporte para o Escopo 3 (toneladas métricas de CO2e por unidade de atividade)
0.7

Valor de intensidade no ano de reporte para todos os Escopos selecionados (toneladas métricas de CO2e por unidade de atividade)
3

% da meta alcançada com relação ao ano-base [calculada automaticamente]
63.4328358208955

Status da meta no ano de reporte
Em andamento

Esta é uma meta com base científica?
Não, mas prevemos definir uma nos próximos dois anos

Meta desejada
<Not Applicable>

Explique a abrangência da meta e identifique eventuais exclusões
This target covers scope 1 and 2 emissions for CBA Aluminio and Metalex plants to the steps that are related to our primary aluminium production. To Metalex we also included scope 3 emissions only from ingot purchase (Following IAI Recommendations to Tier 2 calculation methodology). Note: IAI – International Aluminium Institute. The production used was casthouse step production.

Plano para alcançar a meta e progresso realizado até o fim do ano de reporte
This targets count with 3 big projects to support its reduction path (Biomass boiler, smelters technology upgrade and increase of scrap use inside casthhouse plants – Metalex and Alumínio plants). Until now we could achieve 25,4% of emissions reductions compared to our base year.

Liste as iniciativas de redução das emissões que mais contribuíram para se atingir essa meta
<Not Applicable>

C4.2

(C4.2) Havia alguma outra meta climática ativa no ano de reporte?
Outra(s) meta(s) climática(s)

C4.2b

(C4.2b) Dê detalhes de outras eventuais metas climáticas, incluindo metas de redução de metano.

Número de referência da meta
Oth 1

Ano em que a meta foi definida
2020

Abrangência da meta
Na empresa como um todo

Tipo de meta: absoluta ou de intensidade
De intensidade

Tipo de métrica: categoria e Métrica (numerador da meta, em caso de reporte de uma meta de intensidade)

Outro, especifique	Outro, especifique (CBA has within the ESG Strategy 2030 the objective of structuring a Net-zero goal)

Denominador da meta (somente metas de intensidade)
Outro, especifique (This is a qualitative goal, so I do not have a numerical indicator for monitoring)

Ano-base
2019

Valor ou porcentagem no ano-base
0

Ano da meta
2019

Valor ou porcentagem no ano da meta
100

Valor ou porcentagem no ano de reporte
40

% da meta alcançada com relação ao ano-base [calculada automaticamente]
40

Status da meta no ano de reporte
Em andamento

Esta meta faz parte de uma meta de emissões?
Yes. This target is part of the greenhouse gas emissions management pillar of CBA's ESG 2030 strategy

Esta meta faz parte de uma iniciativa abrangente?
Outro, especifique (CBA's 2030 ESG Strategy and Global Compact "Net Zero ambition")

Explique a abrangência da meta e identifique eventuais exclusões
In the Casting area, the main issue is related to the consumption of natural gas for heating the ovens. An annual consumption target is determined based on expectations of scrap use and production. In 2019 the target was achieved and there was an additional reduction of 2%. This target is linked to the monetary reward of eligible employees (leaders at all levels) whose worked on Casting.

Plano para alcançar a meta e progresso realizado até o fim do ano de reporte
By the year 2021, CBA has managed to structure a trajectory to reduce 40% of its emissions intensity in the production of cast products, and is currently studying new technologies and evaluating partnerships with other institutions to be able to expand its emissions reduction trajectory until reaching a net-zero scenario

Liste as ações que mais contribuíram para se alcançar essa meta
<Not Applicable>

C4.3

(C4.3) Existiam iniciativas de redução de emissões ativas no ano de reporte? Observe que isto pode incluir aquelas nas fases de planejamento e/ou implementação.
Sim

C4.3a

(C4.3a) Identifique o número total de iniciativas em cada estágio de desenvolvimento; para aquelas em fase de implementação, identifique a economia de CO2e estimada.

	Número de iniciativas	Economia anual total estimada de CO2e em toneladas métricas de CO2e (somente para linhas marcadas com *)
Em fase de pesquisa	9	40065.45
A ser implementada*	6	195978.61
Implementação iniciada*	1	132441
Implementado*	2	230031.28
Não será implementada	0	0

C4.3b

(C4.3b) Dê detalhes na tabela abaixo sobre as iniciativas implementadas no ano de reporte.

Categoria de iniciativa e Tipo de iniciativa

Eficiência energética nos processos de produção	Otimização de processos

Economia anual estimada de CO2e (toneladas métricas de CO2e)
228006.99

Escopo(s) ou categoria(s) do Escopo 3 em que ocorrem as reduções nas emissões
Escopo 1

Voluntário/obrigatório
Voluntária

Economia monetária anual (unidade monetária – conforme especificada em C0.4)
77850670

Investimento necessário (unidade monetária – conforme especificada em C0.4)
0

Período de retorno
< 1 ano

Duração estimada da iniciativa
Em andamento

Comentários
In 2020, CBA implemented the biomass boiler in its refinery process. This boiler aims to provide steam generation previously produced by burning Natural Gas and fuel oil in conventional boilers. In 2020 the boiler started its activities in March and had a gradual increase in steam production until June, when in fact the boiler started to operate at full capacity. In 2020 the boiler reduced emissions by approximately 150,000.00 t CO2e as it had no activity at maximum capacity over the entire year. In 2021 the biomass boiler was active over the entire year and was responsible for reducing 198,902.67t CO2e of CBA's scope 1 emissions.

C4.3c

(C4.3c) Que métodos a empresa usa para estimular os investimentos em atividades de redução de emissões?

Método	Comentários
Conformidade com requisitos/normas regulamentares	The CBA project approval process has a priority involving regulatory analysis.
Cálculos de otimização financeira	CBA project approval process has a priority involving financial calculations and technical expertise.
Programas de incentivos/reconhecimento internos	Our variable compensation has incentive targets related to reduced emissions.
Parceria com governos para o desenvolvimento de tecnologias	CBA has participated in SBTi, ABAL, IAI, PMR Brasil, São Paulo Agreement discussions.
Engajamento dos funcionários	The variable cost budget by the Sustainability area involves training and commitment activities on climate change.
Preço interno do carbono	In 2021 CBA defined its internal carbon price, so that this new concept should help our leadership in making decisions on projects with emission potential.
Orçamento específico para o P&D de produtos de baixo carbono	CBA's strategic planning considers a budget reserved for our CAPEX projects over the next 5 years.
Orçamento específico para a eficiência energética	The CBA strategy includes energy efficiency projects.
Outros (Purchase of renewable energy certificates)	Budget reserved for purchasing renewable energy certificates.

C4.5

(C4.5) A organização classifica algum dos seus bens e/ou serviços existentes como produto de baixo carbono?
Sim

C4.5a

(C4.5a) Dê detalhes dos produtos e/ou serviços da organização classificados como produtos de baixo carbono.

Nível de agregação
Produto ou serviço

Taxonomia utilizada para classificar o(s) produto(s) ou serviço(s) como de baixo carbono
Outro, especifique (Today we don't have a specific scale of low carbon products inside the aluminium sector. A study made by Carbon Trust mentioned that inside our sector products with low carbon have a intensity emissions indicator above 4tCO2e/t ingot)

Tipo do(s) produto(s) ou serviço(s)

Alumínio	Outro, especifique (All CBA products)

Descrição do(s) produto(s) ou serviço(s)
One of the major focuses of our operations is producing sustainable aluminum and helping to tackle important environmental issues, such as natural resource depletion and climate change. Our products are manufactured using renewable energy, helping to minimize greenhouse gas emissions. CBA invests continually in innovative solutions to lessen environmental impact and expand our aluminum recycling capabilities. Our primary aluminum has low emission levels (We are currently on the first quartile of smelter phase emissions intensity – Source: CRU – A financial consultory) and is competitive with that of our competitors around the world.

A organização fez uma estimativa das emissões evitadas por este(s) produto(s) ou serviço(s) de baixo carbono?
Sim

Metodologia utilizada para calcular as emissões evitadas
Outro, especifique (IAI methodology (Tier 2 emissions))

Estágio(s) do ciclo de vida abrangido(s) para o(s) produto(s) ou serviço(s) de baixo carbono
Cradle-to-gate

Unidade funcional utilizada
tCO2e/t product

Produto/serviço de referência ou cenário de base utilizado
All CBA's products

Fase(s) do ciclo de vida útil abrangida(s) do produto/serviço de referência ou cenário de base
Cradle-to-gate

Estimativa das emissões evitadas (toneladas métricas de CO2e por unidade funcional) com relação ao produto/serviço de referência ou ao cenário de base
8.09

Explique os cálculos de emissões evitadas, incluindo eventuais suposições
This calculation considered a comparison between the intensity of emissions in the electrolysis stage (the most carbon intensive phase of aluminum production) between the CBA result in 2021 (2.56 tCO2e/t Al) with the world average reported by the CRU in 2021 (10.65 tCO2e/t Al). Calculation explanation: 10.65 (CRU data) - 2.56 (CBA data) = 8.09 (Result)

Receita gerada com produto(s) ou serviço(s) de baixo carbono como % do total de receita no ano do reporte
100

C5. Metodologia de emissões

C5.1

(C5.1) Este é o primeiro ano de reporte de dados de emissões da organização ao CDP?
Não

C5.1a

(C5.1a) A organização passou por alguma mudança estrutural no ano de reporte, ou há alguma mudança estrutural prévia sendo representada neste reporte de dados de emissões?

Linha 1

Houve alguma mudança estrutural?
Não

Nome da(s) organização(ões) adquirida(s), desinvestida(s) ou fundida(s)
<Not Applicable>

Detalhes da(s) mudança(s) estrutural(is), incluindo as datas de conclusão
<Not Applicable>

C5.1b

(C5.1b) A metodologia de contabilização das emissões, os limites e/ou a definição do ano de reporte foram alterados no ano de reporte?

	Alteração(ões) na metodologia, nos limites e/ou na definição do ano de reporte?	Detalhes da(s) alteração(ões) na metodologia, nos limites e/ou na definição do ano de reporte
Linha 1	Não	<Not Applicable>

C5.2

(C5.2) Informe o ano-base e as emissões do ano-base.

Escopo 1

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
1158608.856

Comentários
These GHG emissions refer to the Aluminum and Nickel Businesses.

Escopo 2 (com base na localização)

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
799535.136

Comentários
These GHG emissions refer to the Aluminum and Nickel Businesses.

Escopo 2 (com base no mercado)

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
6988.661

Comentários
These GHG emissions refer to the Aluminum and Nickel Businesses.

Escopo 3, categoria 1: Bens e serviços adquiridos

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
2052237.613

Comentários
These GHG emissions refer to the Aluminum Business, as Nickel has interrupted its operations.

Escopo 3, categoria 2: Bens de capital

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
0

Comentários
This category is not relevant to CBA's activities.

Escopo 3, categoria 3: Atividades relacionadas a combustível e energia (não incluídas no Escopo 1 ou 2)

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
36861.255

Comentários
These GHG emissions refer to the Aluminum Business, as Nickel has interrupted its operations.

Escopo 3, categoria 4: Transporte e distribuição upstream

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
79650.092

Comentários
These GHG emissions refer to the Aluminum Business, as Nickel has interrupted its operations.

Escopo 3, categoria 5: Resíduos gerados nas operações

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
0

Comentários
This category is not relevant to CBA's activities.

Escopo 3, categoria 6: Viagens de negócios

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
0

Comentários
This category is not relevant to CBA's activities.

Escopo 3, categoria 7: Deslocamentos diários dos funcionários para/do trabalho

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
0

Comentários
This category is not relevant to CBA's activities.

Escopo 3, categoria 8: Ativos arrendados upstream

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
0

Comentários
This category is not relevant to CBA's activities.

Escopo 3, categoria 9: Transporte e distribuição downstream

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
31629.223

Comentários
These GHG emissions refer to the Aluminum Business, as Nickel has interrupted its operations.

Escopo 3, categoria 10: Processamento de produtos vendidos

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
208228.64

Comentários
These GHG emissions refer to the Aluminum Business, as Nickel has interrupted its operations.

Escopo 3, categoria 11: Uso de produtos vendidos

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
0

Comentários
This category is not relevant to CBA's activities.

Escopo 3, categoria 12: Tratamento de produtos vendidos ao final de sua vida útil

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
0

Comentários
This category is not relevant to CBA's activities.

Escopo 3, categoria 13: Ativos arrendados downstream

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
0

Comentários
This category is not applicable to CBA.

Escopo 3, categoria 14: Franquias

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
0

Comentários
This category is not applicable to CBA.

Escopo 3, categoria 15: Investimentos

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
0

Comentários
This category is not relevant to CBA's activities.

Escopo 3: Outros (upstream)

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
0

Comentários
This category is not relevant to CBA's activities.

Escopo 3: Outros (downstream)

Início do ano-base
janeiro 1 2021

Fim do ano-base
dezembro 31 2021

Emissões do ano-base (toneladas métricas de CO2e)
0

Comentários
This category is not relevant to CBA's activities.

C5.3

(C5.3) Selecione o nome da norma, do protocolo ou da metodologia usado/a para coletar os dados das atividades e calcular as emissões.
Programa do GHG Protocol Brasil

We used the Brazil GHG Protocol Program. The step of choosing the units was carried out through operational control using the relevance approach to exclude processes. For Scope 2, the purchase choice methodology was adopted, as our main source of energy is in-house hydroelectric plants. For scope 3, we chose to report the following category: Purchased goods and services (Category 1 - 52.22% of scope 3), Fuel and energy related activities (Category 3 - 4.24% of scope 3), Upstream Transportation (Category 4 - 6.51% of scope 3) and Investments (Category 15 - 5.65% of scope 3). These categories have a total of 68.62% of CBA's scope 3 and were chosen as they are categories that CBA has the power to manage over the indicators to establish emission reduction goals.

C6. Dados de emissões

C6.1

(C6.1) Qual foi o total de emissões brutas de Escopo 1 da organização, em toneladas métricas de CO2e?

Ano de reporte

Emissões brutas globais de Escopo 1 (toneladas métricas de CO2e)
1158609

Data de início
janeiro 1 2021

Data de fim
dezembro 31 2021

Comentários
These GHG emissions refer to the Aluminum and Nickel Businesses.

Ano passado 1

Emissões brutas globais de Escopo 1 (toneladas métricas de CO2e)
1067178.48

Data de início
janeiro 1 2020

Data de fim
dezembro 31 2020

Comentários
These GHG emissions refer to the Aluminum and Nickel Businesses.

Ano passado 2

Emissões brutas globais de Escopo 1 (toneladas métricas de CO2e)
1297627.66

Data de início
janeiro 1 2019

Data de fim
dezembro 31 2019

Comentários
These GHG emissions refer to the Aluminum and Nickel Businesses.

Ano passado 3

Emissões brutas globais de Escopo 1 (toneladas métricas de CO2e)
1370934.33

Data de início
janeiro 1 2018

Data de fim
dezembro 31 2018

Comentários
These GHG emissions refer to the Aluminum and Nickel Businesses.

C6.2

(C6.2) Descreva o método usado para reportar as emissões de Escopo 2 da organização.

Linha 1

Escopo 2, com base na localização
Estamos divulgando um valor de Escopo 2 com base na localização

Escopo 2, com base no mercado
Estamos divulgando um valor de Escopo 2 com base no mercado

Comentários
CBA chose to report its scope 2 with a market-based approach. This decision was consolidated based on the fact that CBA has 21 hydroelectric plants with a capacity to produce 100% of its own electricity needs (value subject to changes due to climate issues and rain regimes in the region of our plants). Because of our clean energy sources, we have achieved great reductions in GHG emissions compared to the market.

C6.3

(C6.3) Qual foi o total de emissões brutas de Escopo 2 da organização, em toneladas métricas de CO2e?

Ano de reporte

Escopo 2, com base na localização
799535.14

Escopo 2, com base no mercado (se aplicável)
6988.661

Data de início
janeiro 1 2021

Data de fim
dezembro 31 2021

Comentários
These GHG emissions refer to the Aluminum and Nickel Businesses. In 2021 our hydroelectric plants were able to supply 82.7% of our energy needs. Following the calculation methodology and the GHG Protocol Brazil tool, the emission factor by the national grid doubled in 2021 as the year that portrays the impacts on energy generation in 2020 due to the Covid-19 pandemic.

Ano passado 1

Escopo 2, com base na localização
345642.994

Escopo 2, com base no mercado (se aplicável)
72503.506

Data de início
janeiro 1 2020

Data de fim
dezembro 31 2020

Comentários
These GHG emissions refer to the Aluminum and Nickel Businesses. In 2020 our hydroelectric plants were able to supply 81.4% of our energy needs.

Ano passado 2

Escopo 2, com base na localização
415127.7

Escopo 2, com base no mercado (se aplicável)
9894.05

Data de início
janeiro 1 2019

Data de fim
dezembro 31 2019

Comentários
These GHG emissions refer to the Aluminum and Nickel Businesses. In 2019 our hydroelectric plants were able to supply 98% of our energy needs.

Ano passado 3

Escopo 2, com base na localização
438518.05

Escopo 2, com base no mercado (se aplicável)
17907.99

Data de início
janeiro 1 2018

Data de fim
dezembro 31 2018

Comentários
These GHG emissions refer to the Aluminum and Nickel Businesses. In 2018 our hydroelectric plants were able to supply 96% of our energy needs.

C6.4

(C6.4) Existem fontes (por ex., instalações, GEEs específicos, atividades, regiões etc.) de emissões de Escopo 1 e Escopo 2 que estejam dentro dos limites de reporte selecionados, mas que não estão incluídas na divulgação?
Sim

C6.4a

(C6.4a) Forneça detalhes sobre as fontes de emissões de Escopo 1 e Escopo 2 dentro dos limites de reporte selecionados, mas não incluídas no reporte.

Fonte
Sorocaba Facility, Distribution Center, Barro Alto Unit and Corporative Office

Relevância das emissões de Escopo 1 desta fonte
As emissões não são relevantes

Relevância das emissões de Escopo 2 desta fonte, com base na localização
As emissões não são relevantes

Relevância das emissões de Escopo 2 desta fonte, com base no mercado (se aplicável)
As emissões não são relevantes

Explique por que essa fonte foi excluída
Small units with very low emissions (the sum represents less than 1%).

Porcentagem estimada do total de emissões de Escopo 1+2 representada por esta fonte excluída
0

Explique como foi estimada a porcentagem de emissões representada por esta fonte excluída
In the last two years, CBA has gone through the process of structuring its goals through Science Based Targets. During this process, it had the support of Way Carbon consultancy to structure the target's final version, and one of the stages of the project involved measurement of emissions from all the units under CBA's operational control. Within this study we were able to assess that altogether these units that were excluded account for less than 0.1% of the company's consolidated emissions.

C6.5

(C6.5) Explique as emissões globais brutas de Escopo 3 da organização, divulgando e explicando eventuais exclusões.

Bens e serviços adquiridos

Status da avaliação
Relevante, calculadas

Emissões no ano de reporte (toneladas métricas de CO2e)
2052237.613

Metodologia de cálculo das emissões
Outro, especifique (To calculate scope 3 category 1 emissions factors from the IPCC 2007 GWP 100a report were used, together with information from the "Ecoinvent 3 - Emission Factor" database , the "Europeum Aluminum ENVIRONMENTAL PROFILE" report and the "DEFRA 2020".)

Porcentagem de emissões calculada com dados obtidos de fornecedores ou parceiros da cadeia de valor
0

Explique
The data was calculated using previously reported emission factors and suppliers did not submit primary emissions data. In 2021, IAI (International Aluminium Institute) carried out a study on scope 3 emissions specific to the aluminum sector.
This category is very significant for the sector because of the carbon footprint of aluminum ingots that are purchased on the market, along with the carbon footprint of all inputs consumed by the production process (Example: caustic soda, lime, among others).
At the end of the study, they indicated that the relevant categories for the sector are categories 1, 3, 4, 9 and 10. This category represented 85,2% of CBA's scope 3 emissions (considering relevant categories).

Bens de capital

Status da avaliação
Não relevante, explicação fornecida

Emissões no ano de reporte (toneladas métricas de CO2e)
<Not Applicable>

Metodologia de cálculo das emissões
<Not Applicable>

Porcentagem de emissões calculada com dados obtidos de fornecedores ou parceiros da cadeia de valor
<Not Applicable>

Explique
In 2021, IAI (International Aluminium Institute) carried out a study on scope 3 emissions specific to the aluminium sector. At the end of the study, they indicated that the relevant categories for the sector are categories 1, 3, 4, 9 and 10. Compared with the emissions of the categories that are significant (mainly category 1, purchase of consumer goods) this category proved to be of little relevance for the aluminum sector. For CBA, it was estimated that this category represented 0.85% of the company's scope 3 emissions in 2019 (study carried out to structure the SBTi target).

Atividades relacionadas a combustível e energia (não incluídas no Escopo 1 ou 2)

Status da avaliação
Relevante, calculadas

Emissões no ano de reporte (toneladas métricas de CO2e)
36861.26

Metodologia de cálculo das emissões
Outro, especifique (To calculate scope 3 category 1 emissions factors from the IPCC 2007 GWP 100a report were used, together with information from the "Ecoinvent 3 - Emission Factor" database , the "Europeum Aluminum ENVIRONMENTAL PROFILE" report and the "DEFRA 2020".)

Porcentagem de emissões calculada com dados obtidos de fornecedores ou parceiros da cadeia de valor
0

Explique
The data was calculated using previously reported emission factors and suppliers did not submit primary emissions data. In 2021, IAI (International Aluminium Institute) carried out a study on scope 3 emissions specific to the aluminum sector. At the end of the study, they indicated that the relevant categories for the sector are categories 1, 3, 4, 9 and 10. This category represented 1,5% of CBA's scope 3 emissions (considering relevant categories).

Transporte e distribuição upstream

Status da avaliação
Relevante, calculadas

Emissões no ano de reporte (toneladas métricas de CO2e)
79650.09

Metodologia de cálculo das emissões
Outro, especifique (Brazil GHG Protocol Program - upstream transportation)

Porcentagem de emissões calculada com dados obtidos de fornecedores ou parceiros da cadeia de valor
0

Explique
In 2021, IAI (International Aluminium Institute) carried out a study on scope 3 emissions specific to the aluminum sector. At the end of the study, they indicated that the relevant categories for the sector are categories 1, 3, 4, 9 and 10. This category represented 3,3% of CBA's scope 3 emissions (considering relevant categories).

Resíduos gerados nas operações

Status da avaliação
Não relevante, explicação fornecida

Emissões no ano de reporte (toneladas métricas de CO2e)
<Not Applicable>

Metodologia de cálculo das emissões
<Not Applicable>

Porcentagem de emissões calculada com dados obtidos de fornecedores ou parceiros da cadeia de valor
<Not Applicable>

Explique
In 2021, IAI (International Aluminium Institute) carried out a study on scope 3 emissions specific to the aluminum sector. At the end of the study, they indicated that the relevant categories for the sector are categories 1, 3, 4, 9 and 10. Compared with the emissions of the categories that are significant (mainly category 1, purchase of consumer goods) this category proved to be of little relevance for the aluminum sector. For CBA, it was estimated that this category represented 1.35% of the company's scope 3 emissions in 2019 (study carried out to structure the SBTi target)

Viagens de negócios

Status da avaliação
Não relevante, explicação fornecida

Emissões no ano de reporte (toneladas métricas de CO2e)
<Not Applicable>

Metodologia de cálculo das emissões
<Not Applicable>

Porcentagem de emissões calculada com dados obtidos de fornecedores ou parceiros da cadeia de valor
<Not Applicable>

Explique
In 2021, IAI (International Aluminium Institute) carried out a study on scope 3 emissions specific to the aluminum sector. At the end of the study, they indicated that the relevant categories for the sector are categories 1, 3, 4, 9 and 10. Compared with the emissions of the categories that are significant (mainly category 1, purchase of consumer goods) this category proved to be of little relevance for the aluminum sector. For CBA, it was estimated that this category represented 0.07% of the company's scope 3 emissions in 2019 (study carried out to structure the SBTi target)

Deslocamentos diários dos funcionários para/do trabalho

Status da avaliação
Não relevante, explicação fornecida

Emissões no ano de reporte (toneladas métricas de CO2e)
<Not Applicable>

Metodologia de cálculo das emissões
<Not Applicable>

Porcentagem de emissões calculada com dados obtidos de fornecedores ou parceiros da cadeia de valor
<Not Applicable>

Explique
In 2021, IAI (International Aluminium Institute) carried out a study on scope 3 emissions specific to the aluminum sector. At the end of the study, they indicated that the relevant categories for the sector are categories 1, 3, 4, 9 and 10. Compared with the emissions of the categories that are significant (mainly category 1, purchase of consumer goods) this category proved to be of little relevance for the aluminum sector. For CBA, it was estimated that this category represented 0.35% of the company's scope 3 emissions in 2019 (study carried out to structure the SBTi target)

Ativos arrendados upstream

Status da avaliação
Não relevante, explicação fornecida

Emissões no ano de reporte (toneladas métricas de CO2e)
<Not Applicable>

Metodologia de cálculo das emissões
<Not Applicable>

Porcentagem de emissões calculada com dados obtidos de fornecedores ou parceiros da cadeia de valor
<Not Applicable>

Explique
In 2021, IAI (International Aluminium Institute) carried out a study on scope 3 emissions specific to the aluminum sector. At the end of the study, they indicated that the relevant categories for the sector are categories 1, 3, 4, 9 and 10. Compared with the emissions of the categories that are significant (mainly category 1, purchase of consumer goods) this category proved to be of little relevance for the aluminum sector. For CBA, it was estimated that this category represented 0.00% of the company's scope 3 emissions in 2019 (study carried out to structure the SBTi target)

Transporte e distribuição downstream

Status da avaliação
Relevante, calculadas

Emissões no ano de reporte (toneladas métricas de CO2e)
31629.22

Metodologia de cálculo das emissões
Outro, especifique (Brazil GHG Protocol Program – downstream transportation.)

Porcentagem de emissões calculada com dados obtidos de fornecedores ou parceiros da cadeia de valor
0

Explique
In 2021, IAI (International Aluminium Institute) carried out a study on scope 3 emissions specific to the aluminum sector. At the end of the study, they indicated that the relevant categories for the sector are categories 1, 3, 4, 9 and 10. This category represented 1,3% of CBA's scope 3 emissions (considering relevant categories).

Processamento de produtos vendidos

Status da avaliação
Relevante, calculadas

Emissões no ano de reporte (toneladas métricas de CO2e)
208228.64

Metodologia de cálculo das emissões
Outro, especifique (To calculate scope 3 category 1 emissions factors from the IPCC 2007 GWP 100a report were used, together with information from the "Ecoinvent 3 - Emission Factor" database , the "Europeum Aluminum ENVIRONMENTAL PROFILE" report and the "DEFRA 2020".)

Porcentagem de emissões calculada com dados obtidos de fornecedores ou parceiros da cadeia de valor
0

Explique
In 2021, IAI (International Aluminium Institute) carried out a study on scope 3 emissions specific to the aluminum sector. At the end of the study, they indicated that the relevant categories for the sector are categories 1, 3, 4, 9 and 10. This category represented 8,6% of CBA's scope 3 emissions (considering relevant categories).

Uso de produtos vendidos

Status da avaliação
Não relevante, explicação fornecida

Emissões no ano de reporte (toneladas métricas de CO2e)
<Not Applicable>

Metodologia de cálculo das emissões
<Not Applicable>

Porcentagem de emissões calculada com dados obtidos de fornecedores ou parceiros da cadeia de valor
<Not Applicable>

Explique
In 2021, IAI (International Aluminium Institute) carried out a study on scope 3 emissions specific to the aluminum sector. At the end of the study, they indicated that the relevant categories for the sector are categories 1, 3, 4, 9 and 10. Compared with the emissions of the categories that are significant (mainly category 1, purchase of consumer goods) this category proved to be of little relevance for the aluminum sector. For CBA, it was estimated that this category represented 0.48% of the company's scope 3 emissions in 2019 (study carried out to structure the SBTi target)

Tratamento de produtos vendidos ao final de sua vida útil

Status da avaliação
Não relevante, explicação fornecida

Emissões no ano de reporte (toneladas métricas de CO2e)
<Not Applicable>

Metodologia de cálculo das emissões
<Not Applicable>

Porcentagem de emissões calculada com dados obtidos de fornecedores ou parceiros da cadeia de valor
<Not Applicable>

Explique
In 2021, IAI (International Aluminium Institute) carried out a study on scope 3 emissions specific to the aluminum sector. At the end of the study, they indicated that the relevant categories for the sector are categories 1, 3, 4, 9 and 10. Compared with the emissions of the categories that are significant (mainly category 1, purchase of consumer goods) this category proved to be of little relevance for the aluminum sector.

Ativos arrendados downstream

Status da avaliação
Não relevante, explicação fornecida

Emissões no ano de reporte (toneladas métricas de CO2e)
<Not Applicable>

Metodologia de cálculo das emissões
<Not Applicable>

Porcentagem de emissões calculada com dados obtidos de fornecedores ou parceiros da cadeia de valor
<Not Applicable>

Explique
CBA doesn't have this type of activity, so this category are not applicable.

Franquias

Status da avaliação
Não relevante, explicação fornecida

Emissões no ano de reporte (toneladas métricas de CO2e)
<Not Applicable>

Metodologia de cálculo das emissões
<Not Applicable>

Porcentagem de emissões calculada com dados obtidos de fornecedores ou parceiros da cadeia de valor
<Not Applicable>

Explique
CBA doesn't have this type of activity, so that category are not applicable.

Investimentos

Status da avaliação
Não relevante, explicação fornecida

Emissões no ano de reporte (toneladas métricas de CO2e)
<Not Applicable>

Metodologia de cálculo das emissões
<Not Applicable>

Porcentagem de emissões calculada com dados obtidos de fornecedores ou parceiros da cadeia de valor
<Not Applicable>

Explique
In 2021, IAI (International Aluminium Institute) carried out a study on scope 3 emissions specific to the aluminum sector. At the end of the study, they indicated that the relevant categories for the sector are categories 1, 3, 4, 9 and 10. This category represented 1,3% of CBA's scope 3 emissions (considering relevant categories). Compared with the emissions of the categories that are significant (mainly category 1, purchase of consumer goods) this category proved to be of little relevance for the aluminum sector.

Outros (upstream)

Status da avaliação
Não relevante, explicação fornecida

Emissões no ano de reporte (toneladas métricas de CO2e)
<Not Applicable>

Metodologia de cálculo das emissões
<Not Applicable>

Porcentagem de emissões calculada com dados obtidos de fornecedores ou parceiros da cadeia de valor
<Not Applicable>

Explique
No other upstream categories applicable to CBA were identified.

Outros (downstream)

Status da avaliação
Não relevante, explicação fornecida

Emissões no ano de reporte (toneladas métricas de CO2e)
<Not Applicable>

Metodologia de cálculo das emissões
<Not Applicable>

Porcentagem de emissões calculada com dados obtidos de fornecedores ou parceiros da cadeia de valor
<Not Applicable>

Explique
No other downstream categories applicable to CBA were identified.

C6.5a

(C6.5a) Divulgue ou reitere os dados de emissões de Escopo 3 para os anos anteriores.

Ano passado 1

Data de início
janeiro 1 2020

Data de fim
dezembro 31 2020

Escopo 3: Bens e serviços adquiridos (toneladas métricas de CO2e)
1360462.55

Escopo 3: Bens de capital (toneladas métricas de CO2e)
0

Escopo 3: Atividades relacionadas a combustíveis e energia (não incluídas nos Escopos 1 ou 2) (toneladas métricas de CO2e)
67623.711

Escopo 3: Transporte e distribuição upstream (toneladas métricas de CO2e)
22232.344

Escopo 3: Resíduos gerados nas operações (toneladas métricas de CO2e)
0

Escopo 3: Viagens de negócios (toneladas métricas de CO2e)
0

Escopo 3: Deslocamento de funcionários (ida e volta do trabalho) (toneladas métricas de CO2e)
0

Escopo 3: Ativos arrendados upstream (toneladas métricas de CO2e)
0

Escopo 3: Transporte e distribuição downstream (toneladas métricas de CO2e)
0

Escopo 3: Processamento de produtos vendidos (toneladas métricas de CO2e)
0

Escopo 3: Uso de produtos vendidos (toneladas métricas de CO2e)
0

Escopo 3: Tratamento dos produtos vendidos ao final da vida útil (toneladas métricas de CO2e)
0

Escopo 3: Ativos arrendados downstream (toneladas métricas de CO2e)
0

Escopo 3: Franquias (toneladas métricas de CO2e)
0

Escopo 3: Investimentos (toneladas métricas de CO2e)
0

Escopo 3: Outros (upstream) (toneladas métricas de CO2e)
0

Escopo 3: Outros (downstream) (toneladas métricas de CO2e)
0

Comentários
This year we included categories 9 and 10 in our scope 3 emissions accompanying material.

Ano passado 2

Data de início
janeiro 1 2019

Data de fim
dezembro 31 2019

Escopo 3: Bens e serviços adquiridos (toneladas métricas de CO2e)
1261593.78

Escopo 3: Bens de capital (toneladas métricas de CO2e)
0

Escopo 3: Atividades relacionadas a combustíveis e energia (não incluídas nos Escopos 1 ou 2) (toneladas métricas de CO2e)
66790.39

Escopo 3: Transporte e distribuição upstream (toneladas métricas de CO2e)
105387.66

Escopo 3: Resíduos gerados nas operações (toneladas métricas de CO2e)
0

Escopo 3: Viagens de negócios (toneladas métricas de CO2e)
0

Escopo 3: Deslocamento de funcionários (ida e volta do trabalho) (toneladas métricas de CO2e)
0

Escopo 3: Ativos arrendados upstream (toneladas métricas de CO2e)
0

Escopo 3: Transporte e distribuição downstream (toneladas métricas de CO2e)
0

Escopo 3: Processamento de produtos vendidos (toneladas métricas de CO2e)
0

Escopo 3: Uso de produtos vendidos (toneladas métricas de CO2e)
0

Escopo 3: Tratamento dos produtos vendidos ao final da vida útil (toneladas métricas de CO2e)
0

Escopo 3: Ativos arrendados downstream (toneladas métricas de CO2e)
0

Escopo 3: Franquias (toneladas métricas de CO2e)
0

Escopo 3: Investimentos (toneladas métricas de CO2e)
0

Escopo 3: Outros (upstream) (toneladas métricas de CO2e)
0

Escopo 3: Outros (downstream) (toneladas métricas de CO2e)
0

Comentários
This year we started monitoring scope 3 emissions due to our study to create an SBTi target (Science Based Targets Initiative).

Ano passado 3

Data de início
janeiro 1 2018

Data de fim
dezembro 31 2018

Escopo 3: Bens e serviços adquiridos (toneladas métricas de CO2e)
0

Escopo 3: Bens de capital (toneladas métricas de CO2e)
0

Escopo 3: Atividades relacionadas a combustíveis e energia (não incluídas nos Escopos 1 ou 2) (toneladas métricas de CO2e)
0

Escopo 3: Transporte e distribuição upstream (toneladas métricas de CO2e)
0

Escopo 3: Resíduos gerados nas operações (toneladas métricas de CO2e)
0

Escopo 3: Viagens de negócios (toneladas métricas de CO2e)
0

Escopo 3: Deslocamento de funcionários (ida e volta do trabalho) (toneladas métricas de CO2e)
0

Escopo 3: Ativos arrendados upstream (toneladas métricas de CO2e)
0

Escopo 3: Transporte e distribuição downstream (toneladas métricas de CO2e)
0

Escopo 3: Processamento de produtos vendidos (toneladas métricas de CO2e)
0

Escopo 3: Uso de produtos vendidos (toneladas métricas de CO2e)
0

Escopo 3: Tratamento dos produtos vendidos ao final da vida útil (toneladas métricas de CO2e)
0

Escopo 3: Ativos arrendados downstream (toneladas métricas de CO2e)
0

Escopo 3: Franquias (toneladas métricas de CO2e)
0

Escopo 3: Investimentos (toneladas métricas de CO2e)
0

Escopo 3: Outros (upstream) (toneladas métricas de CO2e)
0

Escopo 3: Outros (downstream) (toneladas métricas de CO2e)
0

Comentários
We did not calculate our scope 3 emissions in 2018.

C6.7

(C6.7) As emissões de dióxido de carbono provenientes do carbono biogênico são relevantes para a organização?
Sim

C6.7a

(C6.7a) Forneça as emissões provenientes de carbono biogênico relevantes para a organização, em toneladas métricas de CO2.

	Emissões de CO2 provenientes de carbono biogênico (toneladas métricas de CO2)	Comentários
Linha 1	383726.139	When we compare our biogenic emissions from 2019 to 2021, we notice that there has been a large increase. This change is due to implementing the biomass boiler, which alone was responsible for biogenic emissions of 369.538,751 t CO2e in 2021.

C6.10

(C6.10) Descreva as emissões combinadas globais brutas de Escopos 1 e 2 para o ano de reporte, em toneladas métricas de CO2e por receita total em moeda unitária, e forneça eventuais métricas de intensidade adicionais adequadas para as operações de negócios.

Valor de intensidade
0.00014

Numerador da métrica (Emissões combinadas globais brutas de Escopos 1 e 2, em toneladas métricas de CO2e)
1165597.51

Denominador da métrica
receita total unitária

Denominador da métrica: Total da unidade
8400000000

Valor do Escopo 2 usado
Com base no mercado

Porcentagem de variação em relação ao ano anterior
29.8

Direção da variação
Diminuiu

Motivo da variação
In 2021 the biomass boiler was in operation throughout the year, which caused an even greater reduction in emissions than in 2020. In addition, the company purchased RECs (Renewable Energy Certificates) to ensure 100% traceability of electricity use by all its units, which resulted in a scope 2 emission for electricity equal to zero. In 2021, CBA also went public, which resulted in an increase in its net revenues, positively impacting the indicator. In 2020, if we use the same calculation, the indicator would be 0.0002 t CO2e/R$.

C7. Decomposição das emissões

C7.1

(C7.1) A organização decompõe suas emissões de Escopo 1 por tipo de gás de efeito estufa?
Sim

C7.1a

(C7.1a) Decomponha o total de emissões brutas globais de Escopo 1 por tipo de gás de efeito estufa e forneça a fonte de cada potencial de aquecimento global de efeito estufa (GWP) utilizado.

Gás de efeito estufa	Emissões de Escopo 1 (toneladas métricas de CO2e)	Referência de GWP
CO2	911808	Quinto Relatório de Avaliação do IPCC (AR5 – 100 anos)
CH4	194	Quinto Relatório de Avaliação do IPCC (AR5 – 100 anos)
N2O	440	Quinto Relatório de Avaliação do IPCC (AR5 – 100 anos)
HFCs	3168	Quinto Relatório de Avaliação do IPCC (AR5 – 100 anos)
PFCs	241730	Quinto Relatório de Avaliação do IPCC (AR5 – 100 anos)
SF6	1269	Quinto Relatório de Avaliação do IPCC (AR5 – 100 anos)
NF3	0	Quinto Relatório de Avaliação do IPCC (AR5 – 100 anos)

C7.2

(C7.2) Decomponha o total de emissões brutas de Escopo 1 por país/região.

País/Região	Emissões de Escopo 1 (toneladas métricas de CO2e)
Brasil	1158609

C7.3

(C7.3) Indique quais decomposições de emissões brutas de Escopo 1 a organização pode apresentar.
Por divisão de negócios
Por instalação
Por atividade

C7.3a

(C7.3a) Decomponha as emissões brutas globais totais de Escopo 1 por divisão de negócios.

Divisão de negócios	Emissões de Escopo 1 (toneladas métricas de CO2e)
Aluminum Business . The Aluminum Business involves mining units, an integrated Aluminum Plant (Refinery, Smelters, Casting and Transformation), Itapissuma and Metalex plant.	1157692
Nickel Business. The Nickel Business has two units (São Miguel Paulista, SP / Niquelândia/GO) and both have had no productive activities in recent years, and hence their needs are not very representative.	917

C7.3b

(C7.3b) Decomponha as emissões brutas globais totais de Escopo 1 por instalação comercial.

Instalação	Emissões de Escopo 1 (toneladas métricas de CO2e)	Latitude	Longitude
Aluminum Plant - Refinery, Smelters, Casting and Transformation	1093698	-23.535007	-47.261304
Metalex - aluminum recycling unit for billet production	16597	-23.436855	-47.063855
Miraí Mining - This unit has mining and processing of bauxite	4719	-21.058433	-42.568312
Itamarati de Minas Mining - There was no mining (bauxite) at this unit in 2019.	152	-21.446461	-42.87897
Poços de Caldas Mining - This unit only does bauxite mining	2445	-21.823999	-46.634594
São Miguel Paulista facility - Nickel production plant. Temporarily out of production.	201	-23.483489	-46.434031
Niquelândia Mining - Nickel mining unit. Temporarily out of production.	716	-14.345246	-48.441254
Itapissuma Plant – Casting and Rolling mill	40081	-7.797339	-34.905503

C7.3c

(C7.3c) Decomponha as emissões brutas globais totais de Escopo 1 por atividade de negócio.

Atividade	Emissões de Escopo 1 (toneladas métricas de CO2e)
Bauxite Mining	7316
Alumina Refinery	134591
Aluminum Smelter	881911
Aluminum Casting	52199
Aluminum Transformation (rolling mill and extrusion)	11958
Scrap processing (Metalex)	16597
Nickel production	201
Nickel mining	716
Support areas of the integrated plant in Alumínio (SP)	13038
Aluminium Casting and Transformation (rolling mill) in Itapissuma	40081

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Decomponha o total das emissões brutas de Escopo 1 da organização por atividade de produção do setor, em toneladas métricas de CO2e.

	Emissões brutas de Escopo 1, toneladas métricas de CO2e	Emissões líquidas de Escopo 1, toneladas métricas de CO2e	Comentários
Atividades de produção de cimento	<Not Applicable>	<Not Applicable>	<Not Applicable>
Atividades de produção de produtos químicos	<Not Applicable>	<Not Applicable>	<Not Applicable>
Atividades de produção de carvão	<Not Applicable>	<Not Applicable>	<Not Applicable>
Atividades de fornecimento de eletricidade	<Not Applicable>	<Not Applicable>	<Not Applicable>
Atividades de produção de metais e mineração	1158609	<Not Applicable>	All CBA activities are Metals and mining production activities.
Atividades de produção de petróleo e gás (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Atividades de produção de petróleo e gás ( )	<Not Applicable>	<Not Applicable>	<Not Applicable>
Atividades de produção de petróleo e gás (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Atividades de produção de aço	<Not Applicable>	<Not Applicable>	<Not Applicable>
Atividades de fabricantes de equipamentos originais (OEM) de transporte	<Not Applicable>	<Not Applicable>	<Not Applicable>
Atividades de serviços de transporte	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

(C7.5) Decomponha o total de emissões brutas de Escopo 2 por país/região.

País/Região	Escopo 2, com base na localização (toneladas métricas de CO2e)	Escopo 2, com base no mercado (toneladas métricas de CO2e)
Brasil	799535	6988.661

C7.6

(C7.6) Indique quais decomposições de emissões brutas globais de Escopo 2 a organização pode fornecer.

Por divisão de negócios
Por instalação
Por atividade

C7.6a

(C7.6a) Decomponha o total de emissões brutas de Escopo 2 por divisão de negócios.

Divisão de negócios	Escopo 2, com base na localização (toneladas métricas de CO2e)	Escopo 2, com base no mercado (toneladas métricas de CO2e)
Aluminum Business .	798483	6988.661
Nickel Business.	1052	0

C7.6b

(C7.6b) Decomponha o total de emissões brutas de Escopo 2 por instalação de negócios.

Instalação	Escopo 2, com base na localização (toneladas métricas de CO2e)	Escopo 2, com base no mercado (toneladas métricas de CO2e)
Aluminum Plant	787918	6988.661
Metalex	552	0
Miraí Mining	571	0
Itamarati de Minas Mining	85	0
Poços de Caldas Mining	46	0
São Miguel Paulista facility	219	0
Niquelândia Mining	833	0
Itapissuma Plant	9311	0

C7.6c

(C7.6c) Decomponha o total de emissões brutas de Escopo 2 por atividade de negócio.

Atividade	Escopo 2, com base na localização (toneladas métricas de CO2e)	Escopo 2, com base no mercado (toneladas métricas de CO2e)
Bauxite Mining	702	0
Alumina Refinery	34846	6988.661
Aluminum Smelter	675389	0
Aluminum Casting	11443	0
Aluminum Transformation	23904	0
Scrap processing (Metalex)	552	0
Nickel Production	219	0
Nickel Mining	833	0
Support areas of the integrated plant in Alumínio (SP)	24168	0
Itapissuma	9311	0

C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Decomponha o total de emissões brutas de Escopo 2 da organização por atividade de produção do setor em toneladas métricas de CO2e.

	Escopo 2, com base na localização, toneladas métricas de CO2e	Escopo 2, com base no mercado (se aplicável), toneladas métricas de CO2e	Comentários
Atividades de produção de cimento	<Not Applicable>	<Not Applicable>	<Not Applicable>
Atividades de produção de produtos químicos	<Not Applicable>	<Not Applicable>	<Not Applicable>
Atividades de produção de carvão	<Not Applicable>	<Not Applicable>	<Not Applicable>
Atividades de produção de metais e mineração	799535	6988.661	All CBA activities are Metals and mining production activities.
Atividades de produção de petróleo e gás ( )	<Not Applicable>	<Not Applicable>	<Not Applicable>
Atividades de produção de petróleo e gás ( )	<Not Applicable>	<Not Applicable>	<Not Applicable>
Atividades de produção de petróleo e gás ( )	<Not Applicable>	<Not Applicable>	<Not Applicable>
Atividades de produção de aço	<Not Applicable>	<Not Applicable>	<Not Applicable>
Atividades de fabricantes de equipamentos originais (OEM) de transporte	<Not Applicable>	<Not Applicable>	<Not Applicable>
Atividades de serviços de transporte	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.9

(C7.9) Como o total de emissões brutas (Escopos 1 e 2 combinados) do ano de reporte variou em comparação com o do ano de reporte anterior?
Aumentou

C7.9a

(C7.9a) Identifique os motivos para eventuais variações nas emissões brutas globais (Escopos 1 e 2 combinados) e, para cada uma delas, especifique como as emissões se comparam ao ano anterior.

	Variação nas emissões (toneladas métricas de CO2e)	Direção da variação	Valor das emissões (porcentagem)	Explique os cálculos
Variação no consumo de energia renovável	65515	Diminuiu	90.4	In 2021 CBA hydroelectric plants were able to supply 82.7% of our energy needs to the Aluminio Plant (in 2020 supplied 81,4%), thus enabling us to purchase a smaller volume of electricity from the Brazilian Grid. About that, CBA has established a governance practice to purchase only renewable and traceable energy starting in 2021. This year the company began to make moves to achieve its goal of using 100% energy from renewable sources. In 2021, due to rainfall, energy produced by our hydroelectric plants was impacted by periods of drought. In order to ensure that 100% of electricity used in all CBA units comes from traceable renewable sources, the company made its first purchase of RECs (renewable energy certificates). In 2020 scope 2 emissions from use of energy was 72,504 t CO2e, while in 2021 it was only 6,989 t CO2e. Absolute emissions calculation: 72,504 - 6,989 = 65.515 t CO2e. Percentage calculation: (6,989 - 72,504) / 72,504 = 90.4% (emission reduction)
Outras atividades de redução de emissões	47549	Diminuiu	26.1	In 2020 we implemented the Biomass Boiler but its activities started only in March and steam production started gradually, reaching full capacity only in July. In 2021 the Biomass Boiler worked all the year with full capacity production, responsible for this project's decline in emissions. In 2020 the refinery area was responsible for 182,140 t CO2e (Considering only natural gas and fuel oil), and in 2021 the area emitted 134,591 t CO2e, resulting in a drop of 47,549t CO2e. Absolute emissions calculation: 182,140 - 134,591 = 47,549t CO2e Percentage calculation: (134,591 - 182,140) / 182,140 = 26.1% (emission decline)
Desinvestimento		<Not Applicable>		N/A
Aquisições		<Not Applicable>		N/A
Fusões		<Not Applicable>		N/A
Variação na produção		<Not Applicable>		N/A
Mudança de metodologia		<Not Applicable>		N/A
Mudança de limite		<Not Applicable>		N/A
Mudança nas condições físicas de operação	91429	Aumentou	8.6	In 2021 CBA had a 17.9% production increase (72,533 tons of finished products, considering Aluminio, Metalex and Itapissuma production), which ended up reflecting an increase in the company's absolute emissions. In 2020 absolute emissions were 1,067,178 tCO2e, while in 2021 they were at 1,158,607 t CO2e, generating an increase of 91,429 t CO2e, which reflected in an 8.6% increase. Despite the increase in absolute emissions, when we talk of specific emissions by products due to implementation of emission reduction projects and process improvements, there was a reduction in tGHG emissions intensity. Speaking of intensity, in 2020 CBA resulted was 2.63 t CO2e/t finished products, and in 2021 it reduced to 2.43 t CO2e/t finished products, which resulted in a reduction of 0.21 tCO2e/t finished products, i.e. a reduction of 7.9% in emission intensity. Absolute emissions calculation: 1,158,607 - 1,067,178 = 91,429 t CO2e Percentage calculation: (1,158,607 - 1,067,178) / 1,067,178 = 26,1% (emission increase)
Não identificado		<Not Applicable>		N/A
Outros		<Not Applicable>		N/A

C7.9b

(C7.9b) Os cálculos de desempenho de emissões de C7.9 e C7.9a se baseiam no valor das emissões de Escopo 2 com base na localização ou no valor das emissões de Escopo 2 com base no mercado?

Com base no mercado

C8. Energia

C8.1

(C8.1) Durante o ano de reporte, que porcentagem do total de gastos operacionais corresponde aos gastos com energia?

Superior a 35%, mas inferior ou igual a 40%

C8.2

(C8.2) Selecione quais atividades relacionadas à energia foram realizadas pela organização.

	Indique se a organização realizou esta atividade relacionada à energia no ano de referência
Consumo de combustível (exceto matérias-primas)	Sim
Consumo de eletricidade comprada ou adquirida	Sim
Consumo de aquecimento comprado ou adquirido	Não
Consumo de vapor comprado ou adquirido	Sim
Consumo de resfriamento comprado ou adquirido	Não
Geração de eletricidade, aquecimento, vapor ou refrigeração	Sim

C8.2a

(C8.2a) Divulgue os consumos totais de energia (exceto matérias-primas) da organização em MWh.

	Poder calorífico	MWh de fontes renováveis	MWh de fontes não renováveis	Total (renováveis e não renováveis) em MWh
Consumo de combustível (exceto matérias-primas)	Não é possível confirmar o poder calorífico	18825	1432507	1451332
Consumo de eletricidade comprada ou adquirida	<Not Applicable>	1059895	0	1059895
Consumo de aquecimento comprado ou adquirido	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumo de vapor comprado ou adquirido	<Not Applicable>	868469	0	868469
Consumo de resfriamento comprado ou adquirido	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumo de energia renovável não combustível autogerada	<Not Applicable>	5066663	<Not Applicable>	5066663
Consumo total de energia	<Not Applicable>	7013852	1432507	8446359

C-MM8.2a

(C-MM8.2a) Divulgue os totais de consumo de energia (exceto matérias-primas) da organização para as atividades de produção de metais e mineração em MWh.

	Poder calorífico	MWh totais
Consumo de combustível (exceto matérias-primas)	Não é possível confirmar o poder calorífico	1451332
Consumo de eletricidade comprada ou adquirida	<Not Applicable>	1059895
Consumo de aquecimento comprado ou adquirido	<Not Applicable>	<Not Applicable>
Consumo de vapor comprado ou adquirido	<Not Applicable>	868469
Consumo de resfriamento comprado ou adquirido	<Not Applicable>	<Not Applicable>
Consumo de energia renovável não combustível autogerada	<Not Applicable>	5066663
Consumo total de energia	<Not Applicable>	8446359

C8.2b

(C8.2b) Selecione as aplicações do consumo de combustível da organização.

	Indique se a organização adota esta aplicação do combustível
Consumo de combustível para a geração de eletricidade	Sim
Consumo de combustível para a geração de aquecimento	Sim
Consumo de combustível para geração de vapor	Sim
Consumo de combustível para a geração de refrigeração	Não
Consumo de combustível para cogeração ou trigeração	Não

C8.2c

(C8.2c) Informe a quantidade de combustível em MWh que a organização consumiu (exceto matérias-primas) por tipo de combustível.

Biomassa sustentável

Poder calorífico
Não é possível confirmar o poder calorífico

Total de combustível em MWh consumido pela organização
0

Combustível consumido, em MWh, para a autogeração de eletricidade
0

Combustível consumido, em MWh, para a autogeração de calor
0

Combustível consumido, em MWh, para a autogeração de vapor
0

Combustível consumido, em MWh, para a autogeração de refrigeração
<Not Applicable>

MWh de combustível consumidos para a autocogeração ou autotrigeração
<Not Applicable>

Comentários
CBA consumes 868,469.19 MWh of steam from biomass, but this steam is purchased from a partner.

Outra biomassa

Poder calorífico
Não é possível confirmar o poder calorífico

Total de combustível em MWh consumido pela organização
0

Combustível consumido, em MWh, para a autogeração de eletricidade
0

Combustível consumido, em MWh, para a autogeração de calor
0

Combustível consumido, em MWh, para a autogeração de vapor
0

Combustível consumido, em MWh, para a autogeração de refrigeração
<Not Applicable>

MWh de combustível consumidos para a autocogeração ou autotrigeração
<Not Applicable>

Comentários
Not applicable to CBA

Outros combustíveis renováveis (por ex., hidrogênio renovável)

Poder calorífico
Não é possível confirmar o poder calorífico

Total de combustível em MWh consumido pela organização
18825

Combustível consumido, em MWh, para a autogeração de eletricidade
0

Combustível consumido, em MWh, para a autogeração de calor
18825

Combustível consumido, em MWh, para a autogeração de vapor
0

Combustível consumido, em MWh, para a autogeração de refrigeração
<Not Applicable>

MWh de combustível consumidos para a autocogeração ou autotrigeração
<Not Applicable>

Comentários
Considering ethanol and biodiesel needs

Carvão

Poder calorífico
Não é possível confirmar o poder calorífico

Total de combustível em MWh consumido pela organização
0

Combustível consumido, em MWh, para a autogeração de eletricidade
0

Combustível consumido, em MWh, para a autogeração de calor
0

Combustível consumido, em MWh, para a autogeração de vapor
0

Combustível consumido, em MWh, para a autogeração de refrigeração
<Not Applicable>

MWh de combustível consumidos para a autocogeração ou autotrigeração
<Not Applicable>

Comentários
Not applicable to CBA

Divisão das reservas de petróleo

Poder calorífico
Não é possível confirmar o poder calorífico

Total de combustível em MWh consumido pela organização
0

Combustível consumido, em MWh, para a autogeração de eletricidade
0

Combustível consumido, em MWh, para a autogeração de calor
0

Combustível consumido, em MWh, para a autogeração de vapor
0

Combustível consumido, em MWh, para a autogeração de refrigeração
<Not Applicable>

MWh de combustível consumidos para a autocogeração ou autotrigeração
<Not Applicable>

Comentários
Not applicable to CBA

Gás

Poder calorífico
Não é possível confirmar o poder calorífico

Total de combustível em MWh consumido pela organização
1252075

Combustível consumido, em MWh, para a autogeração de eletricidade
0

Combustível consumido, em MWh, para a autogeração de calor
610679

Combustível consumido, em MWh, para a autogeração de vapor
641396

Combustível consumido, em MWh, para a autogeração de refrigeração
<Not Applicable>

MWh de combustível consumidos para a autocogeração ou autotrigeração
<Not Applicable>

Comentários
Considering Natural Gas and its use in Refinery to generate steam

Outros combustíveis não renováveis (por ex., hidrogênio não renovável)

Poder calorífico
Não é possível confirmar o poder calorífico

Total de combustível em MWh consumido pela organização
180432

Combustível consumido, em MWh, para a autogeração de eletricidade
0

Combustível consumido, em MWh, para a autogeração de calor
163704

Combustível consumido, em MWh, para a autogeração de vapor
16727

Combustível consumido, em MWh, para a autogeração de refrigeração
<Not Applicable>

MWh de combustível consumidos para a autocogeração ou autotrigeração
<Not Applicable>

Comentários
Considering BTE oil, gasoline, diesel and GLP consumption

Total de combustíveis

Poder calorífico
Não é possível confirmar o poder calorífico

Total de combustível em MWh consumido pela organização
1451332

Combustível consumido, em MWh, para a autogeração de eletricidade
0

Combustível consumido, em MWh, para a autogeração de calor
793209

Combustível consumido, em MWh, para a autogeração de vapor
658123

Combustível consumido, em MWh, para a autogeração de refrigeração
<Not Applicable>

MWh de combustível consumidos para a autocogeração ou autotrigeração
<Not Applicable>

Comentários
N/A

C8.2d

(C-C8.2d) Dê detalhes sobre a eletricidade, o aquecimento, o vapor e a refrigeração que gerados e consumidos pela organização e consumiu no ano de reporte.

	Geração bruta total (MWh)	Geração consumida pela organização (MWh)	Geração bruta proveniente de fontes renováveis (MWh)	Geração proveniente de fontes renováveis consumida pela organização (MWh)
Eletricidade	5066663	5066663	5066663	5066663
Aquecimento	793209	793209	18825	18825
Vapor	658123	658123	0	0
Refrigeração	0	0	0	0

C-MM8.2d

(C-MM8.2d) Dê detalhes sobre a eletricidade, o aquecimento, o vapor e a refrigeração gerados e consumidos pela organização para atividades de produção de metais e mineração.

	Geração bruta total (MWh) dentro dos limites do setor de metais e mineração	Geração consumida (MWh) dentro dos limites do setor de metais e mineração
Eletricidade	5066663	5066663
Aquecimento	793209	793209
Vapor	658123	658123
Refrigeração	0	0

C8.2e

(C8.2e) Dê detalhes sobre as quantidades de eletricidade, aquecimento, vapor e/ou refrigeração contabilizadas a um fator de emissão zero ou próximo de zero no valor de Escopo 2 com base no mercado reportado em C6.3.

Método de aquisição
Outro, especifique (Self-generation based on hydroelectric plants (82.7%) and purchase of renewable energy certificates (17.3%))

Vetor de energia
Eletricidade

Tipo de tecnologia de baixo carbono
Hidrelétrica (capacidade desconhecida)

País/área de consumo de energia de baixo carbono
Brasil

Instrumento de monitoramento utilizado
Outro, especifique (Self-declaration for CBA self-generation (82.7%) and purchase of renewable energy certificates (17.3%))

Energia de baixo carbono consumida por meio de métodos de obtenção selecionados no ano de reporte (MWh)
6126558

País/área de origem (geração) da energia de baixo carbono ou do atributo energético
Brasil

Ano de comissionamento da instalação de geração de energia (por ex., data da primeira operação comercial ou da repotenciação)
2012

Comentários
CBA has a capacity to generate 100% of its electricity needs with its own hydroelectric plants, but climate aspects of rainfall can impact generation and in 2021 Brazil suffered a period of drought.

C8.2g

(C8.2g) Apresente uma decomposição do seu consumo de energia não proveniente de combustíveis por país.

País/área
Brasil

Consumo de eletricidade (MWh)
6126558

Consumo de aquecimento, vapor e refrigeração (MWh)
0

Consumo total de energia não proveniente de combustíveis (MWh) [calculado automaticamente]
6126558

Este consumo está excluído do compromisso com a RE100?
<Not Applicable>

C9. Métricas adicionais

C9.1

(C9.1) Indique eventuais métricas climáticas adicionais relevantes para os negócios da organização.

Descrição
Outro, especifique (Create a roadmap to becoming emissions neutral by 2050 and Develop a climate change adaptation plan)

Valor da métrica
0

Numerador da métrica
This goal is qualitative.

Denominador da métrica (apenas para métrica de intensidade)
This goal is qualitative.

Porcentagem de variação em relação ao ano anterior
0

Direção da variação
Sem alteração

Explique
Both targets are qualitative, but they are important objectives for the GHG management program, and therefore their progress is monitored in internal routines with the leadership. With the role of supporting both goals in 2021, the CBA submitted emissions reduction targets to the SBTi initiative. The roadmap is being developed to neutralize our emissions and carried out the restructuring of climate risks following the TCFD methodology and mapping of measures of mitigation and adaptation

C-MM9.3a

(C-MM9.3a) Dê detalhes sobre as commodities relevantes para as atividades de produção de mineração da organização.

Produto de saída
Bauxita

Capacidade, toneladas métricas
3600000

Produção, toneladas métricas
923044.69

Produção, unidades de cobre-equivalentes (toneladas métricas)
4724

Emissões de Escopo 1
7325.28

Emissões de Escopo 2
0

Abordagem das emissões de Escopo 2
Com base no mercado

Metodologia de precificação para o valor de cobre-equivalente
CBA's production was multiplied by the average world price of bauxite in 2021 (R$ 257). The result was divided by the world average copper price in 2021 (R$ 50,254.00).

Comentários
Production and emissions were only considered for the units of which we have operational control.

Produto de saída
Níquel

Capacidade, toneladas métricas
3700000

Produção, toneladas métricas
0

Produção, unidades de cobre-equivalentes (toneladas métricas)
0

Emissões de Escopo 1
916.93

Emissões de Escopo 2
0

Abordagem das emissões de Escopo 2
Com base no mercado

Metodologia de precificação para o valor de cobre-equivalente
The Nickel Business has been interrupted and production is zero.

Comentários
The Nickel Business has been interrupted and production is zero, while emissions refer only to maintenance activities.

C-MM9.3b

(C-MM9.3b) Dê detalhes sobre as commodities relevantes para as atividades de produção de metais da organização.

Produto de saída
Alumina

Capacidade (toneladas métricas)
1098000

Produção (toneladas métricas)
703219.74

Produção anual em unidades de cobre-equivalentes (milhares de toneladas)
24977

Emissões de Escopo 1 (toneladas métricas de CO2e)
134591.22

Emissões de Escopo 2 (toneladas métricas de CO2e)
6988.66

Abordagem das emissões de Escopo 2
Com base no mercado

Metodologia de precificação para o valor do equivalente de cobre
CBA's production was multiplied by the average 2020 price of alumina (R$ 1,785.00). The result was divided by the world average copper price in 2021 (R$ 50,254.00).

Comentários
Our alumina production is mainly focused on supplying material to the Smelter stage for the production of primary aluminum.

Produto de saída
Alumínio

Capacidade (toneladas métricas)
627196

Produção (toneladas métricas)
344929.97

Produção anual em unidades de cobre-equivalentes (milhares de toneladas)
91780

Emissões de Escopo 1 (toneladas métricas de CO2e)
881911.15

Emissões de Escopo 2 (toneladas métricas de CO2e)
0

Abordagem das emissões de Escopo 2
Com base no mercado

Metodologia de precificação para o valor do equivalente de cobre
CBA's production was multiplied by the average LME 2020 price of aluminum (R$ 13,372.00). The result was divided by the world average copper price in 2020 (R$ 50,254.00).

Comentários
Our smelter production is mainly focused on supplying material to the Casthouse stage, for the production of primary aluminum (ingots, billets, and others).

Produto de saída
Níquel

Capacidade (toneladas métricas)
23000

Produção (toneladas métricas)
0

Produção anual em unidades de cobre-equivalentes (milhares de toneladas)
0

Emissões de Escopo 1 (toneladas métricas de CO2e)
916.93

Emissões de Escopo 2 (toneladas métricas de CO2e)
0

Abordagem das emissões de Escopo 2
Com base na localização

Metodologia de precificação para o valor do equivalente de cobre
The Nickel Business has been interrupted, and production is zero.

Comentários
The Nickel Business has been interrupted and production is zero, while emissions refer only to maintenance activities.

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) A organização investe em pesquisa e desenvolvimento (P&D) de produtos e serviços de baixo carbono relacionados às atividades do seu setor?

	Investimentos em P&D de baixo carbono	Comentários
Linha 1	Sim	CBA aluminum is considered a low-carbon product and this assumption is applicable to the entire production by the Alumínio(SP) unit. Today, CBA invests and reserves large investments to support our trajectory of decarbonization of our process. The company has investments in CAPEX, with projects that present significant emission reductions, and also invests in emission compensation projects (REDD+, Reflora, purchase of RECs - Renewable energy certificates for all its units) and also invests in new sources of renewable electricity.

C-MM9.6a

(C-MM9.6a) Dê detalhes sobre os investimentos da organização em P&D sobre baixo carbono para atividades de produção de metais e mineração nos últimos três anos.

Área tecnológica	Estágio de desenvolvimento no ano de reporte	Porcentagem média dos investimentos totais em P&D nos últimos três anos	Valor do investimento em P&D no ano de reporte (opcional)	Comentários
Metais ecológicos	Demonstração piloto	≤ 20%	14106000	This investment refers to the Green Soderberg Project , which aims to modernize Soderberg smelter production, reducing GHG emissions. In the last 3 years, 72 pilot pots were installed to learn the new technology.
Reprocessamento de resíduos	Implementação comercial em grande escala	41 – 60%	25701559	A dryer dam is a safer dam. CBA is investing R$ 306 million in a filter-press project that will introduce a new residue disposal method at the Palmital bauxite residue dam in Alumínio (SP), switching from wet disposal (45% solids) to dry disposal (75% solids). Migrating to dry disposal will require installation of a filter press to remove the liquid fraction before the bauxite residue arrives at the storage facility. The project will extend the useful life of the dam by at least 20 years, and is on track to start operating in 2024.

C10. Verificação

C10.1

(C10.1) Indique o status da verificação/garantia que se aplica às emissões relatadas.

	Status da verificação/garantia
Escopo 1	Processo de verificação ou garantia por terceiros em vigor
Escopo 2 (com base na localização ou com base no mercado)	Processo de verificação ou garantia por terceiros em vigor
Escopo 3	Processo de verificação ou garantia por terceiros em vigor

C10.1a

(C10.1a) Dê mais detalhes sobre a verificação/garantia realizada para as emissões de Escopo 1 e anexe as declarações relevantes.

Ciclo de verificação ou garantia em vigor
Processo anual

Status do ano de reporte atual
Completo

Tipo de verificação ou garantia
Garantia limitada

Anexe a declaração
*
Declaração CDP_Asseguração PwC.pdf
CBA_Annual_Report_2021.pdf

Página/seção de referência
Pages from 137 to 139 of the Annual Report.

Norma relevante
Outro, especifique (ISAE3000, GRI and SASB)

Proporção das emissões divulgadas verificadas (%)
100

C10.1b

(C10.1b) Dê mais detalhes sobre a verificação/garantia realizada para as emissões de Escopo 2 e anexe as declarações relevantes.

Abordagem do Escopo 2
Escopo 2 com base na localização

Ciclo de verificação ou garantia em vigor
Processo anual

Status do ano de reporte atual
Completo

Tipo de verificação ou garantia
Garantia limitada

Anexe a declaração
*
Declaração CDP_Asseguração PwC.pdf
CBA_Annual_Report_2021.pdf

Página/seção de referência
Pages from 137 to 139 of the Annual Report

Norma relevante
Outro, especifique (ISAE3000, GRI, SASB)

Proporção das emissões divulgadas verificadas (%)
100

Abordagem do Escopo 2
Escopo 2 com base no mercado

Ciclo de verificação ou garantia em vigor
Processo anual

Status do ano de reporte atual
Completo

Tipo de verificação ou garantia
Garantia limitada

Anexe a declaração
*
CBA_Annual_Report_2021-min.pdf
Declaração CDP_Asseguração PwC.pdf

Página/seção de referência
Pages from 137 to 139 of the Annual Report

Norma relevante
Outro, especifique (ISAE3000, GRI, SASB)

Proporção das emissões divulgadas verificadas (%)
100

C10.1c

(C10.1c) Dê mais detalhes sobre a verificação/garantia realizada para as emissões de Escopo 3 e anexe as declarações relevantes.

Categoria de Escopo 3
Escopo 3: Bens e serviços adquiridos
Escopo 3: Atividades relacionadas a combustível e energia (não incluídas nos Escopos 1 ou 2)
Escopo 3: Transporte e distribuição upstream
Escopo 3: Transporte e distribuição downstream
Escopo 3: Processamento de produtos vendidos

Ciclo de verificação ou garantia em vigor
Processo anual

Status do ano de reporte atual
Completo

Tipo de verificação ou garantia
Garantia limitada

Anexe a declaração
*
Declaração CDP_Asseguração PwC.pdf
CBA_Annual_Report_2021.pdf

Referência de página/seção
Pages from 137 to 139 of the Annual Report
Only tha category 10 of scope 3 emissions wasn't verificated by a tird part cause it is still an estimative (It was the first year that CBA had calculated it so the methodology is still under evaluation and maturation).

Norma relevante
Outro, especifique (ISAE3000, GRI, SASB)

Proporção das emissões divulgadas verificadas (%)
91

C10.2

(C10.2) É verificada alguma informação relacionada ao clima relatada na divulgação ao CDP, além dos valores de emissões relatados em C6.1, C6.3 e C6.5?
Sim

C10.2a

(C10.2a) Quais dados da divulgação ao CDP foram verificados, e quais normas de verificação foram usadas?

A verificação do módulo de reporte se refere a	Dados verificados	Norma de verificação	Explique
C4. Metas e desempenho	Atividades de redução de emissões	Independent auditor's limited assurance report on sustainability information in the CBA - 2021 Annual Report (GRI).	Our entire annual report goes through the third-party verification process, including our ESG 2030 strategy and our reported results of achieving our targets. Declaração CDP_Asseguração PwC.pdf
C8. Energia	Consumo de energia	Independent auditor's limited assurance report on sustainability information in the CBA - 2021 Annual Report (GRI).	Our entire annual report goes through the third-party verification process, including our energy indicators. Declaração CDP_Asseguração PwC.pdf
C7. Decomposição das emissões	Mudança anual das emissões (Escopo 1)	Independent auditor's limited assurance report on sustainability information in the CBA - 2021 Annual Report (GRI).	This information was assured, as it is included in the Annual Report, developed in the GRI and SASB standards and audited by a third party. Declaração CDP_Asseguração PwC.pdf
C7. Decomposição das emissões	Variação nas emissões ano a ano (Escopo 2)	Independent auditor's limited assurance report on sustainability information in the CBA - 2021 Annual Report (GRI).	This information was assured, as it is included in the Annual Report, developed in the GRI and SASB standards and audited by a third party. Declaração CDP_Asseguração PwC.pdf
C7. Decomposição das emissões	Variação nas emissões ano a ano (Escopo 3)	Independent auditor's limited assurance report on sustainability information in the CBA - 2021 Annual Report (GRI).	This information was assured, as it is included in the Annual Report, developed in the GRI and SASB standards and audited by a third party. Declaração CDP_Asseguração PwC.pdf
C12. Engajamento	Verificação do impacto dos produtos	Independent auditor's limited assurance report on sustainability information in the CBA - 2021 Annual Report (GRI).	This information was assured, as it is included in the Annual Report, developed in the GRI and SASB standards and audited by a third party. Declaração CDP_Asseguração PwC.pdf
C4. Metas e desempenho	Progresso em relação à meta de redução de emissões	Independent auditor's limited assurance report on sustainability information in the CBA - 2021 Annual Report (GRI).	This information was assured, as it is included in the Annual Report, developed in the GRI and SASB standards and audited by a third party. Declaração CDP_Asseguração PwC.pdf

Declaração
CDP_Asseguração PwC.pdf
CBA_Annual_Report_2021.pdf

C11. Precificação do carbono

C11.1

(C11.1) Alguma (ou algumas) de suas operações ou atividades é regulamentada por um sistema de precificação do carbono (por ex., ETS, Cap & Trade ou Carbon Tax)?

Não, mas prevemos ser regulamentados nos próximos três anos

C11.1d

(C11.1d) Qual é a estratégia da organização para cumprir com os sistemas que a regulamentam ou que ela prevê que a regulamentarão?

CBA had an internal carbon pricing study in 2021 in which we examined some current implemented pricing systems and defined an internal shadow price for carbon emissions. The analysis addressed scenarios that the PMR Brasil program pointed as the more likely to occur, following multiple public consultants and questionnaires that were acquired from interested parties (CBA was one of them and participated in three different questionnaires from the PMR Program). Our current internal carbon price is R$22.85, and we are adopting this new concept to support our leadership decisions within our strategy in the competitiveness team, innovation and market development team and our technology team (seeking CAPEX opportunities). The internal carbon price is one of our initiatives to prepare CBA for a possible carbon regulation system that may be implemented by 2025.

C11.2

(C11.2) A organização criou ou adquiriu créditos de carbono com base em projetos no período de reporte?

Não

C11.3

(C11.3) A organização usa um preço interno do carbono?

Sim

C11.3a

(C11.3a) Dê detalhes de como a organização usa um preço interno do carbono.

Objetivo ao implementar um preço interno do carbono

Mudar o comportamento interno
Motivar investimentos de baixo carbono
Identificar e aproveitar as oportunidades de baixo carbono
Outro, especifique (To support our leadership decisions regard climate change oportunities)

Escopo de GEE

Escopo 1

Aplicação

Our current internal carbon price is R$22.85, and we are adopting this new concept to support our leadership decisions within our strategy in competitiveness team, innovation and market development team and our technology team (seeking CAPEX opportunities). The internal carbon price is one of our initiatives to prepare CBA for a possible carbon regulation system that may be implemented by 2025.

Preço(s) real(is) usado(s) (moeda/tonelada métrica)

22.85

Variação do(s) preço(s) usado(s)

To achieve our final value different scenarios were used in which the carbon price could vary between R$40.00 and R$60.00. Considering all the principal references in the PRM Brasil Program, and including free allocation and use of offsets (that could vary between 10% and 20%) we could obtain an average price of R$22.85. Note: The impact of possible border defense mechanisms were also evaluated to arrive at this final value, and were considered only for the volume of production imported from countries that already have an emissions regulation system.

Tipo de preço interno do carbono

Preço-sombra

Impacto e implicação

In 2021 we measured several financial impacts within our competitiveness area which lead to a R$2,490,650 impact in a probable carbon regulation system. At the same time the same analysis was run with our innovation and market development area, resulting in a R$4,457,852.02 impact (this value contains a financial impact due to carbon pricing both of CBA's operations and some of our client's operations for which we develop projects). Hence, in our first studies with the final value of our internal carbon pricing have shown interesting results.

C12. Engajamento

C12.1

(C12.1) Há engajamento da organização com a cadeia de valor nas questões relacionadas ao clima?

Sim, com nossos fornecedores
Sim, com nossos clientes/compradores
Sim, com outros parceiros da cadeia de valor

C12.1a

(C12.1a) Dê detalhes da estratégia de engajamento com os fornecedores para as questões climáticas.

Tipo de engajamento

Coleta de informações (compreensão do comportamento dos fornecedores)

Detalhes do engajamento

Outro, especifique (In 2021 CBA started the Sustainable Procurement Program that has the objective to guarantee that the company look in a more detailed way to sustainability indicators and management of our suppliers. We've defined standards and comparative ruler)

Porcentagem de fornecedores por número

25

Porcentagem do total de gastos com aquisição (diretos e indiretos)

44

Porcentagem das emissões de Escopo 3 relacionadas aos fornecedores, conforme divulgado em C6.5

10

Justificativa para a abrangência do engajamento

Within CBA's Sustainable Procurement Program created in 2021, the Sustainable Procurement Policy was revised to include ESG criteria (including climate change management) and prioritizing suppliers labelled as critical occurred. Critical suppliers are those whose supplies can cause significant economic, environmental, social and reputational impacts; their raw materials or service provision are linked to the company's main business, without which the plant's productive performance could be harmed; suppliers that are difficult to replace (single sourcing); high unit-price suppliers; and suppliers whose nature of materials/services is related to the company's quality certifications by specific bodies/standards of quality management systems (IATF, ASI, etc.). From a sustainability point of view, suppliers of lesser financial relevance can also be considered critical, but will fit into fragile links in the supply chain, providing risks related to social, environmental and reputational impacts. The selection methodology was based on three criteria: if the supplier was critical for CBA, critical in relation to ESG issues and/or if it had an annual spend greater than R$500,000.00, and 118 suppliers were characterized as 'critical suppliers '. For 2021, the company had the goal of carrying out the approval of 50% of its critical suppliers (59) and the 70% approval mark was reached (total of 83) and, therefore, we consider that the engagement strategy was a success. For 2022, other goals were developed, such as finalizing the approval of 100% of these suppliers and starting to engage all others. Among these critical suppliers, CBA evaluated which of the ESG criteria would be most impacted for each category and among, after that, 51 were evaluated in water related aspects and already went through this process. For scope 3 relation we considered the emissions that we calculate to only our critical suppliers.

Impacto do engajamento, incluindo medições de sucesso

CBA has increasingly matured its methodology for calculating scope 3 emissions, and for these indicators to increasingly reflect reality, it is necessary to relate and report primary data from our suppliers. With the objective of becoming a reference in sustainability, the company is concerned with bringing positive impacts to its entire value chain, and it became necessary to assess whether our suppliers agree with our sustainability positioning. With this, CBA first seeks to know the maturity level of each of our suppliers, so that in the future it is possible to base our supplier choices on their ESG performance, and also support the development of these practices within the partner companies.
In the Sustainable Procurement Program, suppliers must perform a self-assessment and submit evidence on their level of maturity in climate change management. The maturity ruler starts with the level of not managing your greenhouse gas emissions; the second level is applicable for suppliers that manage only scope 1 and 2 emissions; the third is for the supplier that fully manages its greenhouse gas emissions (scopes 1, 2 and 3) and the fourth level is for the supplier that not only manages all its emissions, but also has a strategic plan with targets aimed at improve performance on the theme. As already mentioned, the Sustainable Procurement Program started in 2021 and therefore it has not yet been possible to have a complete view of the impact of commitment and success by the company's new approach to its suppliers. Within this program, different action fronts were developed that include not only approval of these suppliers and a future retaining of suppliers that meet only the minimum criteria established within the Program, but also development of an action plan for the company to support suppliers in their development of such aspects. The initial expectation is to make an assessment of our supply chain’s maturity before defining what will be the minimum standard required for each supplier before hiring them. For 2021, the company had the goal of carrying out the approval of 50% of its critical suppliers (59) and the 70% approval mark was reached (total of 83) and, therefore, we consider that the engagement strategy was a success .

Comentários

We understand that we still need to increase the collection of emissions data with our suppliers and we intend to continue the SS project in the following years to mature our suppliers data collection. Under the Sustainable Procurement Program, by June/2022, CBA has already completed 100% of the approval of critical suppliers. In addition, 74% of the other suppliers (2,525 in total), equivalent to 1,880, had already started the approval process and 435 had already sent all the necessary documentation for analysis, raising their total and the representative monetary range.

C12.1b

(C12.1b) Dê detalhes da estratégia de engajamento climática com os clientes.

Tipo de engajamento e Detalhes do engajamento

Aprendizado/compartilhamento de informações	Realizar uma campanha de engajamento para instruir os clientes sobre seu desempenho e estratégia relacionados às mudanças climáticas

Porcentagem de clientes por número
100

Porcentagem das emissões de Escopo 3 relacionadas aos clientes, conforme reportado em C6.5
100

Explique a justificativa para selecionar este grupo de clientes e o escopo do engajamento
We send to all our customers (100% of customers by number) our Annual Report (mainstream report) containing, information on our sustainability strategy, our engagement with climate change, product emissions and clean energy consumption. We share to datasheets of our products that have specifications of the product and some climate information. We are currently working in the development of our digital passport with ESG indicators (We already have a website with some of our ESG indicators).

Impacto do engajamento, incluindo medições de sucesso
CBA run an engagement campaign to education customers about our climate change performance and strategy, and we regularly have meetings and Workshops with clients bringing CBA's climate change strategy and positioning. We revised our products datasheets so it has more information about our emissions performance. We provide all our customers (100% of costumers by number) with our emission results from bauxite to processed aluminum and we demonstrate how our products have low emissions compared to the market. In 2020, we respond to climate questionnaires sent by customers (This information are public communicated at the Emissions Public Registry). We also share information about your products and relevant certification schemes. In CBA there are the Innovation and Market development team that works directly with our clients to work together in new projects and solution.

Tipo de engajamento e Detalhes do engajamento

Colaboração e inovação	Outro, especifique (Customers we were involved in to develop products and solutions in partnership with the Market Development and Innovation area)

Porcentagem de clientes por número
18

Porcentagem das emissões de Escopo 3 relacionadas aos clientes, conforme reportado em C6.5
9

Explique a justificativa para selecionar este grupo de clientes e o escopo do engajamento
We send to all our customers (100% of customers by number) our Annual Report (mainstream report) containing, information on our sustainability strategy, our engagement with climate change, product emissions and clean energy consumption. We share to datasheets of our products that have specifications of the product and some climate information. We are currently working in the development of our digital passport with ESG indicators (We already have a website with some of our ESG indicators).

Impacto do engajamento, incluindo medições de sucesso
CBA run an engagement campaign to education customers about our climate change performance and strategy, and we regularly have meetings and Workshops with clients bringing CBA's climate change strategy and positioning. We revised our products datasheets so it has more information about our emissions performance. We provide all our customers (100% of costumers by number) with our emission results from bauxite to processed aluminum and we demonstrate how our products have low emissions compared to the market. In 2020, we respond to climate questionnaires sent by customers (This information are public communicated at the Emissions Public Registry). We also share information about your products and relevant certification schemes. In CBA there are the Innovation and Market development team that works directly with our clients to work together in new projects and solution.

C12.1d

(C12.1d) Dê detalhes sobre a estratégia de engajamento com outros parceiros da cadeia de valor para as questões climáticas.

CBA is also a signatory of the Global Compact (a business movement led by the United Nations that has established ten principles on human rights, labor, environment and anticorruption) and the 2030 Agenda, and supports the 17 Sustainable Development Goals (SDGs). We also support the Task Force on Climate-related Financial Disclosures (TCFD), which develops and issues recommendations on climate-related financial disclosures, and have approved targets to reduce greenhouse gas emissions reduction targets to the Science-Based Targets initiative (SBTi). In addition, CBA is a member of the São Paulo Environmental Agreement, the Brazilian Environmental Chamber for Climate Change, and the Brazilian Business Council for Sustainable Development (CEBDS). In addition, CBA has signed its commitment to 1.5° with the Global Compact initiative and is part of the "Run to Zero" commitment.

At the same time we have multiple projects that treat the climate change topic with Reservas Votorantim (Reflora and REDD+), and we have partnerships with universities (Example: UFV – Viçosa Federal University) and we are starting to work with our suppliers in the Sustainable Supplier Project.

C12.2

(C12.2) Os fornecedores da organização atenderam às exigências relacionadas ao clima como parte do processo de aquisição da organização?
Não, mas planejamos introduzir exigências relacionadas ao clima nos próximos dois anos

C12.3

(C12.3) A organização se engaja com atividades que podem direta ou indiretamente influenciar uma política, uma lei ou uma regulamentação que possa exercer impactos sobre o clima?

Linha 1

Engajamento direto ou indireto que pode influenciar uma política, uma lei ou uma regulamentação que possa exercer impacto sobre o clima
Sim, nós nos engajamos diretamente com os formuladores de políticas públicas

A organização tem um compromisso público ou uma declaração de posicionamento para orientar suas atividades de engajamento em alinhamento com os objetivos do Acordo de Paris?
Sim

Anexe a(s) declaração(ões) de posição ou compromisso
Page 37 of the Annual Report
CBA_Additional_Disclosures_2021.pdf
CBA_Annual_Report_2021.pdf

Descreva o(s) processo(s) que a organização tem em vigor para assegurar que suas atividades de engajamento sejam consistentes com sua estratégia geral para as mudanças climáticas
CBA is also a signatory of the Global Compact (a business movement led by the United Nations that has established ten principles on human rights, labor, environment and anticorruption) and the 2030 Agenda, and supports the 17 Sustainable Development Goals (SDGs). We also support the Task Force on Climaterelated Financial Disclosures (TCFD), which develops and issues recommendations on climate-related financial disclosures, and have approved targets to reduce greenhouse gas emissions reduction targets to the Science Based Targets initiative (SBTi). In addition, CBA is a member of the São Paulo Environmental Agreement, the Brazilian Environmental Chamber for Climate Change, and the Brazilian Business Council for Sustainable Development (CEBDS). In addiction CBA has signed its compromise with the engagement to 1.5°C with Global Compact initiative and are part of the “Run to Zero” compromise. We participate in business groups where we discuss good practices related to climate change. Examples: ABAL- Brazilian Aluminum Association, IAI - International Aluminum Institute, Climate Change Committee of the State of São Paulo, FGV Business Initiatives and Emissions Trading Simulation, Global Compact and ASI- Aluminum Stewardship Initiative. We are also discussing carbon capture issues with other partner companies. In addition, we released our Annual Report (GRI standards) with various climatic information to all our stakeholders in the value chain. These engagements are important to increase the CBA's knowledge related to climate change; ensure that the company carries out the best market practices in this area and ensure transparency and positive exposure of the company. We participated into PMR Brasil conferences and consultant public events. In the middle of 2021 we participated into the road test of SBTi to its new tool to trace net-zero path.

Razão principal para que a organização não se envolve em atividades que possam direta ou indiretamente influenciar uma política, uma lei ou um regulamento que possa exercer impactos sobre o clima
<Not Applicable>

Explique por que a organização não se engaja em atividades que podem direta ou indiretamente influenciar uma política, uma lei ou uma regulamentação que possa exercer impactos sobre o clima
<Not Applicable>

C12.3a

(C12.3a) Sobre qual política, lei ou regulamentação que pode exercer um impacto sobre o clima a organização esteve diretamente engajada com os formuladores de políticas públicas no ano de reporte?

Foco em uma política, lei ou regulamentação que possa exercer um impacto sobre o clima
Taxação de carbono

Especifique a política, a lei ou a regulamentação sobre a qual a organização se engaja com formuladores de políticas públicas
Study to analyze possibilities of Carbon pricing implementation through a marketing system. We participated in completing PMR Brazil questionnaires for public consultation and with ABAL we participate in analyses of how border defense mechanisms with CBAM can impact the national aluminum market.

Abrangência geográfica da política, lei ou regulamentação
Nacional

País/região a que a política, lei ou regulamentação se aplica
Brasil

A posição da organização com relação à política, à lei ou à regulamentação
Apoio com pequenas exceções

Descrição do engajamento com formuladores de políticas públicas
In PMR we share our perceptions on the main project assumptions and contribute suggestions for improvements in the matter to other participants in the public consultation questionnaires. With ABAL, we had a greater involvement as we were one of the aluminum companies in Brazil that was pressing the topic. We supported recommendation of hiring for the study, participated in interviews, completed questionnaires, participated in meetings to deliver the results of studies, in which participated representatives of other aluminum companies in the country.

Detalhes das exceções (se aplicável) e da abordagem alternativa da política, lei ou regulamentação proposta pela organização
In control mechanisms, there could be more flexibility with the floor price being lower at the beginning. At the point of regulation, there could be the flexibility of not being by manufacturers, but by a regulated stage of the industrial process, as those with integrated plants (single address and CNPJ) can be harmed compared to those that have the same processes but in separate plants (more than one CNPJ), harming competitiveness.

A organização avaliou se seu engajamento está alinhado com os objetivos do Acordo de Paris?
Sim, avaliamos, e está em alinhamento

C12.4

(C12.4) Além da resposta ao CDP, a organização publicou alguma informação sobre sua resposta às mudanças climáticas e seu desempenho em emissões de GEEs no ano de reporte? Em caso afirmativo, anexe as publicações.

Publicação

Nos relatórios tradicionais

Status
Completo

Anexar o documento
*
CBA_Additional_Disclosures_2021.pdf
CBAAnnualReport2021min.pdf
CBA_Annual_Report_2021-min.pdf
CBA_Annual_Report_2021.pdf

Página/seção de referência
Pages 53, 80 and 86 – Annual report - https://relatorioanual2021.cba.com.br/wp-content/uploads/CBA_Annual_Report_2021.pdf (the file is too big to attach in the previous topic)

Elementos do conteúdo
Governança
Estratégia
Riscos e oportunidades
Valores de emissões
Metas de emissões
Outras métricas

Comentários
Our main vehicle for disclosing the company's performance is the annual sustainability report. There you will find all the achievements of the year, activities by our management on several fronts and details of our ESG 2030 strategy.
Results of emissions on a voluntary basis in Public Emissions under the Brazilian GHG Protocol Program. We annually report greenhouse gas emissions by the Aluminum plant to the environmental agency of the State of São Paulo, in accordance with legislation.

Publicação
Nos relatórios tradicionais, incorporando as recomendações da TCFD

Status
Completo

Anexar o documento
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Elementos do conteúdo
Governança
Estratégia
Riscos e oportunidades
Valores de emissões
Metas de emissões
Outras métricas

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Publicação
Em outros relatórios normativos

Status
Completo

Anexar o documento
*
CBA_Annual_Report_2021.pdf

Página/seção de referência
You can see all reports here - https://relatorioanual2021.cba.com.br/en/download-reports/

Elementos do conteúdo
Governança
Estratégia
Riscos e oportunidades
Valores de emissões
Metas de emissões
Outras métricas

Comentários
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Results of emissions on a voluntary basis in Public Emissions under the Brazilian GHG Protocol Program. We annually report greenhouse gas emissions from the Aluminum plant to the environmental agency of the State of São Paulo, in accordance with legislation.

Publicação
Em comunicações voluntárias

Status
Completo

Anexar o documento
*
CBA_Annual_Report_2021.pdf

Página/seção de referência
Public Emissions Registry - GHG Protocol Brazil Program - https://www.registropublicodeemissoes.com.br/participantes/2614

Elementos do conteúdo
Governança
Estratégia
Riscos e oportunidades
Valores de emissões
Metas de emissões
Outras métricas

Comentários
Our main vehicle for disclosing the company's performance is the annual sustainability report. There you will find all the achievements of the year, activities by our management on several fronts and details of our ESG 2030 strategy.
Results of emissions on a voluntary basis in Public Emissions under the Brazilian GHG Protocol Program. We annually report greenhouse gas emissions from the Aluminum plant to the environmental agency of the State of São Paulo, in accordance with legislation.

Publicação
No relatório voluntário de sustentabilidade

Status
Completo

Anexar o documento
*
CBA_Annual_Report_2021.pdf

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https://relatorioanual2021.cba.com.br/wp-content/uploads/CBA_Annual_Report_2021.pdf

Elementos do conteúdo
Governança
Estratégia
Riscos e oportunidades
Valores de emissões
Metas de emissões
Outras métricas

Comentários
Our main vehicle for disclosing the company's performance is the annual sustainability report. There you will find all the achievements of the year, activities by our management on several fronts and details of our ESG 2030 strategy.
Results of emissions on a voluntary basis in Public Emissions under the Brazilian GHG Protocol Program. We annually report greenhouse gas emissions from the Aluminum plant to the environmental agency of the State of São Paulo, in accordance with legislation.

C15. Biodiversidade

C15.1

(C15.1) Existe supervisão por parte do conselho e/ou responsabilidade por parte da gerência executiva de temas relacionados à biodiversidade na organização?

	Supervisão por parte do conselho e/ou responsabilidade por parte da gerência executiva por questões relacionadas à biodiversidade	Descrição da supervisão e dos objetivos relacionados à biodiversidade	Escopo da supervisão por parte do conselho
Linha 1	Sim, tanto supervisão por parte do conselho quanto responsabilidade por parte da gerência executiva	CBA has a sustainability committee (responsible for advising our management committee) and an executive sustainability committee (responsible for approving at our highest sustainability level, with members of the lead team), both of which have independent members and hold regular meetings to discuss topics that are or will be worked on in the company. Biodiversity is one of the company's development programs within our ESG 2030 strategy and has two specific objectives for development until 2030. As it is a material topic for the company, it is the subject of meetings by both committees.	<Not Applicable>

C15.2

(C15.2) A organização assumiu algum compromisso público e/ou endossou alguma iniciativa relacionada à biodiversidade?

	Indique se a organização assumiu algum compromisso público ou endossou alguma iniciativa relacionada à biodiversidade	Compromissos públicos relacionados à biodiversidade	Iniciativas endossadas
Linha 1	Sim, assumimos compromissos públicos e endossamos publicamente iniciativas relacionadas à biodiversidade	Compromisso de respeitar áreas protegidas legalmente designadas Compromisso de evitar impactos negativos para espécies ameaçadas e protegidas Outro, especifique (Obejtivos de nossa estratégia ESG 2030)	ODS

C15.3

(C15.3) A organização avalia o impacto da sua cadeia de valor para a biodiversidade?

	A organização avalia o impacto da sua cadeia de valor para a biodiversidade?	Portfólio
Linha 1	Sim, avaliamos os impactos para a biodiversidade na nossa cadeia de valor tanto upstream quanto downstream	<Not Applicable>

C15.4

(C15.4) Quais ações a organização adotou no ano de reporte para progredir com seus compromissos relacionados à biodiversidade?

	A organização adotou alguma ação no período de reporte para progredir com seus compromissos relacionados à biodiversidade?	Tipo de ação adotada para o progresso dos compromissos relacionados à biodiversidade
Linha 1	Sim, estamos adotando ações para progredir com nossos compromissos relacionados à biodiversidade	Proteção do solo/água Gestão do solo/água Gestão das espécies Educação e conscientização Outro, especifique (Projects development alongside with our clients)

C15.5

(C15.5) A organização usa indicadores de biodiversidade para monitorar o desempenho em suas atividades?

	A organização usa indicadores para monitorar o desempenho em biodiversidade?	Indicadores utilizados para monitorar o desempenho em biodiversidade
Linha 1	Sim, utilizamos indicadores	Indicadores de estado e benefícios Indicadores de resposta

C15.6

(C15.6) Além da resposta ao CDP, a organização publicou alguma informação sobre sua resposta a questões relacionadas à biodiversidade para este ano de reporte? Em caso afirmativo, anexe as publicações.

Tipo de reporte	Elementos do conteúdo	Anexe o documento e indique em que parte dele se encontram as informações de biodiversidade relevantes
Em um relatório de sustentabilidade voluntário ou outras comunicações voluntárias	Conteúdo dos compromissos ou das políticas relacionados à biodiversidade Governança Impactos para a biodiversidade Detalhes sobre os indicadores de biodiversidade Riscos e oportunidades Estratégia de biodiversidade	Pages 17, 33, 99, 100 to 105, 118, 127 and 135. CBAAnnualReport2021min.pdf CBA_Annual_Report_2021.pdf

C16. Aprovação

C-FI

(W-FI) Use este campo para apresentar informações ou contextos adicionais que a organização considera relevantes para sua resposta. Observe que este campo é opcional e não é pontuado.

Delivering aluminum solutions that change people's lives. This is CBA's purpose. Through our products, we are present in the lives of millions of people—making their lives easier, shortening distances and improving well-being. CBA is the only fully vertically integrated aluminum company in Brazil. Founded in 1941, CBA became a publicly traded corporation in 2021 and the first aluminum company in Brazil listed in the B3 stock exchange, on the Novo Mercado listing segment. We are proud to be a fully Brazilian-owned business and a member of the Votorantim S.A. investment portfolio. Throughout our journey as a Company, we have worked to build a better and more sustainable world, and to be responsive to the needs of our enterprise, our society and our planet. Inspired by our purpose, we have put sustainability and innovation at the core of our strategy. Our operations begin at the mines where we produce bauxite, an ore that is then processed into alumina, molten aluminum and finally primary and downstream aluminum products. CBA also works with customers and business partners to supply customized products and cutting-edge solutions, such as higher value-added sheet and extruded profiles, as well as additional processing operations (cutting, bending, welding, machining and assembly). Our downstream products are supplied primarily to customers in the Americas, largely in Brazil and other countries in South and North America. CBA is also a leading player in industrial-scale aluminum recycling in Brazil. Through our Metalex operation we recycle scrap produced by our own production process and by our customers and partners. This improves both sustainability and profitability, as aluminum recycling uses only 5% of the electricity required to produce primary aluminum, according to International Aluminium Institute (IAI). In 2021 we approved a project to install an additional recycling line at Metalex.

Principles and Values: Votorantim Principles and Values permeate all Votorantim subsidiaries and represent our way of being, of doing, and going beyond. These are also the values of Companhia Brasileira de Alumínio ("CBA"). Our Purpose reflects our history, our identity and our vision of the future: "Aluminum solutions that change people's lives".

C16.1

(C16.1) Dê detalhes sobre a pessoa que assinou (aprovou) a resposta sobre mudanças climáticas ao CDP.

	Cargo	Categoria de trabalho correspondente
Linha 1	Chief Executive Officer (CEO)	Diretor Executivo (CEO)

SC. Módulo do Programa Supply Chain

SC0.0

(SC0.0) Se preferir, faça uma introdução separada para este módulo.

Companhia Brasileira de Alumínio (CBA) is a vertically integrated, sustainable producer of high-quality aluminum products. With hydroelectric generation capacity for 100% of our energy requirements, CBA's operations span both bauxite mining and processing into primary aluminum (ingots, plate, sheets, billets and rod*) and semi-fabricated products (caster rolls, sheet, foil, extruded profiles and parts and components). Working closely with customers, CBA also develops tailored solutions and services, primarily for the packaging, automotive and transportation markets, helping customers to produce more lightweight, durable and sustainable products.

SC0.1

(SC0.1) Qual é a receita anual da empresa para o período de reporte declarado?

	Receita anual
Linha 1	8400000000

SC1.1

(SC1.1) Aloque as emissões da organização para os clientes listados abaixo, de acordo com os bens e serviços que vendeu para eles neste período de reporte.

Membro solicitante
Ambev S.A

Escopo das emissões
Escopo 1

Nível de alocação
Instalação

Detalhes do nível de alocação
Primary data verified by a third party were used. The reported value reflects the emission of greenhouse gases per ton of ton of ingot supplied. Ambev is not a direct customer of CBA, so it was not possible to track the volume of CBA product that the company used in 2021.

Emissões em toneladas métricas de CO2e
2.91

Incerteza (±%)
0

Principais fontes de emissões
Scope 1 emissions (mobile combustion, stationary combustion, industrial emissions and fugitive emissions)

Verificada(s)
Sim

Método de alocação
Alocação não necessária em função do tipo de dados principais disponíveis

Valor de mercado ou quantidade de bens/serviços fornecidos ao membro solicitante
0

Unidade do valor de mercado ou da quantidade de bens/serviços fornecidos
Toneladas métricas

Explique como foi identificada a fonte de GEEs, incluindo as principais limitações a este processo e as suposições adotadas
CBA currently has a methodology for calculating emissions for its main production lines. This calculation reflects an average carbon footprint result following the Tier 2 methodology recommended by the IAI (International Aluminum Institute). This methodology was evaluated and ensured by a third party by the DNV company and considers all sources of scope 1 and 2 emissions of the CBA production process from mining activities to the manufacture of the final product (Considers emissions from the stages: Mining, refinery, electrolysis, casthouse, downstream production and support areas). This methodology does not consider scope 3 entries.

Membro solicitante
Ambev S.A

Escopo das emissões
Escopo 2

Nível de alocação
Instalação

Detalhes do nível de alocação
Primary data verified by a third party were used. The reported value reflects the emission of greenhouse gases per ton of ton of ingot supplied. Ambev is not a direct customer of CBA, so it was not possible to track the volume of CBA product that the company used in 2021.

Emissões em toneladas métricas de CO2e
0.02

Incerteza (±%)
0

Principais fontes de emissões
Scope 2 emissions (Only the purchase of steam for the biomass boiler was considered, since in 2021 CBA managed to guarantee 100% traceable renewable electricity)

Verificada(s)
Sim

Método de alocação
Alocação não necessária em função do tipo de dados principais disponíveis

Valor de mercado ou quantidade de bens/serviços fornecidos ao membro solicitante
0

Unidade do valor de mercado ou da quantidade de bens/serviços fornecidos
Toneladas métricas

Explique como foi identificada a fonte de GEEs, incluindo as principais limitações a este processo e as suposições adotadas
CBA currently has a methodology for calculating emissions for its main production lines. This calculation reflects an average carbon footprint result following the Tier 2 methodology recommended by the IAI (International Aluminum Institute). This methodology was evaluated and ensured by a third party by the DNV company and considers all sources of scope 1 and 2 emissions of the CBA production process from mining activities to the manufacture of the final product (Considers emissions from the stages: Mining, refinery, electrolysis, casthouse, downstream production and support areas). This methodology does not consider scope 3 entries

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Membro solicitante
Iochpe-Maxion SA

Escopo das emissões
Escopo 1

Nível de alocação
Instalação

Detalhes do nível de alocação
Primary data verified by a third party were used. The reported value reflects the emission of greenhouse gases per ton of ton of aluminium plate supplied.

Emissões em toneladas métricas de CO2e
2.91

Incerteza (±%)
0

Principais fontes de emissões
Scope 1 emissions (mobile combustion, stationary combustion, industrial emissions and fugitive emissions)

Verificada(s)
Sim

Método de alocação
Alocação não necessária em função do tipo de dados principais disponíveis

Valor de mercado ou quantidade de bens/serviços fornecidos ao membro solicitante
10200

Unidade do valor de mercado ou da quantidade de bens/serviços fornecidos
Toneladas métricas

Explique como foi identificada a fonte de GEEs, incluindo as principais limitações a este processo e as suposições adotadas
CBA currently has a methodology for calculating emissions for its main production lines. This calculation reflects an average carbon footprint result following the Tier 2 methodology recommended by the IAI (International Aluminum Institute). This methodology was evaluated and ensured by a third party by the DNV company and considers all sources of scope 1 and 2 emissions of the CBA production process from mining activities to the manufacture of the final product (Considers emissions from the stages: Mining, refinery, electrolysis, casthouse, downstream production and support areas). This methodology does not consider scope 3 entries

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Membro solicitante
Iochpe-Maxion SA

Escopo das emissões
Escopo 2

Nível de alocação
Instalação

Detalhes do nível de alocação
Primary data verified by a third party were used. The reported value reflects the emission of greenhouse gases per ton of ton of aluminium plate supplied.

Emissões em toneladas métricas de CO2e
0.02

Incerteza (±%)
0

Principais fontes de emissões
Scope 2 emissions (Only the purchase of steam for the biomass boiler was considered, since in 2021 CBA managed to guarantee 100% traceable renewable electricity)

Verificada(s)
Sim

Método de alocação
Alocação não necessária em função do tipo de dados principais disponíveis

Valor de mercado ou quantidade de bens/serviços fornecidos ao membro solicitante
10200

Unidade do valor de mercado ou da quantidade de bens/serviços fornecidos
Toneladas métricas

Explique como foi identificada a fonte de GEEs, incluindo as principais limitações a este processo e as suposições adotadas
CBA currently has a methodology for calculating emissions for its main production lines. This calculation reflects an average carbon footprint result following the Tier 2 methodology recommended by the IAI (International Aluminum Institute). This methodology was evaluated and ensured by a third party by the DNV company and considers all sources of scope 1 and 2 emissions of the CBA production process from mining activities to the manufacture of the final product (Considers emissions from the stages: Mining, refinery, electrolysis, casthouse, downstream production and support areas). This methodology does not consider scope 3 entries

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Membro solicitante
Robert Bosch GmbH

Escopo das emissões
Escopo 1

Nível de alocação
Instalação

Detalhes do nível de alocação
Primary data verified by a third party were used. The reported value reflects the emission of greenhouse gases per ton of ton of aluminium extrusions supplied.

Emissões em toneladas métricas de CO2e
3.025

Incerteza (±%)
0

Principais fontes de emissões
Scope 1 emissions (mobile combustion, stationary combustion, industrial emissions and fugitive emissions)

Verificada(s)
Sim

Método de alocação
Alocação não necessária em função do tipo de dados principais disponíveis

Valor de mercado ou quantidade de bens/serviços fornecidos ao membro solicitante
592.576

Unidade do valor de mercado ou da quantidade de bens/serviços fornecidos
Toneladas métricas

Explique como foi identificada a fonte de GEEs, incluindo as principais limitações a este processo e as suposições adotadas
CBA currently has a methodology for calculating emissions for its main production lines. This calculation reflects an average carbon footprint result following the Tier 2 methodology recommended by the IAI (International Aluminum Institute). This methodology was evaluated and ensured by a third party by the DNV company and considers all sources of scope 1 and 2 emissions of the CBA production process from mining activities to the manufacture of the final product (Considers emissions from the stages: Mining, refinery, electrolysis, casthouse, downstream production and support areas). This methodology does not consider scope 3 entries.

Membro solicitante

Robert Bosch GmbH

Escopo das emissões
Escopo 2

Nível de alocação
Instalação

Detalhes do nível de alocação
Primary data verified by a third party were used. The reported value reflects the emission of greenhouse gases per ton of ton of aluminium extrusions supplied.

Emissões em toneladas métricas de CO2e
0.019

Incerteza (±%)
0

Principais fontes de emissões
Scope 2 emissions (Only the purchase of steam for the biomass boiler was considered, since in 2021 CBA managed to guarantee 100% traceable renewable electricity)

Verificada(s)
Sim

Método de alocação
Alocação não necessária em função do tipo de dados principais disponíveis

Valor de mercado ou quantidade de bens/serviços fornecidos ao membro solicitante
592.576

Unidade do valor de mercado ou da quantidade de bens/serviços fornecidos
Toneladas métricas

Explique como foi identificada a fonte de GEEs, incluindo as principais limitações a este processo e as suposições adotadas
CBA currently has a methodology for calculating emissions for its main production lines. This calculation reflects an average carbon footprint result following the Tier 2 methodology recommended by the IAI (International Aluminum Institute). This methodology was evaluated and ensured by a third party by the DNV company and considers all sources of scope 1 and 2 emissions of the CBA production process from mining activities to the manufacture of the final product (Considers emissions from the stages: Mining, refinery, electrolysis, casthouse, downstream production and support areas). This methodology does not consider scope 3 entries

SC1.2

(SC1.2) Caso tenham sido utilizadas informações públicas para responder à pergunta SC1.1, forneça referências.

We used our GHG emissions reported inside our annual report as a base to the specific calculation - https://relatorioanual2021.cba.com.br/wp-content/uploads/CBA_Annual_Report_2021.pdf

SC1.3

(SC1.3) Quais os desafios ao se fazer a alocação das emissões para diferentes clientes, e o que o ajudaria a superar esses desafios?

Desafios de alocação	Explique o que ajudaria a superar esses desafios
Não enfrentamos desafios	At CBA we have emission calculations for all major products. Calculations for the previous year are generally finalized in March of each year, as they require updating the national emission factors of the GHG Brazil Program. We have no difficulty in passing these results on to our customers according to the volumes of products purchased. We always recommend greater proximity between the client and the CBA commercial and/or sustainability teams to gain access to more specific indicators

SC1.4

(SC1.4) A organização planeja desenvolver capacidades para alocar as emissões para seus clientes no futuro?
Sim

SC1.4a

(SC1.4a) Descreva como a organização planeja desenvolver suas capacidades.

The CBA intends to disclose the emissions of its products in more detail in its Annual Reports and other forms of communication to its customers.
Currently, we disclose average emissions from all of our finished products and only send specific emissions for our products when requested by customers.
CBA carried out a third-party validation of the methodology for calculating emission indicators by specific product, and is constantly evaluating new ways to share its results with CBA clients.
In order to be able to deepen the analysis of the impact of its products, in 2021 the SimaPro software was hired to carry out life cycle assessments (LCA) which will allow the company to evaluate how its products can impact the process of its customers.

SC2.1

(SC2.1) Proponha eventuais projetos relativos às mudanças climáticas mutuamente benéficos no qual a organização pode colaborar com membros específicos do Programa Supply Chain do CDP.

Membro solicitante
Ambev S.A

Tipo de grupo de projetos
Avaliação da sustentabilidade da relação

Tipo de projeto
Avaliação do impacto do ciclo de vida de produtos ou serviços para identificar eficiências

Metas de emissões
Outro, especifique (The initiative to map impacts on Ambev's chain does not directly reduce emissions, but it can assist in structuring a reduction plan, while the development of new products can reduce emissions in Ambev's production process)

Cronograma estimado para materializar as reduções de carbono
Outro, especifique (It is not possible to provide a timetable as Ambev is not a direct customer of CBA, for this it would be necessary to bring both companies closer to better understand Ambev's process, and the role of CBA in its production process.)

Duração estimada da economia de CO2e
0

Retorno financeiro estimado
Outro, especifique (It is not possible to calculate the financial return since Ambev is not a direct customer of CBA, for this it would be necessary to bring both companies closer to better understand the opportunities for improvement within Ambev's process)

Detalhes da proposta
Today, CBA is not a direct supplier to Ambev, so information about the impact of CBA products within the company's production process is very limited. With this, there are the following opportunities for joint development:
1) Carry out a mapping to understand how the CBA product impacts Ambev's process (This way it will be possible to provide specific emissions indicators on CBA products);
2) Carry out an LCA study (Life Cycle Analysis) of the Ambev product that uses CBA products (CBA currently has the SimaPro software to carry out these assessments and is supported by the Ecoinvent database);
3) Jointly develop new products together with CBA's Market Development and Innovation team. The company has a team dedicated to the development of new products and solutions for CBA customers and has a history of 103 projects developed in 2021, together with 54 companies.
4) Currently, CBA has the innovative ReAl project that is capable of recycling multilayer packaging (long life packaging), which offers the opportunity to partner with companies that use this type of packaging (Evaluating Ambev's product portfolio, it was analyzed that at least one of the products has synergy with this new technology developed by CBA) - Follow the link to access more information about the ReAl project (https://tecnologiareal.com.br/).

Membro solicitante
Robert Bosch GmbH

Tipo de grupo de projetos
Avaliação da sustentabilidade da relação

Tipo de projeto
Avaliação do impacto do ciclo de vida de produtos ou serviços para identificar eficiências

Metas de emissões
Outro, especifique (Initiatives that would have the potential to reduce Scope 1, 2 and/or 3 emissions from CBA and our client)

Cronograma estimado para materializar as reduções de carbono
1-3 anos

Duração estimada da economia de CO2e
0

Retorno financeiro estimado
Outro, especifique (Not possible to calculate without first approaching the companies)

Detalhes da proposta
Today, CBA is able to map the following opportunities to work together with our customers:
1) Carry out a mapping to understand how the CBA product impacts Bosch's process (This way it will be possible to provide specific emissions indicators on CBA products);
2) Carry out an LCA study (Life Cycle Analysis) of the Bosch product that uses CBA products (CBA currently has the SimaPro software to carry out these assessments and is supported by the Ecoinvent database);
3) Jointly develop new products together with CBA's Market Development and Innovation team. The company has a team dedicated to the development of new products and solutions for CBA customers, and has a history of 103 projects developed in 2021, together with 54 companies.
Note: The estimated timeline to materialize carbon reductions reported represents a time estimate once the potential has already been mapped and the scope of activities has already been approved by both parties.

Membro solicitante
Iochpe-Maxion SA

Tipo de grupo de projetos
Novo produto ou serviço

Tipo de projeto
Outro, especifique (Initiatives that would have the potential to reduce Scope 1, 2 and/or 3 emissions from CBA, our clients, and the performance of our customer's product over its lifetime)

Metas de emissões
Outro, especifique (Initiatives that would have the potential to reduce Scope 1, 2 and/or 3 emissions from CBA and our client)

Cronograma estimado para materializar as reduções de carbono
1-3 anos

Duração estimada da economia de CO2e
0

Retorno financeiro estimado
Outro, especifique (Not possible to calculate without first approaching the companies)

Detalhes da proposta
Today, CBA is able to map the following opportunities to work together with our customers:
1) Carry out a mapping to understand how the CBA product impacts Maxion's process (This way it will be possible to provide specific emissions indicators on CBA products);
2) Carry out an LCA study (Life Cycle Analysis) of the Maxion product that uses CBA products (CBA currently has the SimaPro software to carry out these assessments and is supported by the Ecoinvent database);
3) Jointly develop new products together with CBA's Market Development and Innovation team. The company has a team dedicated to the development of new products and solutions for CBA customers, and has a history of 103 projects developed in 2021, together with 54 companies. Currently, CBA already has a new product development project with Maxion Strutal Componentes, which is considered one of the success stories of the company's market development and innovation team.

Note: The estimated timeline to materialize carbon reductions reported represents a time estimate once the potential has already been mapped and the scope of activities has already been approved by both parties.

SC2.2

(SC2.2) As solicitações ou iniciativas de membros do Programa Supply Chain do CDP levaram a organização a tomar iniciativas de redução de emissões em nível organizacional?
Não

SC4.1

(SC4.1) Estão sendo apresentados dados no nível do produto para os bens ou serviços da organização?
Sim, apresentaremos dados

SC4.1a

(SC4.1a) Indique a porcentagem geral do total de emissões para todos os Escopos abrangidos por estes produtos.
35

SC4.2a

(SC4.2a) Preencha a seguinte tabela para bens/serviços a respeito dos quais deseja fornecer dados.

Nome do bem/serviço
Aluminium ingots

Descrição do bem/serviço
Tons of aluminium alloyed ingots and aluminium primary ingots.

Tipo de produto
Intermediário

SKU (Stock Keeping Unit, Unidade de Manutenção de Estoque)
Alloys A356, A413 and P1010

Total de emissões em kg de CO2e por unidade
2.93

±% de variação em relação ao valor anterior fornecido
0

Data do valor anterior fornecido
julho 1 2022

Explicação da variação
The reported value is the average carbon footprint (considering only the aluminum chain) of the aluminum ingot produced by CBA, so there is no variation

Métodos usados para estimar as emissões durante o ciclo de vida
Outro, especifique (IAI methodology (Tier 2 emissions))

SC4.2b

(SC4.2b) Preencha a tabela a seguir com os dados das fases do ciclo de vida dos bens e/ou serviços.

Nome do bem/serviço
Aluminium ingots

Selecione o escopo
Escopos 1 e 2

Selecione a fase do ciclo de vida
Cradle-to-gate (“do berço ao portão”)

Emissões da fase do ciclo de vida, em kg de CO2e por unidade
2.93

Esta fase está sob a responsabilidade ou controle da organização?
Sim

Tipo de dados usados
Primários

Qualidade dos dados
Primary data collection in the mining, refinery, smelter and casting production areas. This includes all scope 1 and 2 emissions by these processes according to the criteria from GHG Protocol Brazil. As CBA is a vertically integrated company, all of these processes are in scopes 1 and 2. Normally, aluminum manufacturers purchase intermediate materials (bauxite and aluminum oxide) from suppliers, in which case these emissions are of scope 3. Our carbon footprint calculation covers all Level 2 criteria by the World Aluminum guidance.

Caso os dados de emissão deste produto estejam sendo verificados/assegurados, informe como isso está sendo feito
Emissions from all CBA production stages are verified by a third party according to GHG Protocol Brazil. Disclosure of supporting documentation will probably take place in October in the official website of the Public Emissions Registry of GHG Brazil. Available at: <https://www.registropublicodeemissoes.com.br/participantes/2614 >.

SC4.2c

(SC4.2c) Dê detalhes sobre a redução de emissões realizada ou planejada para este produto.

Nome do bem/serviço	ID da iniciativa	Descrição da iniciativa	Realizada ou planejada	Reduções de emissões em kg de CO2e por unidade
Tons of alumium oxide	Iniciativa 1	At the CBA aluminum oxide refinery there is an opportunity to significantly reduce emissions by replacing oil and natural gas boilers by another boiler using wood chip biomass from forests planted for this purpose.	Realizada	0.34
Tons of liquid aluminium	Iniciativa 2	The Green Söderberg project will automate the furnace feed process to reduce emissions from the process while also improving efficiency and safety. Currently 36 pots have the technology installed to test and optimize results. All pots are expected to be converted by 2026. Once the project is properly installed and stabilized, it will be able to reduce process emissions by 20%.	Em andamento	0.54

SC4.2d

(SC4.2d) Alguma das iniciativas descritas em SC4.2c foi motivada a pedido de membros do Programa Supply Chain do CDP?
Não

Enviar sua resposta

A resposta está sendo enviada em qual idioma?
Inglês

Confirme como a resposta deve ser gerenciada pelo CDP

	Compreendo que minha resposta será compartilhada com todas as partes interessadas solicitantes	Permissão da resposta
Selecione suas opções de envio	Sim	Público

Confirme abaixo
Li e aceito os Termos aplicáveis