Companhia Brasileira de Alumínio - Water Security 2023

W0. Introdução

W0.1

(W0.1) Faça uma descrição geral e uma introdução da organização.

Since our foundation in 1941, Companhia Brasileira de Alumínio (CBA) has been producing aluminum using a responsible approach to our impacts on the environment and society. We are a publicly traded company, listed in an enhanced governance (Novo Mercado) segment of the Brazilian stock exchange and a member of Brazilian conglomerate Votorantim S.A. CBA is the only vertically integrated aluminum producer in Brazil and one of the few in the world, with operations that span from bauxite mining to the production of a comprehensive portfolio of primary aluminum (ingots, slabs, billets and rod) and downstream products (sheets and coils, foils and extruded profiles). Our self-sufficient bauxite and alumina capacity, combined with vertical integration across the value chain and 100% renewable generation capacity for our electricity requirement, position us in the first quartile of the global aluminum cost curve. In addition to our primary aluminum operations, CBA is also a major player in recycling. Adding to our scrap processing capacity at Metalex, in 2022 we took over and absorbed Alux do Brasil, expanding our operations in the secondary alloy segment. Sustainability and innovation lie at the core of our strategy and our low-carbon aluminum and ESG 2030 program are setting the standard for our industry. CBA's success over the years has been enabled by valuable partnerships with our employees, customers, suppliers, communities, investors, and other business partners.

W-MM0.1a/W-CO0.1a

(W-MM0.1a/W-CO0.1a) Com quais atividades dos setores de metais e mineração e de carvão a organização está engajada?

Atividade	Detalhes da atividade
Mineração	Bauxita Níquel
Processamento	Alumínio Alumina Níquel

W0.2

(W0.2) Indique a data de início e de fim do ano sobre o qual você está divulgando os dados.

	Data de início	Data de fim
Ano de reporte	janeiro 1 2022	dezembro 31 2022

W0.3

(W0.3) Selecione os países/áreas em que a organização opera.

Brasil

W0.4

(W0.4) Selecione a moeda usada para todas as informações financeiras divulgadas ao longo da resposta.

BRL

W0.5

(W0.5) Selecione a opção que melhor descreve os limites de reporte para empresas, entidades ou grupos para os quais impactos hídricos estão sendo divulgados.

Empresas, entidades ou grupos sobre os quais se exerce controle operacional

W0.6

(W0.6) Além deste limite, há regiões, instalações, aspectos hídricos ou outras exclusões da divulgação?

Sim

W0.6a

(W0.6a) Informe as exclusões.

Exclusão	Explique
Water use and risk evaluation in sites with minimal consumption and withdrawals	The analysis excluded water withdrawal from CBA's sites exclusively used for admin purposes (such as the Head Office in São Paulo/SP and a distribution center and solutions and services center in Caxias do Sul/RS), as well as sites with minimal water usage (Sorocaba/SP Branch and hydropower plants). This exclusion was justified by the fact that the water usage in these locations is insignificant in comparison to the company's overall usage. When the annual water consumption of all these units is combined, it accounts for less than 1% of CBA's total consumption during the same period. Consequently, the impact of these sites on the company is considered immaterial, leading to their exclusion from the analysis.

W0.7

(W0.7) 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

W1. Estado atual

W1.1

(W1.1) Classifique a importância (atual e futura) da qualidade e da quantidade de água para o sucesso da organização.

	Classificação da importância do uso direto	Classificação da importância do uso indireto	Explique
Quantidade suficiente de água doce de boa qualidade disponível para uso	Essencial	Essencial	CBA manufactures both primary and downstream products and water is a vital element in this process, used for cooling and considered a strategic input requiring competent management. CBA consumes a significant amount of water throughout its operations, including for cooling equipment, anode manufacturing, ingots and the wet gas treatment process in the smelters. During processing, it is essential to use only potable water to prevent aluminum contamination. The company aims to reduce its long-term water consumption by investing in low-water technologies, efficiency improvement projects and implementing a water resilience plan focused on increasing the use of recycled water. Furthermore, many of CBA's essential production inputs rely on water in their manufacturing processes, making the company dependent on its suppliers' access to quality water for raw materials. For instance, potable water is a primary input in the production of sodium hydroxide, petroleum coke and coal tar pitch, which are extensively used in CBA's alumina refinery and smelters at the Alumínio/SP site. CBA believes that the need for water in its suppliers' plants and the substitution of water-dependent inputs in its manufacturing process will remain unchanged in the future. Additionally, with the Energy Business, the impact on CBA's value chain increases, especially considering the community's water needs near CBA's hydropower plants. During droughts, priority is given to providing water for the community, which may affect CBA's electricity production. To mitigate this, CBA is investing in solar and wind farms to generate electricity and reduce its reliance on water for power supply. It also aims to collaborate with its suppliers on water management through the Sustainable Procurement Program, ensuring a shared commitment to sustainability.
Quantidade suficiente de água reciclada, salobra e/ou produzida disponível para uso	Essencial	Importante	Some production processes require the use of potable water to prevent aluminum contamination at the initial stage of transformation, but CBA can use recycled water at the wet gas treatment system and certain secondary processes at the Alumina Refinery. The Alumínio/SP plant, which accounts for 82% of the company's water demand, operates on a Closed Loop System without discharging any effluent and is continuously enhancing this system to improve efficiency. Moreover, there are ongoing projects aimed at increasing the reuse of water from red mud, reducing the humidity of the water by 30% and recirculating it at the Refinery. Another project is underway to upgrade the technology used in CBA's smelters, eliminating the need for the wet gas treatment system and significantly reducing water consumption. Both projects are expected to be fully operational by 2025. Failing to fully implement water treatment, reuse and recirculation systems would result in substantial new water requirements with a significant impact on society, especially in Alumínio/SP where it is responsible for supplying drinking water to homes, businesses and public and private establishments like schools and police stations. The greater the efficiency of the closed loop system and the utilization of recycled water, the greater the availability of potable water for society. Water also plays a critical role in many of CBA's suppliers' production processes. For instance, it is a primary ingredient in the manufacturing of sodium hydroxide, petroleum coke and coal tar pitch, all extensively used at CBA. Unless suppliers increase their implementation of water recycling systems, CBA foresees a continued need for water in their plants. In its Sustainable Procurement Program, CBA has initiated discussions with its suppliers to assess the presence of water recycling systems. This allows them to anticipate and eventually require such systems from their suppliers before purchasing their products or processes.

W1.2

(W1.2) Em todas as operações da empresa, qual proporção dos seguintes aspectos hídricos é regularmente medida e monitorada?

	Porcentagem de unidades/instalações/operações	Frequência de medição	Método de medição	Explique
Captação de água - volume total	100%	Diariamente	All CBA facilities are equipped with flow meters, either for measuring usage by the concession operator or capturing water from surface and/or underground springs.	All flow meters are calibrated at the frequency required (at least annually) in laboratories accredited and authorized by INMETRO Ordinance No. 295, of 06/29/2018 (Brazil's National Institute of Metrology, Quality and Technology). In addition, all quantitative information on water consumption is assured by an independent firm during the process of preparing the CBA Annual Report. Information is collected and filed daily in internal control spreadsheets, except for the Itapissuma/PE plant, which collects data only on business days.

	Porcentagem de unidades/instalações/operações	Frequência de medição	Método de medição	Explique
Captação de água – volume por fonte	100%	Diariamente	All CBA facilities are equipped with flow meters, either for measuring usage by the concession operator or capturing water from surface and/or underground springs.	All flow meters are calibrated at the frequency required in laboratories accredited and authorized by INMETRO Ordinance No. 295, of 06/29/2018 (National Institute of Metrology, Quality and Technology). In addition, all quantitative information on water consumption is assured by an independent firm during the process of preparing the CBA Annual Report. At the Alumínio/SP unit, withdrawal volumes are measured daily from both underground wells and surface sources. At the mining units (Poços de Caldas/MG and Miraí/MG), the volumes of underground wells withdrawals are measured and monitored daily. Exclusively at the Itapissuma/PE plant, the volumes collected from the wells are measured only on business days. For weekends days, consumption averages are made. The Alux site (Nova Odessa/SP) has an underground well and collects information monthly, but only represents 0.34% of total water withdrawal, so it was considered as daily monitoring.
Água arrastada associada às atividades da organização nos setores de metais e mineração e/ou carvão - volume total [somente para os setores de metais e mineração e de carvão]	100%	Anualmente	The calculations are performed annually as part of the Water Balance of the mining sites.	In compliance with Minas Gerais state legislation, CBA recognizes the significance of monitoring and measuring entrained water volume. Instead of using electronic systems, the company adopts an alternative approach. The monitoring and measurement process involves calculating the capacity of vehicles and the number of trips made. This method allows CBA to obtain the necessary information on entrained water volume. It is important to note that all data are validated according to the standards set by the Global Reporting Initiative (GRI) during the assurance process for the Company's Annual Report. This ensures transparency and accuracy in reporting the entrained water volume. By adhering to the legislative requirements and employing a reliable measurement methodology, CBA demonstrates its commitment to responsible water management and compliance with reporting standards.
Água produzida associada às atividades no setor de petróleo e gás – volume total [somente para o setor de petróleo e gás]	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Qualidade da captação de água	100%	Diariamente	Samples are collected following national and international standards and both internal and external laboratories conduct the analyses. Pursuant to the applicable regulations, the frequencies for analyzing various parameters may vary, ranging from daily to monthly or semi-annual analyses.	CBA prioritizes water quality and ensures monitoring whenever water is sourced directly from a spring. However, when the water supply is provided by a concession operator, such as drinking water from a tap, it is the responsibility of the concession operator to ensure its quality. Consequently, CBA does not conduct independent analyses for water provided by the concession operator, but it does monitor drinking fountains within its facilities. To ensure compliance with regulations and maintain high standards, CBA conducts analyses in accordance with Ordinance GM/MS No. 888/2021 and the Brazilian Regulatory Standard NR-24, which govern sanitary and comfort conditions in workplaces. The parameters evaluated include temperature, color, pH, turbidity, fecal coliforms and conductivity. The laboratories utilized for analysis are accredited under the ISO 17025 standard, ensuring the accuracy and reliability of the results.
Descarga de água – volume total	100%	Diariamente	All CBA facilities are equipped with flow meters, which are calibrated according to the frequency mandated by Ordinance No. 295, dated 06/29/2018, issued by INMETRO (Brazil's National Institute of Metrology, Quality, and Technology). The calibration is performed in accredited and authorized laboratories to guarantee the accuracy of the measurements.	Quantitative information regarding water consumption is collected and recorded daily in internal control spreadsheets across all CBA facilities. Except for Poços de Caldas/MG mining unit, which occurs only on working days or when tank trucks are used (in both cases, the volumes are insignificant, and the occurrence is rare). The Alux plant (Nova Odessa/SP) is located within a company that is not part of CBA and its effluents are directed to its Wastewater Treatment Plant. Currently, the plant does not have a flow meter for effluent discharge but plans to install one in 2023. It accounts for under 1% of CBA's effluent consumption and discharge All quantitative data on water discharge is assured by an independent firm during the preparation of CBA's Annual Report.
Descargas de água – volumes por destino	100%	Diariamente	All CBA facilities are equipped with flow meters, which are calibrated according to the frequency mandated by Ordinance No. 295, dated 06/29/2018, issued by INMETRO (Brazil's National Institute of Metrology, Quality, and Technology). The calibration is performed in accredited and authorized laboratories to guarantee the accuracy of the measurements.	CBA's integrated management system provides guidelines for measuring and controlling effluent discharges at all company facilities, except for the closed-loop system at Alumínio/SP. At the Miraí/MG plant, effluent volume is monitored daily during discharge into the dam after treatment at the Effluent Treatment Plants. In Araçariguama/SP, discharge is made to the municipal utility without flow meters and the volume is estimated. In Itapissuma/PE, biological effluent is disposed of twice a week with measured volumes. Rainwater and industrial discharges, such as those into cooling towers, occur daily and are measured daily. In Poços de Caldas/MG, industrial effluent is metered, while domestic effluent is estimated based on potable water consumption. Measurements are taken every working day. The Alux plant (Nova Odessa/SP), located within a non-CBA company, directs its effluents to its Wastewater Treatment Plant and currently does not have a flow meter for effluent discharge.
Descargas de água – volume por método de tratamento	100%	Diariamente	All CBA facilities are equipped with flow meters, which are calibrated according to the frequency mandated by Ordinance No. 295, dated 06/29/2018, issued by INMETRO (Brazil's National Institute of Metrology, Quality, and Technology). The calibration is performed in accredited and authorized laboratories to guarantee the accuracy of the measurements.	In Alumínio/SP, monitoring is not applicable as the plant operates in a closed-loop system without effluent discharge. At the Miraí/MG and Itamarati/MG plants, where industrial and domestic effluents undergo biological and physical-chemical treatment, all treated effluent is disposed of in tailing dams. Monthly and quarterly analyses are conducted and submitted to environmental agencies on a quarterly and annual basis, respectively. Itapissuma/PE quantifies and analyzes its discharges following its Self-Monitoring Plan. Monthly monitoring is conducted by an accredited external laboratory and the results are reported quarterly to the environmental agency. It is important to note that all CBA's operations are ISO 14001 certified. Alux and Metalex do not measure or analyze their effluents as they are directly sent to a third party.
Qualidade da descarga de água – por parâmetros de efluente padrão	100%	Diariamente	Sample collection methods adhere to national and international standards for proper handling, storage, and preservation of samples. Analysis is performed by laboratories certified to ISO 17015.	In Alumínio/SP, where a closed-loop system is in operation (including bathrooms and administrative areas), there are no discharges. However, to ensure compliance and prevent any unintended or uncontrolled discharges, biannual water quality analyses are conducted upstream and downstream of the location. At all other plants, parameters such as BOD (Biochemical Oxygen Demand), pH and suspended solids are monitored, with the frequency varying based on the applicable legislation at each location. These parameters are checked at least monthly. Individual monitoring plans are created, incorporating the requirements specified in legal regulations, licenses and/or requirements from sanitation companies. Results from the laboratories are submitted to environmental agencies at least quarterly. It is worth noting that all CBA plants hold ISO 14001 certification, demonstrating their commitment to environmental management.

	Porcentagem de unidades/instalações/operações	Frequência de medição	Método de medição	Explique
Qualidade da descarga de água – emissões para a água (nitratos, fosfatos, pesticidas e/ou outras substâncias prioritárias)	Não monitorado	<Not Applicable>	<Not Applicable>	CBA does not emit any critical pollutants into the environment, such as substances classified as hazardous and therefore does not monitor it. As there are no plans to alter the characteristics of their effluents, they do not anticipate any changes soon. The company remains in compliance with all regulations pertaining to effluent disposal in each respective location.
Qualidade da descarga de água – temperatura	100%	Diariamente	Sample collection methods adhere to national and international standards for proper handling, storage and preservation of samples. Analysis is performed by laboratories certified to ISO 17015.	In the Alumínio/SP unit, where a closed-circuit system is in place, no effluent disposal occurs. However, to ensure that there are no unidentified discharges, biannual water quality analyses are conducted on the upstream and downstream sections of the river. In the other plants, regular monitoring of parameters such as BOD, pH and suspended solids is carried out, with a frequency determined by the applicable legislation, usually monthly. Individual monitoring plans are prepared to comply with legal requirements, licenses, and the specifications of the local sanitation company. Temperature analyses are performed daily on both raw and treated effluent samples at the site. All analyses are conducted by laboratories certified under ISO 17015 and the results are shared with environmental agencies on a quarterly basis. It is worth noting that all CBA units hold ISO 14001 certification, demonstrating their commitment to environmental management.
Consumo de água – volume total	100%	Anualmente	The calculations are performed annually as part of the Water Balance for all sites.	As previously mentioned, the volumes of water withdrawal are measured at all CBA plants. Total water consumption is calculated annually using the water balance methodology, which considers various factors and sources of water usage. This information is assured by an independent firm during the preparation of CBA's Annual Report, ensuring accuracy and reliability of the reported data. By involving an independent party in the verification process, CBA demonstrates its commitment to transparency and accountability in water management practices.
Água reciclada/reutilizada	100%	Diariamente	Besides the water balance done annually, Alumínio/SP, Metalex/SP and Miraí/SP have flow meters and monitor the volumes daily.	As previously mentioned, the volumes of water drawn at CBA's units are measured and calculations for total water needs and recycling/reuse of water are conducted using the water balance methodology. This methodology helps assess the overall water usage and the effectiveness of water recycling and reuse practices at each unit. The accuracy and reliability of this information are ensured through assurance by an independent firm during the preparation of CBA's Annual Report. For plants where water reuse/recycling is implemented, such as Miraí/MG, Metalex/SP and Alumínio/SP, daily measurements are carried out to monitor the effectiveness of these practices. However, the Itapissuma/PE, Poços de Caldas/MG and Alux plants do not currently have water reuse systems in place. By actively measuring and assessing water consumption and recycling practices, CBA demonstrates its commitment to efficient water management and sustainability in its operations.
Fornecimento de serviços de WASH (água, saneamento e higiene) em perfeito funcionamento e gerenciados de modo seguro para todos os funcionários	100%	Diariamente	Sample collection methods adhere to national and international standards for proper handling, storage, and preservation of samples. Analysis is performed by laboratories certified to ISO 17015.	CBA prioritizes the provision of WASH (Water, Sanitation and Hygiene) services for all employees and contractors across its plants and has an internal Code of Conduct and a specific one for their suppliers, which mention this topic. Regarding potability of water, when the water supply is provided by the city or purchased, CBA does not take responsibility for its potability, but requires a potability certificate from the seller. Water quality analyses are conducted in accordance with the applicable legislation for each type of water source and consumption. These analyses can have varying frequencies, varying from daily to biannually. Parameters such as turbidity, color, pH, fecal and total coliforms, conductivity, total and dissolved solids are analyzed. CBA's drinking water monitoring program follows legal guidelines and water samples are collected at various points of capture and final distribution to ensure comprehensive monitoring.

W1.2b

(W1.2b) Quais são os volumes totais de captação, descarga e consumo de água em todas as operações da organização, como esses volumes se comparam ao ano de reporte anterior e como é previsto que eles variem?

	Volume (megalitros/ano)	Comparação com o ano de reporte anterior	Motivo principal para a comparação com o ano de reporte anterior	Previsão para cinco anos	Principal motivo da previsão	Explique
Total de captação	2657.15	Igual	Aumento/redução na eficiência	Muito mais baixo	Investimento em tecnologia/processo com inteligência hídrica	To standardize the responses when comparing values from this year to the previous reporting year, we will adopt the following premise: variations of up to 10% will be considered as 'about the same', variations between 10% and 25% will be considered as 'higher' or 'lower', and above 25% will be classified as 'much higher' or 'much lower'. CBA reported a 1.27% reduction in the intake of fresh water in its units in 2022, which represents over 34,000 m³ of water made available to the population. This reduction is directly linked to efficiency improvements in water reuse systems across CBA's sites, implementation of water consumption reduction projects, and significant water reduction at the Metalex unit (Araçariguama/SP). CBA's Alumínio/SP site represents the majority of all freshwater withdrawn (82%) by the Company in 2022, but it has a closed-loop system, capable of recirculating and reusing all withdrawn water without any effluent discharge. For the coming years, a significant reduction in water intake is expected due to the implementation of two major projects, primarily at the Alumínio/SP unit. The first project is the modernization of furnace room technology, which, when fully completed, will render the wet gas treatment system unnecessary, resulting in a reduction of approximately 3,600 megaliters of water annually. Another project is the Filter Press, scheduled to commence operations in 2024. These filters will remove a fraction of liquid from the waste before it reaches the dam. Currently, the proportion of solid waste disposal is 45%, and the goal is to reach 75%, at which point the material becomes solid in nature. The water extracted from the waste will be recirculated in the alumina refining stage, reducing the need for fresh water consumption.
Total de descarga	238.6	Muito mais baixo	Mudança na metodologia de registro	Igual	Redução no potencial volume máximo já alcançado	To standardize the responses when comparing values from this year to the previous reporting year, we will adopt the following premise: variations of up to 10% will be considered as 'about the same', variations between 10% and 25% will be considered as 'higher' or 'lower', and above 25% will be classified as 'much higher' or 'much lower'. A specific percentage of reduction between 2021 and 2022 will not be provided, as the numbers presented were obtained through different calculations and methodologies. CBA's Alumínio/SP site represents the majority of all freshwater withdrawn (82%) by the Company in 2022, but it has a closed-loop system, capable of recirculating and reusing all withdrawn water without any effluent discharge. The mining units with dams (Miraí/MG and Itamarati de Minas/MG) also practice water reuse, in addition to capturing rainwater through runoff. Therefore, a water balance is performed in these units to calculate the amount of water discharged from rainfall and the effluent discharged after internal water use in the unit. In 2021, the reported value was according to the Company's Annual Report, without using the water balance for calculation, which is why the values will be significantly different. For the coming years, it is expected to maintain similar volumes of water discharge and consumption (with small variations of up to 10%), and there are no significant projects mapped at the moment that will bring gains in these aspects.
Consumo total	2418.55	Igual	Mudança na metodologia de registro	Igual	Redução no potencial volume máximo já alcançado	To standardize the responses when comparing values from this year to the previous reporting year, we will adopt the following premise: variations of up to 10% will be considered as 'about the same', variations between 10% and 25% will be considered as 'higher' or 'lower', and above 25% will be classified as 'much higher' or 'much lower'. A specific percentage of reduction between 2021 and 2022 will not be provided, as the numbers presented were obtained through different calculations and methodologies. In 2021, the reported value was according to the Company's Annual Report, without using the water balance for calculation, which is why the values will be significantly different. Using the water balance method, we are able to exclude runoff. CBA's Alumínio/SP site represents the majority of all freshwater withdrawn (82%) by the Company in 2022, but it has a closed-loop system, capable of recirculating and reusing all withdrawn water without any effluent discharge. The mining units with dams (Miraí/MG and Itamarati de Minas/MG) also practice water reuse, in addition to capturing rainwater through runoff. Therefore, a water balance is performed in these units to calculate the amount of water discharged from rainfall and the effluent discharged after internal water use in the unit. For the coming years, it is expected to maintain similar volumes of water discharge and consumption (with small variations of up to 10%), and there are no significant projects mapped at the moment that will bring gains in these aspects.

W1.2d

(W1.2d) Indique se a água é captada em áreas com estresse hídrico, indique a proporção, como ela se compara com o ano de reporte anterior e quais são suas previsões de variação.

	As captações provêm de áreas com estresse hídrico	Porcentagem captada em áreas com estresse hídrico	Comparação com o ano de reporte anterior	Motivo principal para a comparação com o ano de reporte anterior	Previsão para cinco anos	Principal motivo da previsão	Ferramenta de identificação	Explique
Linha 1	Sim	1-10	Igual	Aumento/redução na eficiência	Igual	Aumento/redução na eficiência	WRI Aqueduct WWF Water Risk Filter	In 2021, CBA conducted a study using the WRI Aqueduct and WWF Water Risk Filter tools to identify areas within the company that experienced water stress. The parameters used for this identification were based on the tool's baseline's results (year 2019), considering Medium-High and High as areas with water stress. In 2023, a subsequent analysis was conducted, including all units of the Energy Business and Alux and the result remained unchanged, with only two sites being classified as water-stressed areas: Itapissuma/PE and Metalex (Araçariguama/SP). In 2021, these areas recorded a water intake of 281.26 megaliters, while in 2022, this value decreased by 2%, totaling 275.4 megaliters. When comparing the volume captured in these areas with the total intake of the Company, it represented 10.36%. Following the criteria established in this report for comparisons with previous years, variations of up to 10% are considered "equal," between 10% and 25% are considered "higher" or "lower," and above this threshold are considered "much higher" or "much lower." The 2% reduction occurred primarily due to process improvements and water reuse at the Metalex plant, resulting in a decrease in its intensity indicator from 0.84 m³/ton to 0.63 m³. CBA aims to continue implementing measures to reduce consumption and improve water reuse systems across all its plants, with a special focus on areas classified as water stressed. For the future, the goal is to maintain a consistent trajectory of reducing water intake, even if in modest proportions.

W1.2h

(W1.2h) Forneça os dados do total de captação de água por fonte.

	Relevância	Volume (megalitros/ano)	Comparação com o ano de reporte anterior	Motivo principal para a comparação com o ano de reporte anterior	Explique
Água doce de superfície, incluindo águas de chuva, brejos, rios e lagos	Relevante	1953.9	Igual	Investimento em tecnologia/processo com inteligência hídrica	Water plays a crucial role as an essential input in both aluminum production and mining operations at CBA. The Alumínio/SP plant stands out as the primary facility, accounting for 91.36% of total water withdrawal, followed by the mining sites in Poços de Caldas/MG and Miraí/MG. CBA has achieved a noteworthy 4.39% reduction in water withdrawal from this source compared to 2021, a year with a total withdrawal of 2,043.6 megaliters. These reductions can be attributed to ongoing projects aimed at enhancing water reuse systems and reducing overall consumption, including the implementation of advanced smelter technologies. In 2022, CBA established a dedicated Working Group on Water Resilience. The group conducted a comprehensive assessment of business risks and opportunities, dam management and water crisis preparedness. Based on the findings, the group has developed a comprehensive action plan to effectively address these challenges.
Água salobra de superfície/água do mar	Não relevante	<Not Applicable>	<Not Applicable>	<Not Applicable>	This source is not used for water collection at CBA and there are no forecasts or studies for the inclusion of this source in any of the plants so far.
Água subterrânea – renovável	Relevante	694.8	Igual	Investimento em tecnologia/processo com inteligência hídrica	Water plays a crucial role as an essential input in both aluminum production and mining operations at CBA. The Alumínio/SP plant is the primary facility, accounting for 57.1% of the total water withdrawal, followed by Itapissuma/PE with 34.1% and Metalex with 5.2%. CBA has achieved a significant reduction of 7.8% compared to 2021, with a withdrawal of 753.6 megaliters. This reduction can be attributed to the increased efficiency of the closed-loop system at the Alumínio/SP plant, resulting in a 62 megaliters reduction in water withdrawal from this source. Additionally, the Metalex site has installed three cooling towers to enable process water recirculation and minimize excessive water withdrawal from the underground well.
Água subterrânea – não renovável	Não relevante	<Not Applicable>	<Not Applicable>	<Not Applicable>	This source is not used for water collection at CBA and there are no forecasts or studies for the inclusion of this source in any of the plants so far.
Água produzida/arrastada	Não relevante	<Not Applicable>	<Not Applicable>	<Not Applicable>	This source is not used for water collection at CBA and there are no forecasts or studies for the inclusion of this source in any of the plants so far.
Fontes terceirizadas	Relevante	8.5	Maior	Mudança na metodologia de registro	Water plays a critical role as an essential input in aluminum production and mining operations at CBA. This source is utilized at a limited number of CBA sites, namely Poços de Caldas/MG, Metalex and Sorocaba Branch/SP. Poços de Caldas represents 45.5% of the total water withdrawal, followed by Metalex with 27% and Sorocaba Branch accounting for 25.6%. The Energy Business accounts for only 1.2% of the water withdrawal from this source. Given the small volume, even minor changes are significant. The volume in 2022 increased by 21.4% compared to 2021, which totalled 7.0 megaliters. However, it should be noted that this increase is primarily due to including Sorocaba Branch's water withdrawal in this year's Annual Report, as it was not considered in 2021 due to its low consumption.

W1.2i

(W1.2i) Forneça os dados do total de descarga de águas por destino.

	Relevância	Volume (megalitros/ano)	Comparação com o ano de reporte anterior	Motivo principal para a comparação com o ano de reporte anterior	Explique
Água doce de superfície	Relevante	229.61	Muito mais baixo	Mudança na metodologia de registro	For this report, CBA considers variations of up to 10% as 'about the same,' variations between 10% and 25% as 'higher' or 'lower,' and variations above 25% as 'much higher' or 'lower.' The Alumínio/SP site accounted for 82% of the total water withdrawn in 2022. However, this site operates a closed-loop system, recirculating all water without any discharge. The mining units in Miraí/MG and Itamarati de Minas/MG also practice water reuse and capture rainwater through runoff. Therefore, a water balance is conducted to calculate the amount of water discharged from rainfall and effluent discharged after internal water use in the unit. In 2021, the reported value did not include the water balance calculation, which is why the values will differ significantly. For the years ahead we expect to maintain similar volumes of water discharge and consumption, with minor variations of up to 10%. Currently, no significant projects are planned that would yield improvements in these rates.
Água salobra de superfície/água do mar	Não relevante	<Not Applicable>	<Not Applicable>	<Not Applicable>	The mentioned source is not utilized for water discharge in any of CBA's units and there are no current forecasts or studies regarding the inclusion of this type of discharge source in any of the units.
Água subterrânea	Relevante	2.64	Este é nosso primeiro ano de medição	Fusões e aquisições	CBA has been procuring its entire electricity demand from hydropower plants for quite some time. Previously, these plants were managed by Votorantim Energia, which has now been renamed Auren. As part of an ongoing restructuring of Votorantim S.A. to enhance the autonomy of portfolio companies, the hydropower plants were merged into CBA in 2022. Out of the 17 hydropower plants, only 3 release their domestic wastewater into groundwater. Since this is the first year following the acquisition, there is no previous data available to analyze the changes in effluent volume. Considering that water consumption at these hydropower plants is primarily limited to administrative purposes, CBA believes that the volume will remain stable in the coming years.
Destinos de terceiros	Relevante	6.35	Muito mais baixo	Fechamento de instalações	In 2022, CBA sold its plant located in São Miguel Paulista/SP, which accounted for the majority of third-party effluent disposal recorded in 2021. As a result of this transaction, there was a significant reduction of approximately 85% in the total volume of effluents discharge to third-party destination. For this report, CBA considers variations of up to 10% as 'about the same,' variations between 10% and 25% as 'higher' or 'lower,' and variations above 25% as 'much higher' or 'lower.' The plants that contribute most to this type of discharge are the Sorocaba Branch in São Paulo and the mining units. Considering the projects and water uses in the locations, there are no expectations of significant changes in the volumes generated and discharged in the coming years.

W1.2j

(W1.2j) Indique, nas suas operações diretas, o(s) nível(is) mais alto(s) em que as descargas são tratadas.

	Relevância do nível de tratamento para a descarga	Volume (megalitros/ano)	Comparação do volume tratado com o do ano de referência anterior	Motivo principal para a comparação com o ano de reporte anterior	Porcentagem de unidades/instalações/operações a que esse volume se aplica	Explique
Tratamento terciário	Relevante	190.23	Muito mais baixo	Mudança na metodologia de registro	91-99	For this report, CBA considers variations of up to 10% as 'about the same,' variations between 10% and 25% as 'higher' or 'lower,' and variations above 25% as 'much higher' or 'lower.' To standardize all questionnaire responses, the representativeness percentages presented were calculated based on the total volume of water withdrawal by CBA. The Alumínio/SP, Itapissuma/PE, Miraí/MG, and Itamarati de Minas/MG units are equipped with tertiary effluent treatment, which includes physical-chemical and biological treatment processes, as well as a water and oil separator chamber. These four sites represent 96.48% of all water withdrawal in 2022. The Alumínio/SP site accounted for 82% of the total water withdrawn in 2022. However, this site operates a closed-loop system, recirculating all water without any discharge. The mining units in Miraí/MG and Itamarati de Minas/MG also practice water reuse and capture rainwater through runoff. Therefore, a water balance is conducted to calculate the amount of water discharged from rainfall and effluent discharged after internal water use in the unit. In 2021, the reported value did not include the water balance calculation, which is why the values will differ significantly. For the upcoming years, it is expected to maintain similar volumes of water discharge and consumption, with minor variations of up to 10%. Currently, no significant projects are planned that would yield improvements in these aspects. CBA has implemented treatment systems to fully comply with the legal requirements applicable to each of its units. Specifically, the Aluminío/SP unit operates in a closed-loop system that demands high-quality treatment. If the treatment provided by this unit, which accounts for 82% of the company's total freshwater needs, is not adequate, industrial water reuse will not be possible. Consequently, water intake would need to be significantly increased, leading to adverse environmental impacts, and affecting the local community.
Tratamento secundário	Não relevante	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	Currently, the units within the Energy Business are the only ones with this type of treatment/discharge to the environment. Due to their extremely low water consumption, limited to administrative activities and sanitary use, this issue has been deemed irrelevant. The representation of all Energy Business units in relation to the total volume of effluents disposed of by the company is only 0.12%. Currently, CBA has no plans to change this situation in the medium term.
Apenas tratamento primário	Relevante	36.23	Muito mais alto	Mudança na metodologia de registro	1-10	For this report, CBA considers variations of up to 10% as 'about the same,' variations between 10% and 25% as 'higher' or 'lower,' and variations above 25% as 'much higher' or 'lower.' To standardize all questionnaire responses, the representativeness percentages presented were calculated based on the total volume of water withdrawal by CBA. CBA has three units with this type of treatment system: Niquelândia/GO, Sorocaba Branch/SP and Poços de Caldas/MG, which together represent 5.59% of the total water intake by CBA. Regarding effluent discharge, these two sites account for 13.85% of the total discharge by CBA. In 2021, CBA reported the Niquelândia/GO site as an exception and therefore did not include its effluent discharge in this questionnaire. This discrepancy is the reason for the significant difference in values. For the upcoming years, it is expected that similar volumes of water discharge and consumption will be maintained, with minor variations of up to 10%. Currently, no significant projects are planned to bring about improvements in these aspects. The Sorocaba Branch/SP sends all its effluent to a third party company to treat. At the Poços de Caldas/MG mining unit, a water and oil separator is employed, and the resulting effluents are directed to the public effluent treatment system. The responsibility for treatment lies with the public system, which ensures compliance with legal parameters for disposal into water bodies. When applicable and required, analyses of all legal parameters for the units and the efficiency traceability of CBA's Effluent Treatment Stations are conducted. This information is reviewed annually during ISO 14001 audits and in accordance with the ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards.
Descarga no meio ambiente natural sem tratamento	Não relevante	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	Currently, the units within the Energy Business are the only ones with this type of treatment/discharge to the environment. Due to their extremely low effluent discharge, limited to administrative activities and sanitary use, the discharge has been deemed irrelevant. The representation of all Energy Business units in relation to the total volume of effluents disposed of by the company is only 0.12%. Currently, CBA has no plans to change this situation in the medium term.
Descarga em terceiros sem tratamento	Relevante	3.28	Muito mais alto	Mudança na metodologia de registro	1-10	For this report, CBA considers variations of up to 10% as 'about the same,' variations between 10% and 25% as 'higher' or 'lower,' and variations above 25% as 'much higher' or 'lower.' To standardize all questionnaire responses, the representativeness percentages presented were calculated based on the total volume of water withdrawal by CBA. Representativeness by the units was calculated based on the company's total water requirements. CBA's units that discharge their effluents directly to a third party are Metalex (Araçariguama/SP) and Poços de Caldas/MG. For Metalex, there isn't an exact measurement of the volume of effluents generated, as they are sent directly to the public effluent treatment system and there's no meter. The public system is primary only and responsible for providing the treatment and meeting legal parameters for disposal in water bodies. This plant only represents 0.04% of all the total discharge. Poços de Caldas/MG was not considered in this indicator in 2021 because it used a different destination to its effluent and that is why the volume is almost twice as much as reported last year. This site sends its effluent to the public treatment system, which is responsible for complying to all discharge regulations. For the upcoming years, it is expected that similar volumes of water discharge and consumption will be maintained, with minor variations of up to 10%. Currently, no significant projects are planned to bring about improvements in these aspects.
Outros	Não relevante	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	All units of CBA have implemented one of the previously mentioned methods for treatment and disposal, rendering this option inapplicable for the Company. Currently, CBA has no plans to change this situation in the medium term.

W1.3

(W1.3) Dê um valor para a eficiência na captação total de água pela organização.

	Receita	Volume total de captação de água (megalitros)	Eficiência total na captação de água	Tendência futura prevista
Linha 1	8625000000	2657.2	3245897.93767876	The organization is committed to adhering to its water reduction metrics. CBA has initiated CAPEX projects focused on water management, with the objective of reducing freshwater withdrawal and optimizing water efficiency. Despite the ongoing trend of increased aluminum production, our ESG Strategy, including water-related targets, will enable the company to achieve its objectives while fostering growth.

W-MM1.3/W-CO1.3

(W-MM1.3/W-CO1.3) A organização calcula as informações de intensidade hídrica para suas atividades no setor de metais e mineração?

Sim

W-MM1.3a/W-CO1.3a

(W-MM1.3a/W-CO1.3a) Para os cinco principais produtos por receita, forneça as seguintes informações de intensidade associadas às atividades de metais e mineração.

Nome do produto	Numerador: Aspecto hídrico	Denominador	Comparação com o ano de reporte anterior	Explique
Liquid aluminium	Captações de água doce	Toneladas de produto final	Igual	CBA's indicator is calculated through freshwater withdrawal (in m³) divided by total of liquid aluminum production (in tons). CBA has committed, in its 2030 ESG Strategy, to reduce water intake by 20% per ton of liquid aluminum produced at its Alumínio/SP unit, which accounts for over 80% of the total annual intake. Although the target is specific to this location, all levels of the organization are involved in this objective, and an action plan focused on Water Resilience has been developed. When comparing the water indicator for this product between 2022 and 2021, we observed a reduction of 7.78%, which falls within the "about the same" category according to the criteria established in this report. This reduction can be attributed to various ongoing projects implemented across CBA units. The Closed Loop project, for instance, undergoes continuous improvements aimed at enhancing efficiency and water reuse. Furthermore, CBA is actively working on two major projects that will contribute to water consumption reduction, which will decrease the indicator in the next few years (until 2025): the Filter Press project and the Smelter Upgrade. This indicator is used to measure CBA's progress towards the 2030 goal established and for monetary variable incentives given to employees of all levels each year. In 2022, the environmental and asset management departments had such goals related to their monetary incentives. CBA has a Competitiveness Management (GC) department that supports and accelerates technology projects, seizing every opportunity for business growth and evolution by connecting different areas. GC is a methodology that helps maintain discipline and ensures the execution of initiatives without overlapping with day-to-day routines, while also facilitating the measurement of sustainability gains from actions. In the year 2022 alone, a reduction of 52,000 m³ in water consumption was identified across all units through GC initiatives.
Finished products	Captações de água doce	Toneladas de produto final	Igual	CBA's indicator is calculated through freshwater withdrawal (in m³) divided by total of finished products (in tons). Finished product are all the products sold buy CBA, excluding products that are used at following departments (such as casthouse and plastic transformation). CBA has committed, in its 2030 ESG Strategy, to reduce water intake by 20% per ton of liquid aluminum produced at its Alumínio/SP unit, which accounts for over 80% of the total annual intake. When comparing the water indicator for finished products between 2022 and 2021, we observed a reduction of 9.64%, which falls within the "about the same" category according to the criteria established in this report. This reduction can be attributed to various ongoing projects implemented across CBA units. The Closed Loop project, for instance, undergoes continuous improvements aimed at enhancing efficiency and water reuse. Furthermore, CBA is actively working on two major projects that will contribute to water consumption reduction, which will decrease the indicator in the next few years (until 2025): the Filter Press project and the Smelter Upgrade. This indicator is used to measure CBA's progress towards the 2030 goal established and for monetary variable incentives given to employees of all levels each year. In 2022, the environmental and asset management departments had such goals related to their monetary incentives. CBA has a Competitiveness Management (CM) department that supports and accelerates technology projects, seizing every opportunity for business growth and evolution by connecting different areas. CM is a methodology that helps maintain discipline and ensures the execution of initiatives without overlapping with day-to-day routines, while also facilitating the measurement of sustainability gains from actions. In the year 2022 alone, a reduction of 52,000 m³ in water consumption was identified across all units through CM initiatives.
Beneficiated bauxite	Captações de água doce	Toneladas de minério processado	Igual	CBA's indicator is calculated through freshwater withdrawal (in m³) divided by total of beneficiated bauxite (in tons). Even though CBA does not have a written goal to reduce its water withdrawal for the mining sites, the value showed in this indicator is used to calculate expected reductions linked to monetary incentive goals for the employees of these sites. When comparing the water indicator for beneficiated bauxite between 2022 and 2021, we observed a reduction of 16.67%, which falls within the "lower" category according to the criteria established in this report. This reduction can be attributed to various ongoing projects implemented across CBA to enhance processes performance. For the short future, it is expected a reduction of the indicator considering a project being developed at Miraí/MG, called Mobile Beneficiation, which will eliminate the need for tailings dams by using a small-scale, mobile beneficiation plant that is transported directly to the mine face. The bauxite is separated from the clayey soil, which after being blended with organic materials and other additives, becomes a soil rich in nutrients that is then returned to the mine site. At Miraí/MG, the beneficiation process requires the use of water, but the plant already has a reuse system in place, which is why the indicator is already so low. CBA has a Competitiveness Management (CM) department that supports and accelerates technology projects, seizing every opportunity for business growth and evolution by connecting different areas. CM is a methodology that helps maintain discipline and ensures the execution of initiatives without overlapping with day-to-day routines, while also facilitating the measurement of sustainability gains from actions. In the year 2022 alone, a reduction of 52,000 m³ in water consumption was identified across all sites through CM initiatives.

W1.4

(W1.4) Algum dos produtos da organização contém substâncias classificadas como de risco por alguma autoridade regulatória?

	Os produtos contêm substâncias de risco	Explique
Linha 1	Não	When considering the key elements that are classified as hazardous substances, such as lead (Pb), mercury (Hg), cadmium (Cd), chromium (Cr), arsenic (As), copper (Cu) and zinc (Zn) and analyzing the composition of CBA's aluminum products, including the alloys used, it can be concluded that they can be classified as free from hazardous substances. Upon request, CBA provides reports to its customers attesting to the composition of the products and compliance with various laws and regulations, including approvals for direct use in food products.

W1.5

(W1.5) A organização se engaja com a cadeia de valor em relação às questões hídricas?

	Engajamento	Motivo principal para não haver engajamento	Explique
Fornecedores	Sim	<Not Applicable>	<Not Applicable>
Outros parceiros da cadeia de valor (por ex., clientes)	Sim	<Not Applicable>	<Not Applicable>

W1.5a

(W1.5a) A organização avalia seus fornecedores de acordo com seu impacto para a segurança hídrica?

Linha 1

Avaliação do impacto do fornecedor

Não, atualmente não avaliamos o impacto dos nossos fornecedores, mas planejamos fazer isso nos próximos dois anos

Considerado na avaliação

<Not Applicable>

Número de fornecedores identificados como tendo um impacto significativo

<Not Applicable>

Porcentagem do total de fornecedores identificada como tendo um impacto significativo

<Not Applicable>

Explique

CBA is working to initiate a specific assessment of its suppliers' impact on water. Suppliers of essential raw materials for CBA have been mapped in terms of water scarcity, but the impact they may have on their respective watersheds and nearby communities has not been evaluated yet. CBA aims to start this assessment, considering its strategic suppliers and the risks associated with water stress.
Additionally, under the Sustainable Procurement Program, CBA plans to offer annual training sessions on various topics to increase engagement, including raising awareness about water resources.

W1.5b

(W1.5b) Os fornecedores da organização devem atender a exigências relacionadas à água como parte do processo de aquisição da organização?

	Os fornecedores devem atender a exigências específicas relacionadas à água	Explique
Linha 1	Não, mas planejamos introduzir exigências relacionadas à água nos próximos dois anos	Under the Sustainable Procurement Program, CBA is engaging its suppliers in various ESG (Environmental, Social, and Governance) issues. In 2022, in addition to completing the first ESG assessment of all designated strategic suppliers (118, which accounts for more than 75% of CBA's procurement spend) and 79% of its total supplier base (equivalent to nearly 2000 suppliers), CBA conducted two pilots in bidding processes using the new format, considering ESG criteria. These initial experiences were evaluated, and improvements were identified to build a final proposal. The method will be incorporated into bidding processes starting in 2023, recommending which suppliers are better prepared to meet CBA's requirements from an environmental, social, and governance perspective, in addition to the basic criteria of price, timeline, and quality of materials or services. For applicable procurement categories, suppliers are asked about their water intensity indicatores and whether they engage in water reuse practices in their production facilities. If they do, the percentage of water reuse is requested. Although a specific date has not been set, the Sustainable Procurement Program aims to make ESG requirements mandatory for the qualification of CBA's suppliers in the future, and to make the evaluated ESG criteria in the bidding process a decisive factor in the decision-making process.

W1.5d

(W1.5d) Dê detalhes sobre outras eventuais atividades de engajamento com os fornecedores relacionadas à água.

Tipo de engajamento
Coleta de informações

Detalhes do engajamento
Coletar informações sobre a gestão da água pelo menos anualmente junto dos fornecedores

Porcentagem de fornecedores por número
Menos de 1%

Porcentagem de fornecedores com um impacto significativo
<Not Applicable>

Justificativa para o engajamento
The company has found a way to take sustainability beyond its own walls by establishing fair, ethical, and transparent relationships with all stakeholders in its value chain, including suppliers of all sizes, whether small, medium, or large. The Sustainable Procurement Program, launched in 2020, aims at integrating ESG aspects into supplier selection, contracting, and management processes and CBA is engaging its suppliers in various ESG topics through it. In 2022, besides completing the first ESG assessment of all designated strategic suppliers (118, which accounts for more than 75% of CBA's procurement spend) and 79% of its total supplier base (almost 2000 suppliers), CBA conducted two pilots in bidding processes using the new format, considering ESG criteria. These initial experiences were evaluated, and improvements were identified to build a final proposal. The method will be incorporated into bidding processes starting in 2023, recommending which suppliers are better prepared to meet CBA's requirements from an environmental, social, and governance perspective, in addition to the basic criteria of price, timeline, and quality of materials or services. For applicable procurement categories, suppliers are asked about their water intensity indicators and whether they engage in water reuse practices in their production facilities. If they do, the percentage of water reuse is requested.
Although a specific date has not been set, the Program aims to make ESG requirements mandatory for the qualification of CBA's suppliers in the future, and to make the evaluated ESG criteria in the bidding process a decisive factor in the decision-making process.
In these two pilot bidding processes conducted in 2022, all participating suppliers were requested to provide information about their water consumption and water reuse indicators in their manufacturing units. As these were initial tests, only 6 suppliers were invited to participate (three in each bidding), but CBA achieved a high success rate in receiving responses, with 83% compliance (5 suppliers).
The results are initially being used to gain knowledge about the suppliers' situation and establish databases. In the future, when conducting these bidding processes again, it will be possible to assess whether there have been improvements in the indicators. In 2023, the program will continue to evolve according to its schedule, including discussions on the definition of annual data collection linked to contracts.

Impacto do engajamento e medida de sucesso
CBA's Sustainable Procurement Program has seven components: 1) Sustainable Procurement Policy and Strategy; 2) Supplier screening and monitoring; 3) Sustainable selection and requisitions; 4) Contractor management; 5) Partnerships with strategic suppliers; 6) Supplier development, and 7) Engagement and communication.
All program components are slated to be completed by 2025, and are being implemented in line with ISO 20400, a standard on implementing sustainable procurement practices in an organization. The progress of the program is monitored monthly by the Supply Chain Director, who provides support in decision-making and provides guidance for the program's implementation. Additionally, all progress is communicated and reviewed by the Sustainable Procurement Committee, which advises the CBA's board of directors.
In these two pilot bidding processes conducted in 2022, all participating suppliers were requested to provide information about their water consumption and water reuse indicators in their manufacturing units. As these were initial tests, only 6 suppliers were invited to participate (three in each bidding), but CBA achieved a high success rate in receiving responses, with 83% compliance (5 suppliers).
The results are initially being used to gain knowledge about the suppliers' situation and establish databases. In the future, when conducting these bidding processes again, it will be possible to assess whether there have been improvements in the indicators. In 2023, the program will continue to evolve according to its schedule, including discussions on the definition of annual data collection linked to contracts.

Explique
The Sustainable Procurement Program aligns with the company's goals outlined in its ESG 2030 Strategy, which include increasing purchases from local suppliers in remote locations by 10% and ensuring that 100% of suppliers comply with CBA's Sustainable Procurement Policy. With a five-year implementation timeline, the program encountered its first set of challenges in 2021.

W1.5e

(W1.5e) Dê detalhes de eventuais atividades de engajamento com clientes ou outros parceiros da cadeia de valor relacionadas à água.

Tipo de parte interessada
Outro, especifique (Peers (river basin users, other industries, communities, associations, etc))

Tipo de engajamento
Inovação e colaboração

Detalhes do engajamento
Colaborar com as partes interessadas em inovações para reduzir os impactos hídricos nos produtos e serviços

Justificativa para o engajamento
Water serves as the primary resource in CBA's power generation facilities and is essential in the aluminum production process. The company is committed to preserving the ecosystems and communities surrounding its sites. In 2022, following the merger of the Energy business, CBA established the Water Resilience Working Group to assess business risks, manage dams and enhance water crisis preparedness. Additionally, CBA actively engages in environmental education programs, collaborating with local communities, schools and universities in the regions where it operates.
CBA's dedication to water-related initiatives extends to partnerships with universities, offering scholarships for water-related projects. The company ensures compliance with applicable regulations at national, state and municipal levels, shaping policies and governing activities accordingly. CBA actively participates in forums such as the Brazilian Business Council for Sustainable Development (CEBDS) to exchange knowledge and best practices with other companies. As a signatory of the Global Compact and the 2030 Agenda, CBA supports the 17 Sustainable Development Goals (SDGs).
Engagement in business groups like ABAL (Brazilian Aluminum Association) and IAI (International Aluminum Institute) further demonstrates CBA's commitment to sustainable practices. The company provides stakeholders in the value chain with comprehensive water-related information through its Annual Report, prepared according to GRI standards.

Impacto do engajamento e medida de sucesso
The Water Resilience Working Group conducted a comprehensive assessment of business risks and opportunities, dam management and water crisis preparedness. A comprehensive action plan was subsequently developed based on the group's findings. With River basin Committees in the operational areas, CBA has engaged in discussions concerning the operation of its hydropower plants. These discussions cover various topics such as safety policies, land and water usage and conservation, sewage treatment, source rehabilitation, headwater preservation and initiatives to enhance water resource management.
Besides this, one of the research projects conducted in collaboration with the Federal University of Viçosa focused on a hydrological study in the vicinity of CBA's bauxite mines in Miraí/MG, aiming to enhance CBA's approach to sustainable mining. The research specifically monitored water infiltration rates into the soil and assessed the water repellence of both mined and reclaimed land compared to undisturbed soil. Preliminary findings indicate that hydrological processes in the reclaimed land outperformed those in undisturbed land, with 112% higher water infiltration rates, which translates to an increased availability of water for plant development and groundwater recharge.
Reclaimed land also showed an average water repellence of 1%, comparing to 6% of undisturbed land, highlighting the exceptional capacity of reclaimed land to absorb surface runoff and manage water effectively.

W2. Impactos nos negócios

W2.1

(W2.1) A organização já sofreu algum impacto negativo relacionado à água?
Não

W2.2

(W2.2) No ano de referência, a organização foi submetida a multas, ordens de execução e/ou outras penalidades pela violação de alguma lei relacionada à água?

	Violações regulatórias relacionadas à água	Multas, ordens de execução e/ou outras penalidades	Explique
Linha 1	Sim	Multas, mas nenhuma considerada significativa	At the Alumínio Plant (SP), we are required to report daily volume readings measured outside permit hours. In 2021 there were five instances of noncompliance with reporting requirements. In 2022 there was one instance of noncompliance with these requirements, due to the failure to declare or read the measured volumes outside the allowed time for more than three consecutive days (December 27th, 28th, 29th, and 30th, 2021). In all other operations, there were no instances of noncompliance.

W2.2a

(W2.2a) Informe o número total e o valor financeiro de todas as multas relacionadas à água.

Linha 1

Número total de multas
1

Valor total das multas
10076.94

Porcentagem sobre o total de instalações/operações associadas
82

Número de multas em comparação com o ano de reporte anterior
Muito mais baixo

Explique
Following the criteria established in this report for comparisons with previous years, variations of up to 10% are considered "equal," between 10% and 25% are considered "higher" or "lower," and above this threshold are considered "much higher" or "much lower". The value set for the representativeness of the units associated with the fine was calculated based on the representativeness of the new water intake for the entire Company.
In 2021, CBA received five fines or penalties related to the failure to read water consumption data and/or the failure to enter this data into the platform provided by the state water resources agency of São Paulo. All fines were related to the Alumínio/SP unit. In 2022, the only fine received was also related to the same issue and pertaining to the year 2021 (from December 28 to 30). In 2022, there were no instances of non-disclosure on the agency's platform.

W3. Procedimentos

W3.1

(W3.1) A organização identifica e classifica potenciais poluentes hídricos associados às suas atividades que poderiam ter um impacto negativo para os ecossistemas aquáticos ou para a saúde humana?

	Identificação e classificação de potenciais poluentes hídricos	Como os potenciais poluentes hídricos são identificados e classificados	Explique
Linha 1	Sim, identificamos e classificamos nossos potenciais poluentes hídricos	CBA maintains a proactive approach to monitor quality parameters across all its units. In Alumínio/SP, where a closed-loop system is implemented, including bathrooms' and administrative areas' effluents, there are no discharges to the environment. Nonetheless, to prevent any inadvertent or uncontrolled discharges, water quality analyses are conducted semi-annually upstream and downstream. In all other units, parameters such as BOD, pH, and suspended solids are diligently monitored, with the frequency adjusted to comply with the relevant legislation at each specific location, but at least monthly. Individual monitoring plans are devised, including the requirements stipulated in legal regulations, licenses, and/or specifications from sanitation companies. The laboratory results are regularly submitted to environmental agencies, with a minimum frequency of quarterly reporting. It is noteworthy that all CBA units possess ISO 14001 certification, serving as tangible evidence of their unwavering commitment to effective environmental management. It is crucial to emphasize that CBA refrains from releasing any hazardous substances or critical pollutants into the environment, thus obviating the need for monitoring such emissions. As there are no plans to modify the characteristics of their effluents, no significant changes are anticipated in the foreseeable future. The company ensures ongoing compliance with all regulations pertaining to effluent disposal in each respective location.	<Not Applicable>

W3.1a

(W3.1a) Descreva como a organização minimiza os impactos negativos de potenciais poluentes hídricos para os ecossistemas aquáticos ou a saúde humana associados às suas atividades.

Categoria de poluente hídrico
Fosfatos

Descrição do poluente e potenciais impactos
Phosphate, a common pollutant found in effluents, leads to eutrophication in bodies of water, which is a phenomenon that occurs when there's an excessive increase in nutrients. It triggers excessive algae growth (known as algal bloom), depleting oxygen and causing dead zones. This reduction in oxygen levels can result in the death of aquatic organisms, harming the biodiversity and aquatic ecosystems.
In addition to environmental impacts, exposure to phosphate can also pose risks to human health. High levels of phosphate in drinking water can affect water quality, making it unsuitable for human consumption. Moreover, excessive consumption of phosphate may be associated with health problems such as cardiovascular and renal diseases.
To mitigate the impacts of phosphate on the environment and health, it is important to adopt control and effluent treatment measures that reduce the amount of phosphate released into the environment. This may include implementing efficient water treatment technologies, using fertilizers and chemicals with low phosphate content in agriculture, and raising awareness about the importance of water conservation and responsible use of products containing phosphates.

Estágio da cadeia de valor
Operações diretas

Ações e procedimentos para minimizar os impactos negativos
Recuperação do recurso
Além da conformidade com as exigências regulatórias
Implementação de sistemas integrados de gestão de resíduos sólidos
Prevenção, preparação e resposta a acidentes industriais e químicos
Reciclagem da água
Tratamento da descarga usando processos específicos para o setor para assegurar a conformidade com as exigências regulatórias

Explique
CBA implements water reuse and recirculation systems in its operational units to minimize waste and environmental impact. These units are equipped with appropriate

effluent treatment plants that effectively treat all generated effluents, meeting all mandatory legal requirements. Additionally, comprehensive Waste Management Plans are implemented across all units to ensure proper collection, treatment, and disposal of all generated waste.
CBA's Emergency Response Teams undergo specialized training to effectively respond to chemical/waste spills, ensuring that any potential incidents do not cause negative impacts on the environment or human health.
In the Alumínio/SP unit, a closed-loop system is implemented, eliminating any discharge of effluents from this facility. This approach significantly reduces the consumption of fresh water in the unit and minimizes potential impacts on the local watershed. By implementing this closed-loop system, the company demonstrates its commitment to sustainable water management and the preservation of the region's water resources.
CBA performs regular measurements of its effluents to ensure compliance with all legal parameters. Some measurements may be taken daily (such as temperature, BOD, and pH), while others are done monthly. In addition, supplementary semi-annual sampling is conducted in accordance with the applicable legislation of each unit.

Categoria de poluente hídrico
Nitratos

Descrição do poluente e potenciais impactos
Nitrate is a common pollutant found in effluents from water treatment and domestic sewage. In aquatic environments, excessive nitrate can lead to eutrophication in bodies of water, which is a phenomenon that occurs when there's an excessive increase in nutrients. It triggers excessive algae growth (known as algal bloom), depleting oxygen and causing dead zones. This reduction in oxygen levels can result in the death of aquatic organisms, harming the biodiversity and aquatic ecosystems.
Additionally, nitrate can contaminate sources of drinking water. When present in high concentrations, nitrate can be converted to nitrite, which is toxic to humans, especially infants and children. Ingesting water or food contaminated with high levels of nitrate/nitrite can lead to methemoglobinemia, a condition known as "blue baby syndrome," which interferes with the transportation of oxygen in the blood.
To mitigate the impacts of nitrate on the environment and health, it is important to implement control and treatment measures for effluents that reduce the amount of nitrate released into the environment. Furthermore, raising awareness about the importance of protecting water resources and practicing responsible water consumption is essential to prevent nitrate contamination.

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Operações diretas

Ações e procedimentos para minimizar os impactos negativos
Recuperação do recurso
Além da conformidade com as exigências regulatórias
Implementação de sistemas integrados de gestão de resíduos sólidos
Prevenção, preparação e resposta a acidentes industriais e químicos
Reciclagem da água
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Categoria de poluente hídrico
Petróleo

Descrição do poluente e potenciais impactos
Oil and grease are pollutants commonly found in effluents from industrial, commercial, and domestic activities. They pose significant concerns due to their potential impacts on the environment and human health.
When improperly discharged, oil and grease can reach bodies of water such as rivers, lakes, and oceans, causing environmental damage. The presence of these pollutants on the water surface creates a film that hinders the exchange of oxygen between the atmosphere and the aquatic environment. This can lead to the suffocation of aquatic organisms, such as fish and insects, affecting biodiversity and the health of aquatic ecosystems.
Moreover, oil and grease can contain toxic and carcinogenic compounds, which pose risks to human health. Exposure to these pollutants can occur through the consumption of contaminated food, inhalation of vapors, or direct contact with the skin. Health effects can range from skin and eye irritations to respiratory problems and more severe diseases such as cancer.
To mitigate the impacts of oil and grease on the environment and health, it is essential to implement appropriate effluent control and treatment measures. This includes the implementation of oil and grease separation systems, the use of efficient water treatment technologies, and raising awareness about proper disposal and recycling practices for oil and grease.

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Categoria de poluente hídrico
Outros poluentes físicos

Descrição do poluente e potenciais impactos
Settleable solids are solid particles present in effluents that tend to settle at the bottom of bodies of water when the water is at rest. These solids can be composed of various materials such as sand, clay, organic and inorganic waste.
When settleable solids are discharged into the environment without proper treatment, they can cause a range of negative impacts. In bodies of water, these particles can obstruct the passage of sunlight, affecting photosynthesis and the production of dissolved oxygen. This can lead to decreased oxygen levels in the water and harm aquatic life, resulting in the death of organisms and imbalances in aquatic ecosystems.
Additionally, settleable solids can carry toxic substances and contaminants such as heavy metals and chemicals, which adhere to the particles. These substances can have harmful effects on human health when contact occurs through the consumption of contaminated water or direct contact with sediments.
To prevent the negative impacts of settleable solids on the environment and health, it is essential to adopt appropriate effluent control and treatment measures. This includes the use of filtration and sedimentation systems in water and wastewater treatment plants, as well as solid waste management practices that avoid improper disposal of contaminated sediments.

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Operações diretas

Ações e procedimentos para minimizar os impactos negativos
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Prevenção, preparação e resposta a acidentes industriais e químicos
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Explique
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W-MM3.2/W-CO3.2

(W-MM3.2/W-CO3.2) Quantas barragens de rejeitos ativas e inativas por bacia hidrográfica estão sob o controle da organização?

País/área e Bacia hidrográfica	Número de barragens de rejeitos em operação	Número de barragens de rejeitos inativas	Explique
Brasil – Outro, especifique (Tietê 2)	1	0	Known as Palmital, CBA operates an industrial waste dam at its Alumínio/SP facility, which has been certified as stable and classified as low risk according to Ordinance 70.389/17 issued by the National Mining Agency of Brazil. The dam has a maximum storage capacity of approximately 27.6 million cubic meters and is currently holding around 23.7 million cubic meters of waste. The most recent independent technical review of the dam was conducted in December 2022, certifying its safety, and providing a recommendation for continued routine inspections and preventive maintenance. Ongoing dam safety activities are effectively managed through a Dam Management System, which includes regular inspections every two weeks, well-maintained infrastructure, monitoring systems, control of beach width and water removal measures. It is important to note that an Emergency Preparedness and Response Plan specific to the site is in place.
Brasil – Outro, especifique (Pomba)	1	0	Known as Itamarati de Minas, CBA operates a mining tailings dam at its mining unit in Itamarati de Minas/MG, with attested stability and rated as low risk according to Ordinance 70,389/17 issued by the National Mining Agency, Brazil. The dam has a maximum storage capacity of approximately 11.4 million cubic meters and is currently holding around 11.1 million cubic meters of waste. The most recent independent technical review of the dam was conducted in May 2021, certifying its safety, and providing a recommendation for continued routine inspections and preventive maintenance. Ongoing dam safety activities are effectively managed through a Dam Management System, which includes regular inspections every two weeks, monitoring, clearing and pest control. It is important to note that an Emergency Preparedness and Response Plan specific to the site is in place.
Brasil – Outro, especifique (Muriae)	1	0	Known as Miraí, CBA operates a mining tailings dam at its mining unit in Miraí/MG, with attested stability and rated as low risk according to Ordinance 70,389/17 issued by the National Mining Agency, Brazil. The dam has a maximum storage capacity of approximately 27.5 million cubic meters and is currently holding around 14.1 million cubic meters of waste. The most recent independent technical review of the dam was conducted in May 2021, certifying its safety, and providing a recommendation for continued routine inspections and preventive maintenance. Ongoing dam safety activities are effectively managed through a Dam Management System, which includes regular inspections every two weeks, monitoring, clearing and pest control. It is important to note that an Emergency Preparedness and Response Plan specific to the site is in place.
Brasil – Outro, especifique (Tocantinzinho)	1	0	Known as Jacuba, CBA operates an industrial waste dam at its unit in Niquelândia/GO, with attested stability and rated as low risk according to Ordinance 70,389/17 issued by the National Mining Agency, Brazil. The dam has a maximum storage capacity of approximately 79 million cubic meters and is currently holding around 63.8 million cubic meters of waste. Even though the activities have been stopped for quite some time, the most recent independent technical review of the dam was conducted in November 2022, certifying its safety, and providing a recommendation for continued routine inspections and preventive maintenance. Routine dam safety and maintenance activities are managed via a Data Management System and include inspections every two weeks, monitoring, clearing, pest control and special measures, such as beach erosion control, restaking and cleaning hydraulic structures. It is important to note that an Emergency Preparedness and Response Plan specific to the site is in place.

W-MM3.2a/W-CO3.2a

(W-MM3.2a/W-CO3.2a) As barragens de rejeitos sob controle da organização são avaliadas e classificadas de acordo com as consequências da sua falha para a saúde humana e os ecossistemas?

	Avaliação das consequências da falha da barragem de rejeitos	Diretrizes de avaliação/classificação	As barragens de rejeitos foram classificadas como "de risco" ou "de alto risco"	Explique
Linha 1	Sim, avaliamos as consequências da falha da barragem de rejeitos	Portaria 70.389/17 - Agência Nacional de Mineração, Brasil Diretrizes específicas da empresa	Nenhuma das nossas barragens de rejeitos foi classificada como "de risco" ou "de alto risco" (ou equivalente)	CBA ensures the highest level of dam safety by adhering to stringent regulations and implementing comprehensive monitoring procedures. The company conducts quarterly field inspections with checklists, and monthly dam safety assessment reports are issued to track the condition and stability of the dams. Inspections are conducted every two weeks and reported to specialists, with monthly reports provided to CBA's senior leadership on the status of safety conditions and maintenance and risk control action plans. CBA also has a Mining Dam Risk Management Plan in accordance with ANM Ordinance 95 and the Operation Manual, which indicate the necessary controls for managing maintenance and risk reduction. According to Ordinance 70,389/17, to be considered a high-risk dam, evaluations of technical characteristics, conservation status, and dam safety plans must achieve a minimum score of 80. In none of its dams has CBA exceeded a score of 20 points, maintaining a low classification. Every six months, an assessment is conducted with specialized consulting, resulting in a Regular Safety Inspection Report. The company complies with applicable laws from National Mining Agency of Brazil that dictate the minimum management requirements and actions for each classification. However, there has never been a change in the safety status of the company's dams or any type of restriction on their use due to safety risks.

W-MM3.2c/W-CO3.2c

(W-MM3.2c/W-CO3.2c) Quais procedimentos estão em vigor para todas as barragens da organização para gerenciar os potenciais impactos à saúde humana ou aos ecossistemas aquáticos associados às barragens de rejeitos sob o seu controle?

Procedimento	Detalhe do procedimento	Explique
Níveis de risco aceitáveis	Estabelecimento de orientações e padrões sobre os níveis de risco aceitáveis, com base em uma avaliação dos potenciais riscos físicos e químicos Estabelecimento de orientações e padrões locais sobre os níveis de risco aceitáveis para a segurança de terceiros em consulta com comunidades potencialmente afetadas, funcionários e órgãos governamentais relevantes Estabelecimento de orientações e padrões locais sobre os níveis de risco aceitáveis em todos os estágios da vida útil, incluindo após o fechamento Estabelecimento de padrões para a empresa como um todo para os níveis de riscos aceitáveis após uma política empresarial para eliminar ou minimizar os riscos hídricos associados a barragens de rejeitos	For over two years, CBA has implemented a comprehensive Dam Safety Management procedure, aligning with various regulations such as Ordinance DNPM 70.389/2019, CETESB Board Decision No. 279/2015/C, CNRH Resolutions #s 144/2012 and 178/2017. This procedure ensures the monitoring and reporting of dams and their safety levels using the SIGBAR (Integrated Dam Safety Management System) tool. The system consists of 10 modules that cover various issues related to dam safety: PRELIM (people in charge and responsibilities); documents; monitoring; safety assessment; sight management; training; legislation; emergency; manual; and operation. Within the safety assessment module, dams are categorized based on the ICS (Dam Safety Index), which can range from satisfactory (A) to unsatisfactory (C3), with intermediate categories in between. The procedure provides detailed specifications for each possible index and emphasizes that the desired level for all dams, in all reports, is 'A'. This means that the dam was designed in accordance with appropriate engineering standards, constructed as per project specifications, equipped with sufficient and adequate geotechnical instrumentation, and operates according to the project's premises and operating manual. Furthermore, specialized third-party companies conduct regular inspections, ensuring that the dam shows no signs of anomalous behavior. These dam safety management procedures are applied to all of CBA's dams, including tailing dams, industrial waste dams and dams associated with hydropower plants. The procedures are regularly revised to ensure their continued effectiveness and alignment with industry best practices. The risks related to dams are disclosed annually in the company's annual report and are frequently presented to the Dam Committee and the Board of Directors. This practice allows for transparency and sharing of information regarding the risks associated with dams, as well as the adoption of appropriate measures to ensure the safety of these structures. The involvement of the Dam Committee and the Board of Directors in this process highlights the company's commitment to responsibly address dam-related risks and make necessary decisions to mitigate these risks.
Plano operacional	Um plano operacional alinhado com o quadro estabelecido para os controles críticos e os níveis de riscos aceitáveis Um plano operacional que inclua as restrições operacionais da barragem e seu método de construção Um plano operacional que leve em consideração as consequências de violar as restrições operacionais da barragem Um plano operacional que inclua a revisão periódica dos materiais da fundação e de encosta Um plano operacional que avalie a eficiência das medidas de gestão de risco e se os objetivos de desempenho estão sendo atendidos	For over two years, CBA has implemented a Dam Governance Manual as part of its management procedure. This manual outlines the responsibilities of individuals involved in the process and provides information on legal requirements, risk management, dam projects, construction implementation and specific operational details related to dam operations. The manual also defines minimum operational controls to be implemented at each stage of the dam's lifecycle to prevent, alert, or minimize the occurrence and impacts of undesired events. It includes guidelines for geotechnical and structural monitoring, as well as regular inspections carried out by the dam safety team and specialized companies. The manual is regularly updated with information from monitoring instruments installed at each of CBA's dam units, specifying the frequency of readings for each instrument. If any anomalies are detected during these processes, immediate maintenance procedures are initiated. In cases requiring engineering intervention, all applicable standards and legislation must be followed, as outlined in the specific procedure. These procedures are applied to all of CBA's dams, including tailing dams, industrial waste dams and dams associated with hydropower plants. The procedures are regularly revised to ensure their continued effectiveness and alignment with industry best practices. Any risks and/or relevant information related to dams are disclosed annually in the company's annual report and are frequently presented to the Dam Committee and the Board of Directors. This practice allows for transparency and sharing of information regarding the risks associated with dams, as well as the adoption of appropriate measures to ensure the safety of these structures. The involvement of the Dam Committee and the Board of Directors in this process highlights the company's commitment to responsibly address dam-related risks and make necessary decisions to mitigate any risks.

Procedimento	Detalhe do procedimento	Explique
Plano da vida útil das instalações	Um plano de vida útil das instalações que identifique especificações mínimas e objetivos de desempenho para as fases de operação e fechamento Um plano de vida útil das instalações que inclua uma identificação dos potenciais riscos físicos e químicos das fases de projeto e construção Um plano de vida útil das instalações que leve em consideração o uso da água e das terras após o fechamento Um plano de vida útil das instalações que dê detalhes dos recursos humanos e financeiros necessários	In addition to the Dam Governance Manual, CBA has a management standard specifically addressing the closure of its units, including guidelines for the criteria to be met by contractors and their work teams, as well as the methodologies to be followed. When a unit with dams is being closed, the following steps are evaluated and implemented: 1. Repurposing of tailings dams: This involves the process of transforming the tailings dam into a stable and environmentally safe structure. 2. General recommendations for defining closing actions: This includes guidelines for determining the necessary actions to be taken during the closure process. 3. Industrial, administrative and support areas: Specific considerations are made for the closure of these areas, considering their unique characteristics and requirements. During these closure stages, various evaluations are conducted. These include assessing the baseline conditions of soil, groundwater, and surface water quality in the area where the deposit will be located and its surroundings. Additionally, soil permeability is assessed in the designated area, as is the water level in the aquifer. Natural drainages and watercourses in the vicinity are also considered. Furthermore, CBA has a dedicated procedure for dam projects, covering all stages from preparation to construction, ensuring proper planning and implementation of these structures. These procedures are applied to all of CBA's dams, including tailing dams, industrial waste dams and dams associated with hydropower plants. The procedures are regularly revised to ensure their continued effectiveness and alignment with industry best practices. Any risks and/or relevant information related to dams are disclosed annually in the company's annual report and are frequently presented to the Dam Committee and the Board of Directors. This practice allows for transparency and sharing of information regarding the risks associated with dams, as well as the adoption of appropriate measures to ensure the safety of these structures. The involvement of the Dam Committee and the Board of Directors in this process highlights the company's commitment to responsibly address dam-related risks and make necessary decisions to mitigate any risks.
Programa de garantia	Um programa de garantia para a fase operacional da instalação que detalhe os procedimentos das inspeções, auditorias e revisões Um programa de garantia para cada fase da vida útil das instalações que inclua a frequência dos vários níveis de inspeções, auditorias e revisões Um programa de garantia para cada fase da vida útil das instalações que inclua o escopo dos vários níveis de inspeções, auditorias e revisões Um programa de garantia que detalhe os requisitos de competência para as pessoas responsáveis pelas inspeções, auditorias e revisões Um programa de garantia que inclua uma auditoria externa cobrindo os planos de operação ou de vida útil das instalações	For over two years, CBA has implemented a management procedure outlined in the Dam Governance Manual. This manual defines the responsibilities and skills of individuals involved in the dam management process and provides information on legal requirements, risk management, dam projects, construction works and operational guidelines. The manual specifies the minimum operational controls that must be implemented at each stage of the dam's life cycle. These controls aim to prevent, alert, or reduce the possibility of undesired events and minimize their impacts if they occur. It also outlines the geotechnical and structural monitoring requirements that need to be carried out regularly at the dams. The monitoring activities include fortnightly inspections by the dam safety team and biannual inspections conducted by a specialized company. The manual is regularly updated with information from monitoring instruments installed at each dam, specifying the frequency at which readings should be taken. If any anomalies are detected during the monitoring process, immediate maintenance procedures are initiated. In cases where engineering intervention is necessary, the manual emphasizes compliance with applicable standards and legislation, providing detailed guidelines for such interventions. Additionally, CBA engages a specialized technical consultancy to conduct periodic assessments of dam structures. Monthly safety assessments are carried out based on the monitoring results, ensuring ongoing evaluation and proactive risk management. By following these procedures, CBA aims to ensure the safety and integrity of its dam structures and promptly address any potential risks or issues. This program is applied to all of CBA's dams (tailing dams, industrial waste dams and hydropower plants dams) and its regularly revised to ensure continued effectiveness and alignment with industry best practices. Any risks and relevant information related to dams are disclosed in CBA's annual report and are frequently presented to the Dam Committee and the Board of Directors. This practice allows for transparency and sharing of information regarding the risks associated with dams, as well as the adoption of appropriate measures to ensure the safety of these structures. The involvement of the Dam Committee and the Board of Directors in this process highlights the company's commitment to responsibly address dam-related risks and make necessary decisions to mitigate any risks.
Processo de gestão de mudanças	Inclusão de um processo formal da gestão de mudanças para a fase de construção da instalação Inclusão de um processo formal da gestão de mudanças para a fase operacional da instalação Inclusão de um processo formal da gestão de mudanças para as fases de encerramento e descomissionamento da instalação	The company has implemented a management procedure for Risk Change Management that applies to any type of change, whether temporary or permanent. This procedure outlines the responsibilities and roles of stakeholders involved in the change process, including training requirements for both internal and external personnel. It covers routine and emergency activities and provides a defined workflow for managing changes. When a need for change is identified, a meeting is conducted to assess the complexity of the change and determine the appropriate analysis tool to be used. Following this, planning and registration take place on the security platform, documenting all necessary changes and actions required. Once all actions are completed, the change undergoes evaluation and if everything aligns with the planned expectations, it is approved and finalized. This process is applicable to all changes carried out across all CBA units, including all dams. It ensures a standardized approach to managing changes, promoting consistency, and minimizing potential risks associated with any alterations in operations. These procedures are applied to all of CBA's dams, including tailing dams, industrial waste dams and dams associated with hydropower plants. The procedures are regularly revised to ensure their continued effectiveness and alignment with industry best practices. Any risks and/or relevant information related to dams are disclosed annually in the company's annual report and are frequently presented to the Dam Committee and the Board of Directors. This practice allows for transparency and sharing of information regarding the risks associated with dams, as well as the adoption of appropriate measures to ensure the safety of these structures. The involvement of the Dam Committee and the Board of Directors in this process highlights the company's commitment to responsibly address dam-related risks and make necessary decisions to mitigate any risks.
Aprovação	Uma política para eliminar ou minimizar os riscos hídricos associados a barragens de rejeitos foi aprovada por um membro da diretoria O plano operacional e o plano da vida útil das instalações são aprovados pelo Gerente de EHS O plano operacional e o plano de vida útil das instalações são aprovados por um diretor do C-suite Os resultados do programa de garantia e do processo da gestão de mudanças são aprovados pelo Gerente de EHS Os resultados do programa de garantia e do processo de gestão de mudanças são aprovados por um diretor do C-suite	The company has implemented a management procedure for Risk Change Management that applies to any type of change, whether temporary or permanent. This procedure outlines the responsibilities and roles of stakeholders involved in the change process, including training requirements for both internal and external personnel. It covers routine and emergency activities and provides a defined workflow for managing changes. When a need for change is identified, a meeting is conducted to assess the complexity of the change and determine the appropriate analysis tool to be used. Following this, planning and registration take place on the security platform, documenting all necessary changes and actions required. Once all actions are completed, the change undergoes evaluation and if everything aligns with the planned expectations, it is approved and finalized. This process is applicable to all changes carried out across all CBA units, including all dams. It ensures a standardized approach to managing changes, promoting consistency, and minimizing potential risks associated with any alterations in operations. These procedures are applied to all of CBA's dams, including tailing dams, industrial waste dams and dams associated with hydropower plants. The procedures are regularly revised to ensure their continued effectiveness and alignment with industry best practices. Any risks and/or relevant information related to dams are disclosed annually in the company's annual report and are frequently presented to the Dam Committee and the Board of Directors. This practice allows for transparency and sharing of information regarding the risks associated with dams, as well as the adoption of appropriate measures to ensure the safety of these structures. The involvement of the Dam Committee and the Board of Directors in this process highlights the company's commitment to responsibly address dam-related risks and make necessary decisions to mitigate any risks.

W3.3

(W3.3) A organização realiza alguma avaliação de riscos hídricos?

Sim, os riscos hídricos são avaliados

(W3.3a) Selecione as opções que melhor descrevem os procedimentos da organização para identificar e avaliar os riscos hídricos.

Estágio da cadeia de valor
Operações diretas

Abrangência
Total

Procedimento de avaliação de riscos
Os riscos hídricos são avaliados como parte de uma estrutura estabelecida de gestão de riscos corporativos

Frequência da avaliação
Mais do que uma vez por ano

Até que momento no futuro os riscos são levados em consideração?
Mais de 6 anos

Tipo de ferramentas e métodos usados
Ferramentas existentes no mercado
Gestão de riscos corporativos
Metodologias e normas internacionais
Bancos de dados

Ferramentas e métodos usados
WRI Aqueduct
WWF Water Risk Filter
Gestão de riscos corporativos
Norma ISO 31000 - Gestão de Riscos
Avaliação do Ciclo de Vida
Projeções de Mudanças Climáticas do IPCC
Norma de Gestão Ambiental ISO 14001
Outro, especifique (INPE; WorldClim; EcoInvent)

Questões contextuais levadas em consideração
Disponibilidade de água no nível da bacia/captação
Conflitos entre as partes interessadas a respeito dos recursos hídricos no nível da bacia ou do represamento
Implicações da água para as principais commodities/matérias-primas
Marcos regulatórios referentes à água
Condição dos ecossistemas e habitats
Acesso a serviços de WASH (água, saneamento e higiene) gerenciados de modo seguro para todos os funcionários
Outro, especifique (dam failures (both tailing and water dams))

Partes interessadas levadas em consideração
Clientes
Funcionários
Investidores
Comunidades locais
ONGs
Órgãos reguladores
Fornecedores

Explique
The purpose of describing water-related risks and opportunities is to find, recognize and describe risks and opportunities that can help or prevent CBA from achieving its objectives in direct operations, upstream and downstream value chain. The water-related risk analysis at CBA is Integrated into a multi-disciplinary risk analysis based on corporate policy and the ISO 31.000 methodology. This analysis is carried out and updated considering all the risk factors detected in meetings of understanding with the leadership, which occur more than once a year. These meetings are also used to assess which risks could have a substantial financial or strategic impact according to the methodology and following reputational, environmental, social, legal, health and safety criteria. All risks are evaluated according to impact and probability of occurrence, considering short-term (1 year), medium-term (5 years) and long-term (more than 5 years). The result of the assessment must be registered, disclosed, and validated by governance bodies: Executive Board, Audit Committee and Board of Directors.
Opportunities are mapped by each company area and registered in a multi-disciplinary Competitive Management platform. Assessments are made several times during the year and actions and indicators are systematically monitored. This platform also evaluates magnitude of opportunities to determine whether they could 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.

Estágio da cadeia de valor
Cadeia de fornecimento

Abrangência
Parcial

Procedimento de avaliação de riscos
Outro, especifique (The company carries out its own internal assessment in the supplier approval process)

Frequência da avaliação
Mais do que uma vez por ano

Até que momento no futuro os riscos são levados em consideração?
De 3 a 6 anos

Tipo de ferramentas e métodos usados
Ferramentas existentes no mercado
Gestão de riscos corporativos
Metodologias e normas internacionais
Bancos de dados

Outros

Ferramentas e métodos usados
Norma de Gestão Ambiental ISO 14001
Métodos internos da empresa
Consultores externos

Questões contextuais levadas em consideração
Disponibilidade de água no nível da bacia/captação
Marcos regulatórios referentes à água
Acesso a serviços de WASH (água, saneamento e higiene) gerenciados de modo seguro para todos os funcionários

Partes interessadas levadas em consideração
Fornecedores

Explique
The water-related risk analysis at CBA is Integrated into a multi-disciplinary risk analysis based on corporate policy and the ISO 31000 methodology. This analysis is carried out and updated considering all the risk factors detected in meetings of understanding with the leadership, which occur more than once a year. These meetings are also used to assess which risks could have a substantial financial or strategic impact according to the methodology and following reputational, environmental, social, legal, health and safety criteria. All risks are evaluated according to impact and probability of occurrence, considering short-, medium- and long-term. The result of the assessment must be registered, disclosed, and validated by governance bodies: Executive Board, Audit Committee and Board of Directors. During CBA's comprehensive risk assessment, te supply chain stage is also evaluated, and two significant risks were identified and mapped: the scarcity or reduction in the supply of coal tar pitch and petroleum coke, which are essential inputs for the electrolysis stage of the manufacturing process. Considering that water is vital to their production process, the risk of water scarcity at the supplier level was also included in the assessment. This was done to understand how such a shortage could potentially impact the supply of these crucial inputs to CBA. By assessing and addressing these risks, CBA aims to proactively manage potential challenges in its supply chain and ensure a stable and reliable source of these products.
The other form of analysis is through CBA's Sustainable Procurement Program, launched in 2020, aims at integrating ESG aspects into supplier selection, contracting, and management processes and CBA is engaging its suppliers in various ESG topics through it. In 2022, besides completing the first ESG assessment of all designated strategic suppliers (118, which accounts for more than 75% of CBA's procurement spend) and 79% of its total supplier base (almost 2000 suppliers), CBA conducted two pilots in bidding processes using the new format, considering ESG criteria. Although a specific date has not been set, the Program aims to make ESG requirements mandatory for the qualification of CBA's suppliers in the future, and to make the evaluated ESG criteria in the bidding process a decisive factor in the decision-making process. The results are initially being used to gain knowledge about the suppliers' situation and establish databases.

W3.3b

(W3.3b) Descreva o processo utilizado pela organização para identificar, avaliar e responder aos riscos hídricos em suas operações diretas e em outros estágios da cadeia de valor.

	Justificativa para a abordagem da avaliação de risco	Explicação das questões contextuais levadas em consideração	Explicação das partes interessadas levadas em consideração	Processo de tomada de decisões para a resposta ao risco
Linha 1	CBA's Risk Management Policy is applicable to all its units and is based on governance guidelines; the Company's corporate bylaws; applicable rules issued by the Securities Commission (CVM); the guidelines and principles described in the Company's Code of Conduct; the COSO-ERM model; and, lastly, the ABNT NBR ISO 31000:2018 standard - Risk management – guidelines. CBA assesses its customers through due diligence processes and blacklist checks available in the country. However, there is currently no specific analysis of water-related risks in its supply chain. The company partially evaluates its supply chain through the Sustainable Procurement Program, which is still in the process of full implementation and internal risk assessments that consider suppliers and strategic inputs for the company. The analysis tools used by CBA are based on ISO standards and internationally recognized methodologies but are tailored to the company's specific needs. After evaluating the risks, a comparison is made against established risk criteria to determine whether the risk or its magnitude is acceptable or tolerable. Risks are categorized as critical, high, medium, low, or very low.	For direct operations, CBA considers contextual issues related to water availability in the basin, stakeholder conflicts, water implications for its key products and the condition of ecosystems and habitats. The company incorporates these issues into its internal procedures and conducts specific analyses using tools such as the WRI Aqueduct and WWF Water Risk Filter. These analyses help identify and understand water-related risks and take appropriate measures to mitigate them. CBA is committed to considering water sustainability in its operations and contributing to the responsible management of water resources in its areas of operation. Other topics such as regulatory frameworks and access to WASH services are also applicable to the supply chain, as CBA requires its suppliers to fully comply with all applicable regulations. In its Supplier Code of Conduct, launched in 2022, CBA maps these risks, and all suppliers are required to communicate their agreement and compliance with the specified requirements.	The stakeholders considered in the direct operations stage are also linked to the Materiality Study process, which was reviewed in 2022 following the concept of double materiality, where both socio-environmental and financial impacts are considered. The process was divided into five stages: 1. Analysis to compile the list of macro-topics, considering internationally recognized sustainability classifications, questionnaires, and internal documents; 2. Prioritization of stakeholder categories considering issues of dependency and influence on CBA's activities; 3. Our prioritized stakeholders outlining the most important topics for CBA's reality among the 19 macro-topics. Each stakeholder group was responsible for conducting an assessment, depending on their involvement; 4. Evaluation of the results obtained from all consultations and definition of quality criteria for each public consultation. All results were concentrated on high financial and socio-environmental impact and a matrix was necessary to facilitate prioritization; 5. After evaluation and review by CBA, the list was reduced to 15 material topics: 12 selected by the materiality study and three others indicated by CBA due to their relevance to the company's strategy. For the supply chain, CBA only considered its direct suppliers, especially since it is still initiating the process of evaluating suppliers based on ESG criteria within the Sustainable Procurement Program.	Risk is defined as the possibility of an event occurring and adversely affecting the company's objectives. Risk management involves coordinated activities to direct and control the organization in relation to risk, with the goal of creating and protecting value, improving performance, driving innovation, and achieving strategic objectives. The risk management process begins with risk identification, which involves searching, recognizing, and describing risks based on the established context and consultation with stakeholders, creating a list of risks, including their causes, sources, and potential impact on the company's objectives. Next up is risk analysis, which seeks to understand the nature of each identified risk and determine its level, the basis of assessment and decision-making. Each risk is classified according to its probability of occurrence and impact on objectives, resulting in an overall risk level. Then comes risk assessment, comparing the level of risk with established criteria to determine whether it is acceptable or requires treatment, assisting in decision-making and may result in the implementation of new or modified controls within the risk treatment phase. The results of risk assessments are registered, communicated, and validated by governance bodies such as the Executive Board, Audit Committee and Board of Directors.

W4. Riscos e oportunidades

W4.1

(W4.1) Foi identificado algum risco hídrico inerente com potencial para causar um impacto financeiro ou estratégico considerável nos negócios?

Sim, tanto nas operações diretas quanto no restante da cadeia de valor

W4.1a

(W4.1a) Como a organização define um impacto financeiro ou estratégico considerável em seus negócios?

At CBA risks are classified according to their potential for financial, reputational, environmental, health and safety, operational, social, and/or legal impacts. Each such impact is described better at four levels of criticality defined by CBA respectively:

1) Minor impact: when such impact is equal to or below R$ 45 MM; if the Company has adverse exposure without repercussions in the press or social media; events of incidents with low environmental impact; injury or clinical accidents in which treatment takes place at laboratory level or incident events; unscheduled reduction of operations; public opposition restricted to local and/or employee complaints; impact on social dynamics with minimal changes in way of life and/or warnings due to non-compliance with law.

2) Moderate impact: when financial impact is between R$45MM and R$90MM; if the company receives adverse exposure in the local press and/or isolated adverse posts in social media (including by employees); significant environmental impact with low investment for recovery; injury or clinical conditions requiring medical follow-up and with no potential to become chronic, with ability to work in the same activity maintained; unscheduled stoppage of operations; conflict with communities and/or public entities; impact on social dynamics with reversible changes in way of life and/or administrative assessment with penalty of fine.

3) Major impact: when financial impact is between R$ 90MM and R$180MM; if the company receives negative exposure in the regional press, posts in social networks by influencers in isolation; environmental impact of great magnitude with high cost for recovery and reversible damage to species, habitat and ecosystems; injury or clinical conditions, whose treatment necessitates medical attention and/or follow-up, with partial and temporary restriction of exercise of the activity; temporary interruption of operation conflict with communities and/or public entities resulting in difficulties for operations and significant impact on social dynamics, with large and ongoing changes in way of life and/or initiation of civil inquiry; Litigation (such as: labor claims, collective collection actions, etc.).

4) Extreme impact: when financial impact is greater than R$ 180MM; if the company receives adverse exposure to a critical customer or supplier or adverse repercussion in the domestic or international press; if there is environmental impact of great magnitude with financial unfeasibility in reverting damage to species, habitat and ecosystems; if there are fatalities, clinical conditions or partial or total physical disability, preventing the exercise of activities (disability); a possible stoppage of the operation; association with child labor and/or slavery, including partners and suppliers, relevant conflict with communities and/or public entities capable of interrupting operations and/or significant impact on social dynamics, with permanent or lasting changes in the way of life; and/or temporary or definite suspension of operations; Criminal offense; Public Civil Action or Public Action against the company; Judicial or administrative decision with an impact on the business structure. Signing conduct adjustment pledges or non-compliance documents.

CBA considers an impact as a substantial financial or strategic impact on its business when classified as either major or extreme, based on the nature, as mentioned above. nature, as mentioned above.

W4.1b

(W4.1b) Qual é o número total de instalações expostas a riscos hídricos com potencial para causar um impacto financeiro ou estratégico significativo nos negócios, e que proporção das instalações da empresa como um todo isso representa?

	Número total de instalações expostas a riscos hídricos	Porcentagem das instalações da empresa como um todo que isso representa	Explique
Linha 1	5	76-99	In 2022, the mining areas in Miraí, MG and Poços de Caldas, GO utilized a total of 57.74 megaliters of water to produce 1,059,212.86 tons of processed bauxite. The plant in Alumínio, SP, consumed 2,182 megaliters of water to produce 347,500.79 tons of molten aluminum. The Metalex plant in Araçariguama, SP, utilized 38.7 megaliters of water to produce 61,666 tons of billets and the Itapissuma plant, PE, used 236.79 m³ of water to produce 39,631 tons of downstream products. Therefore, the total water required for the direct aluminum operations in 2022 was 2,657.15 megaliters. Proportionally, mining accounted for 2.75% of the total water usage, Metalex represented 1.52%, Itapissuma accounted for 9.33% and the remaining majority (85.96%) was attributed to the Alumínio, SP site. The Niquelândia, GO plant is currently not in production but still has an active dam, which is considered for its associated risks. During their climate adaptation study carried out in 2021, CBA examined different water-related risks. These risks encompassed factors such as decreased rainfall, water stress, potential impacts on electricity generation (as CBA relies solely on hydropower plants for energy) and the possibility of dam failures, among other considerations. While they identified and assessed these risks, not all of them were deemed to have substantial financial or business implications. For this response, only significant impacts were considered: 1) Alumínio/SP: Dam failure, water restrictions and energy shortages; 2) Itapissuma/PE: Energy shortages and water restrictions; 3) Miraí/MG: Dam failure; 4) Itamarati de Minas/MG: Dam failure; 5) Niquelândia/GO: Dam failure.

W4.1c

(W4.1c) Qual é o número e a proporção por bacia hidrográfica de instalações expostas a riscos hídricos que podem ter um impacto financeiro ou estratégico considerável para os negócios, e qual é o potencial impacto nos negócios associado a essas instalações?

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Tietê 2)

Número de instalações expostas a riscos hídricos
1

Porcentagem das instalações da empresa como um todo que isso representa
76-99

Valor de produção para as atividades de metais e mineração associadas a essas instalações
347500.79

Porcentagem da geração de eletricidade anual da empresa que poderá ser afetada por essas instalações
<Not Applicable>

Porcentagem do volume global de produção de petróleo e gás da empresa que poderá ser afetada por essas instalações
<Not Applicable>

Porcentagem da receita global total da empresa que poderá ser afetada
1-10

Explique
The identified financial risks were documented in the company's "Risk Sheets" files, which encompass all types of risks, including those related to water. Only risks associated with some form of water-related issues, such as direct or indirect water scarcity for production or contamination due to dam failure, were considered in the assessment. Within the same file, the financial impact of each risk is evaluated, with varying levels of severity determining the potential impact on the company. As disclosed in the 2022 annual report, CBA posted net revenue of R$8.8 billion.
To illustrate the significance of each unit, the percentages shown are calculated based on the company's total water withdrawal in 2022. Since our facilities have different processes and impacts, CBA determined that assessing the proportion based on water needs would be the most effective way to explain the importance of each unit. Detailed information regarding the income generated by each unit cannot be disclosed due to confidentiality reasons. However, the recorded percentage values indicate whether the risk affected the company's entire gross revenues for 2022. The plotting of risks plays a crucial role in determining the prioritization of investments, both in terms of capital expenditures (CAPEX) and operational expenses (OPEX), to mitigate risks within the company.
In the Tietê 2 river basin, only one unit - Alumínio/SP - exhibited risks considered significant. This unit holds immeasurable importance to CBA, as it is the company's sole facility with the Smelters stage. In these rooms, anodic paste composed of pitch and coke, aluminum fluoride and the electrolytic bath are added to the aluminum furnaces. Through the electrolytic reduction process that takes place in Soderberg-type furnaces, alumina is transformed into molten aluminum, which is then transported by trucks to various areas of the Casthouse.
The mapped risks for the Alumínio/SP unit are related to the risk of industrial waste dam failures, restrictions on water usage and availability and power shortages (also stemming from water scarcity for hydroelectric power generation). Considering all three mapped risks, the financial impact would be around 5.4%.

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Brazilian East Atlantic Coast)

Número de instalações expostas a riscos hídricos
1

Porcentagem das instalações da empresa como um todo que isso representa
1-25

Valor de produção para as atividades de metais e mineração associadas a essas instalações
39631

Porcentagem da geração de eletricidade anual da empresa que poderá ser afetada por essas instalações
<Not Applicable>

Porcentagem do volume global de produção de petróleo e gás da empresa que poderá ser afetada por essas instalações
<Not Applicable>

Porcentagem da receita global total da empresa que poderá ser afetada
1-10

Explique
The identified financial risks were documented in the company's "Risk Sheets" files, which encompass all types of risks, including those related to water. Only risks associated with some form of water-related issues, such as direct or indirect water scarcity for production or contamination due to dam failure, were considered in the assessment. Within the same file, the financial impact of each risk is evaluated, with varying levels of severity determining the potential impact on the company. As disclosed in the 2022 annual report, CBA posted net revenue of R$8.8 billion.
To illustrate the significance of each unit, the percentages shown are calculated based on the company's total water withdrawal in 2022. Since our facilities have different processes and impacts, CBA determined that assessing the proportion based on water needs would be the most effective way to explain the importance of each unit. Detailed information regarding the income generated by each unit cannot be disclosed due to confidentiality reasons. However, the recorded percentage values indicate whether the risk affected the company's entire gross revenues for 2022. The plotting of risks plays a crucial role in determining the prioritization of investments, both in terms of capital expenditures (CAPEX) and operational expenses (OPEX), to mitigate risks within the company.
CBA's products are manufactured to fulfill the precise specifications of customers. The design of the products, including their geometry, alloy and heat treatment, is tailored to suit the specific application and critical requirements. These requirements further influence factors such as chemical composition, mechanical properties, and processing methods. CBA's Alumínio/SP plant is responsible for producing a comprehensive selection of extruded and rolled products, while the Itapissuma/PE operation focuses specifically on rolled products (foils and sheets).
In the Brazilian East Atlantic Coast river basin, only one unit - Itapissuma/PE - was found to have significant risks. The identified risks for the Itapissuma/PE plant are associated with restrictions on water usage and availability, particularly due to its location in an area prone to water stress and regarding power shortages, which can be attributed to water scarcity affecting hydroelectric power generation. Considering both risks, the financial impact would be around 2.5%.

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Muriae)

Número de instalações expostas a riscos hídricos
1

Porcentagem das instalações da empresa como um todo que isso representa
Menos de 1%

Valor de produção para as atividades de metais e mineração associadas a essas instalações
700539

Porcentagem da geração de eletricidade anual da empresa que poderá ser afetada por essas instalações
<Not Applicable>

Porcentagem do volume global de produção de petróleo e gás da empresa que poderá ser afetada por essas instalações
<Not Applicable>

Porcentagem da receita global total da empresa que poderá ser afetada
1-10

Explique
The identified financial risks were documented in the company's "Risk Sheets" files, which encompass all types of risks, including those related to water. Only risks associated with some form of water-related issues, such as direct or indirect water scarcity for production or contamination due to dam failure, were considered in the assessment. Within the same file, the financial impact of each risk is evaluated, with varying levels of severity determining the potential impact on the company. As disclosed in the 2022 annual report, CBA posted net revenue of R$8.8 billion.
To illustrate the significance of each unit, the percentages shown are calculated based on the company's total water withdrawal in 2022. Since our facilities have different processes and impacts, CBA determined that assessing the proportion based on water needs would be the most effective way to explain the importance of each unit. Detailed information regarding the income generated by each unit cannot be disclosed due to confidentiality reasons. However, the recorded percentage values indicate whether the risk affected the company's entire gross revenues for 2022. The plotting of risks plays a crucial role in determining the prioritization of investments, both in terms of capital expenditures (CAPEX) and operational expenses (OPEX), to mitigate risks within the company.
The Miraí/MG plant is the only active unit located in the Muriaé river basin. In this unit, both the extraction and beneficiation of bauxite are carried out and only one risk related to tailing dam failures was identified as significant. This unit represents only 0.72% of the water intake. The estimated financial impact of the risk represents only 2% of CBA's net revenue in 2022.

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Pomba)

Número de instalações expostas a riscos hídricos
1

Porcentagem das instalações da empresa como um todo que isso representa
Menos de 1%

Valor de produção para as atividades de metais e mineração associadas a essas instalações
0

Porcentagem da geração de eletricidade anual da empresa que poderá ser afetada por essas instalações
<Not Applicable>

Porcentagem do volume global de produção de petróleo e gás da empresa que poderá ser afetada por essas instalações
<Not Applicable>

Porcentagem da receita global total da empresa que poderá ser afetada
1-10

Explique
The identified financial risks were documented in the company's "Risk Sheets" files, which encompass all types of risks, including those related to water. Only risks associated with some form of water-related issues, such as direct or indirect water scarcity for production or contamination due to dam failure, were considered in the assessment. Within the same file, the financial impact of each risk is evaluated, with varying levels of severity determining the potential impact on the company. As disclosed in the 2022 annual report, CBA posted net revenue of R$8.8 billion.
To illustrate the significance of each unit, the percentages shown are calculated based on the company's total water withdrawal in 2022. Since our facilities have different processes and impacts, CBA determined that assessing the proportion based on water needs would be the most effective way to explain the importance of each unit. Detailed information regarding the income generated by each unit cannot be disclosed due to confidentiality reasons. However, the recorded percentage values indicate whether the risk affected the company's entire gross revenues for 2022. The plotting of risks plays a crucial role in determining the prioritization of investments, both in terms of capital expenditures (CAPEX) and operational expenses (OPEX), to mitigate risks within the company.
The unit located in the Pomba river basin - Itamarati de Minas/MG - has suspended its extraction and beneficiation activities since 2020. Two risks related to dam failures were identified as significant for this unit, with one being for its water storage dam and another for its tailing dam. The estimated financial impact of both risks represents about 4% of CBA's net revenue in 2022.

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Tocantinzinho)

Número de instalações expostas a riscos hídricos
1

Porcentagem das instalações da empresa como um todo que isso representa
1-25

Valor de produção para as atividades de metais e mineração associadas a essas instalações
0

Porcentagem da geração de eletricidade anual da empresa que poderá ser afetada por essas instalações
<Not Applicable>

Porcentagem do volume global de produção de petróleo e gás da empresa que poderá ser afetada por essas instalações
<Not Applicable>

Porcentagem da receita global total da empresa que poderá ser afetada
1-10

Explique
The identified financial risks were documented in the company's "Risk Sheets" files, which encompass all types of risks, including those related to water. Only risks associated with some form of water-related issues, such as direct or indirect water scarcity for production or contamination due to dam failure, were considered in the assessment. Within the same file, the financial impact of each risk is evaluated, with varying levels of severity determining the potential impact on the company. As disclosed in the 2022 annual report, CBA posted net revenue of R$8.8 billion.
To illustrate the significance of each unit, the percentages shown are calculated based on the company's total water withdrawal in 2022. Since our facilities have different processes and impacts, CBA determined that assessing the proportion based on water needs would be the most effective way to explain the importance of each unit. Detailed information regarding the income generated by each unit cannot be disclosed due to confidentiality reasons. However, the recorded percentage values indicate whether the risk affected the company's entire gross revenues for 2022. The plotting of risks plays a crucial role in determining the prioritization of investments, both in terms of capital expenditures (CAPEX) and operational expenses (OPEX), to mitigate risks within the company.
The unit located in the Tocantinzinho river basin – Niquelândia/GO - has been shut down since 2021, but despite this there are two risks related to dam failures identified as significant for this unit, with one being for its water storage dam and another for its industrial waste dam. The estimated financial impact of both risks represents about 4% of CBA's net revenue in 2022.

W4.2

(W4.2) Forneça detalhes sobre os riscos identificados nas operações diretas da organização com potencial para causar um impacto financeiro ou estratégico significativo nos seus negócios e sobre sua resposta a esses riscos.

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Tietê 2)

Tipo de risco e Principal fator de risco

Físico crônico	Estresse hídrico

Principal impacto potencial
Redução ou interrupção da capacidade produtiva

Descrição específica da empresa
In the Alumínio (SP) production unit, CBA operates an integrated plant encompassing all stages of the aluminum production chain. Water is currently utilized in several crucial stages, including the refinery stage for raw material digestion, the smelter stage for gas treatment and the casthouse and downstream stages for product cooling. It plays an indispensable role in the aluminum production process. However, as climate change kicks in, projections indicate the potential reduction in rainfall and increased hydro stress in water basins.
To address these concerns, CBA has conducted climate projections for all its units involved in the aluminum business. The objective is to obtain valuable insights and develop an action plan that enhances CBA's climate resilience. Considering the anticipated changes in rainfall patterns, our units face the risk of water shortages, which could have adverse effects on our production capabilities and subsequently impact our revenues. In the projections held by CBA, as a result, some changes may be seen in weather patterns for the coming decades:
1) Rainfall may decline as much as 10%;
2) The risk of drought will increase to a medium-high level;
3) Seasonal variability will increase in all units;
4) There may be an increase in minimum and maximum temperatures of as much as 10%;
5) Heavy rains may increase by as much as 20% in two regions evaluated by the company.

Prazo
De hoje até um ano

Magnitude do potencial impacto
Alta

Probabilidade
Improvável

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

Valor do potencial impacto financeiro (moeda)
64000000

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

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

Explicação do impacto financeiro
To measure this financial impact, we assumed CBA would lack water for six months, in a way that would shut down 100% of its operations. The company would hence have a reduced sales volume during this period, with sales only of the company's inventories. In a possible scenario of production stoppage, the company would have reduced costs with raw material purchases for the production process, including electricity, currently supplied to us largely by company plants; thus, in a stoppage scenario this electricity generated could be marketed to reduce the financial impacts created by the lack of production. Calculation of the indicator: Result (R$64,000,000) = Reduction in revenue from aluminum sales (RR) – Sale of inventories (SI) – Sale of Energy (SE) – Reduction of costs in purchases of raw materials (RCPRM).

Principal resposta ao risco
Adotar práticas de eficiência, reutilização, reciclagem e conservação da água

Descrição da resposta
In addition to cost-free and more operational actions, water use and treatment management, CBA has projects in progress to minimize impacts of water shortages in the region, such as continuous improvement of the closed-loop system, smelter technology upgrade, the Filter Press project, among others.

Custo da resposta
274000000

Explicação do custo da resposta
The figures presented are a combination of the investments made in 2021 and the approved budget for the year 2022, with approximately 12% being carried out in 2021, although some projects take more than two years to be fully completed. In addition, we also consider the values presented as estimates, as they may be altered by several unmapped factors. The largest investment made totals R$ 180 million distributed in the years 2021 and 2022 and is the Filter Press project, which will bring a positive result in the removal of water from the tailings of the dams, and which will be reused in specific areas of the Aluminum Plant/SP. In this project, of the investment made in 2021 (R$ 147.5MM), 38% was allocated to the purchase of domestic and imported machinery, 26% for civil services, 24% for electromechanical services and the remaining 12% went to other costs.
Next, we have the modernization of the pot room technology representing 23.7% of the total investment in the two years and which will avoid the consumption of water for the treatment of atmospheric emissions. In the last 3 years, 72 pilot pots were installed to learn the new technology and only in 2021 we had an R&D investment of over R$14 million. The remaining is divided into smaller projects that will benefit both energy self-sufficiency and the reduction of water consumption, being projects for solar energy generation, recycling of flexible packaging, evaluations, and improvements for the closed-loop project at the plant, among others.

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Tietê 2)

Tipo de risco e Principal fator de risco

Físico crônico	Dependência de fontes de energia com uso intenso de água

Principal impacto potencial
Redução ou interrupção da capacidade produtiva

Descrição específica da empresa
In the Alumínio (SP) production unit, CBA operates an integrated plant encompassing all stages of the aluminum production chain. Water is currently utilized in several crucial stages, including the refinery stage for raw material digestion, the smelter stage for gas treatment and the casthouse and downstream stages for product cooling. It plays an indispensable role in the aluminum production process. However, as climate change kicks in, projections indicate the potential reduction in rainfall and increased hydro stress in water basins.
To address these concerns, CBA has conducted climate projections for all its units involved in the aluminum business. The objective is to obtain valuable insights and develop an action plan that enhances CBA's climate resilience. Considering the anticipated changes in rainfall patterns, our units face the risk of water shortages, which could have adverse effects on our production capabilities and subsequently impact our revenues. In the projections held by CBA, as a result, some changes may be seen in weather patterns for the coming decades:
1) Rainfall may decline as much as 10%;
2) The risk of drought will increase to a medium-high level;
3) Seasonal variability will increase in all units;
4) There may be an increase in minimum and maximum temperatures of as much as 10%;
5) Heavy rains may increase by as much as 20% in two regions evaluated by the company.

Prazo
De hoje até um ano

Magnitude do potencial impacto
Alta

Probabilidade
Improvável

É possível fornecer 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)
5000000

Valor do potencial impacto financeiro – máximo (moeda)
120000000

Explicação do impacto financeiro
Financial impact was evaluated considering failures or interruptions in generation of electricity in company hydropower plants, requiring the purchase of energy directly from the grid. For this risk three different scenarios were evaluated:
1) Partial purchases required due to supply failures;
2) Need to purchase in larger quantities due to stoppage at the Juquiá Complex operation;
3) Total purchases required due to stoppage at all hydropower plants. The impact rationale was projected considering the ceiling market price of energy in case of a need to purchase exposure energy, which is the difference between energy received from external sources minus energy generated by our hydropower plants. In the estimated range, the highest cost would refer to scenario 3 and the lowest value would be in scenario 1. Internally, the risk assessment considered that the chances of scenario 3 (most catastrophic) are very remote.

Principal resposta ao risco
Outro, especifique (Search for new alternatives for obtaining electricity)

Descrição da resposta
CBA is constantly seeking to improve in all its businesses and one of the alternatives to avoid electricity supply failure or interruption for the company's main plant was the

search for new supply alternatives.

Custo da resposta
60000000

Explicação do custo da resposta
CBA understood the importance of seeking new alternatives for the supply of electricity and therefore acquired two windmill farms in the Northeast of Brazil for a total of R$59.56 million. In addition, the Company has already made and will continue to make investments in building solar plants within its own facilities, such as in Alumínio/SP where a project has been approved for approximately R$500,000.00 between 2021 and 2022. Among the investments, 50% is earmarked for conceptual engineering of the project, 34.4% for the preparation of environmental impact studies and the remaining 15.6% for work management and contingency in case of need. The percentages may change until the end of the project, considering that they are estimates for the investment request.

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Brazilian East Atlantic Coast)

Tipo de risco e Principal fator de risco

Físico crônico	Estresse hídrico

Principal impacto potencial
Redução ou interrupção da capacidade produtiva

Descrição específica da empresa
At the Itapissuma rolling mill (PE), groundwater is extracted from deep wells to support various processes, including production, cooling towers, stacker operations, as well as for human consumption and general utilities. Prior to usage, all supplied water undergoes treatment. This facility generates four types of wastewaters: sewage, wastewater from the free phase oil remediation process, wastewater from the cooling towers, and additional wastewater from the production process, which is treated off-site. In 2022, water meters were installed specifically at the cooling towers to improve water consumption management practices.
In this unit, water is also utilized for equipment cooling through the cooling towers and for a specific stage of the process that involves a "bath" to remove oil from the product. Although the quantity is significantly less compared to the Alumínio/SP site, water remains essential for the production processes at Itapissuma/PE. However, projections indicate the possibility of reduced rainfall and increased hydro stress in water basins due to climate change aggravation. CBA has conducted climate projections for all its units in the aluminum business with the objective of obtaining results and developing an action plan to enhance CBA's climate resilience. The changing rainfall patterns expose the units to the risk of water shortages, which could potentially impact production and, consequently, revenue. In the climate projections conducted by CBA, changes in weather patterns for the coming decades have been identified, such as:
1) Rainfall may decline as much as 10%;
2) The risk of drought will increase to a medium-high figure;
3) Seasonal variability will increase in all units;
4) There may be an increase in minimum and maximum temperatures of as much as 10%;
5) Heavy rains may increase by as much as 20% in two regions evaluated by the company.

Prazo
De hoje até um ano

Magnitude do potencial impacto
Média

Probabilidade
Improvável

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

Valor do potencial impacto financeiro (moeda)
4375000

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

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

Explicação do impacto financeiro
To measure this financial impact, it was considered that CBA would lack water for six months, in a way that would shut down 100% of its operations. The company would hence have a reduced sales volume during this period, with sales only of the company's inventories. In a possible scenario of production stoppage, the company would have reduced costs with raw material purchases for the production process, including electricity, currently supplied to us largely by company plants, thus in a stoppage scenario this electricity generated could be marketed to reduce financial impacts created by the lack of production.
Calculation of indicator: Final result (R$4,375,000) = Reduction in revenue from aluminum sales (RR) – Sale of inventories (SI) – Sale of Electricity (SE) – Reduction of costs in purchases of raw materials (RCPRM).

Principal resposta ao risco
Adotar práticas de eficiência, reutilização, reciclagem e conservação da água

Descrição da resposta
As part of the action plan, activities to ensure meticulous water control need to comply with legislation (volume released from the license) were plotted, in addition to recurring maintenance activities to ensure the system’s functionality. In addition, alternatives are being studied, such as drilling a new well to source groundwater and a study and implementation of the closed loop system (already applied at the Alumínio/SP unit).

Custo da resposta
3500000

Explicação do custo da resposta
All the actions mentioned are part of the so-called "Water Crisis Contingency Plan" that encompassed various activities - from management to project implementation - and which began in 2021, but which still requires investments to complete some actions in 2022. Drilling a new water well in Itapissuma/PE was approved for the year 2022 under an investment budget of R$1.5 million.

W4.2a

(W4.2) Forneça detalhes dos riscos identificados nas operações diretas com potencial para causar um impacto financeiro ou estratégico considerável nos negócios e da resposta a esses riscos.

País/área e Bacia hidrográfica

Brasil	Não conhecido

Estágio da cadeia de valor
Cadeia de fornecimento

Tipo de risco e Principal fator de risco

Físico crônico	Estresse hídrico

Principal impacto potencial
Redução ou interrupção da capacidade produtiva

Descrição específica da empresa
In the Alumínio/SP production unit, CBA operates an integrated plant encompassing all stages of the aluminum production chain. Water is currently utilized in several crucial stages, including the refinery stage for raw material digestion, the smelter stage for gas treatment, and the casthouse and downstream stages for product cooling. It plays an indispensable role in the aluminium production process and in its essential inputs. At this site, CBA has an anode paste factory where inputs such as coal-tar pitch and petroleum coke are blended to form the anode paste, which is then cooked in the smelters, facilitating the reduction of alumina to obtain metallic aluminum. The quality of petroleum coke plays a crucial role in the production of anode paste and the subsequent aluminum manufacturing process. Key factors that highlight the impact of petroleum coke quality include carbon content, sulphur content, volatile matter, ash content, and particle size and distribution. Insufficient carbon content can reduce efficiency, while excessive sulphur content can increase anode consumption and reduce current efficiency. Higher volatile matter levels affect anode consumption and energy efficiency, while excessive ash content compromises aluminum quality. Additionally, particle size and distribution impact the density and uniformity of anode paste, directly influencing anode performance. Maintaining a consistent and high-quality supply of petroleum coke is essential for stable anode paste production and optimal aluminum production, ensuring efficient performance and overall aluminum quality. Water is used in different stages of the petroleum coke production process, such as coal washing, equipment cooling, temperature control during cooking, and cooling and handling of the coke.
In this regard, as an important, if not essential, input for petroleum coke production, the lack of water supply to the manufacturer, for any reason (such as water stress, regulatory demands, etc.), can lead to production disruptions.
Currently, CBA has only one approved supplier for purchasing petroleum coke. If this product is not available in the market, CBA will have to suspend or drastically minimize its production, as coke is crucial for anode paste manufacturing and the technology used in CBA's smelters requires the use of paste. Therefore, CBA considers the potential water shortage at the supplier as a significant risk that may impact its production and subsequent distribution.

Prazo
De hoje até um ano

Magnitude do potencial impacto
Alta

Probabilidade
Improvável

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

Valor do potencial impacto financeiro (moeda)
3970000

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

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

Explicação do impacto financeiro
The financial impact was evaluated based on the assumption that if the petroleum coke supplier is unable to supply the required amount of material, either partially or entirely, for the company's regular operations, it will be necessary to procure the material from alternative sources.
Currently, as the approved supplier is the sole provider of petroleum coke for CBA, the alternative solution would be importing anode paste as a finished product instead of buying coke and coal-tar pitch and manufacturing the anode paste at the Alumínio/SP facility.
The financial impact was calculated based on the difference between the current cost of purchasing petroleum coke and coal tar pitch inputs for anode paste production at the Alumínio/SP unit and the worst-case scenario of importing all the required anode paste for liquid aluminum production. This scenario significantly increases the cost for CBA.

Principal resposta ao risco

Upstream	Diversificar os fornecedores

Descrição da resposta
Considering the increased risk of water shortages, as indicated by CBA's climate projections, and exacerbated by the drought period experienced by Brazil in 2021 and 2022, CBA has developed an action plan to better cope with potential petroleum coke shortages in the market and ensure enough anode paste in its Alumínio/SP site to maintain liquid aluminium production as is expected. The plan includes the following measures:
1) Conducting a study on alternative imports and blending options in the event of a lack of domestic coke - finished in December 2022;
2) Developing alternative suppliers that are not exposed to water shortage risks and are able to meet CBA's demand - finished in December 2022;
3) Investing in storage and blending infrastructure at CBA to accommodate larger import quantities by December 2022;
4) Establishing a purchasing procedure for anode paste as a last resort, already implemented in 2021;

5) Upgrading the Anode Paste Factory, which aims to enhance the capacity of the paste plant, increasing it from 23.5 t/h to 29 t/h. This facility is responsible for supplying anode paste to CBA's smelter, with a coal-tar pitch content ranging from 29 to 33%. The expansion will not only enable the restart of currently curtailed smelters but also result in reduced anode paste consumption and improved operational stability.
These measures aim to mitigate the potential risks associated with petroleum coke availability due to lack of water at CBA's supplier's plant and ensure a stable production of anode paste for CBA's operations.

Custo da resposta
96000000

Explicação do custo da resposta
Part of the actions, such as seeking new suppliers and establishing an importation procedure for anode paste, will not incur costs for the company. The cost mentioned specifically relates to the upgrade of the existing Anode Paste Factory at Alumínio/SP, aimed at increasing the installed production capacity from 23.5 tons per hour to 29 tons per hour. The cost breakdown for the project is as follows: 55.6% for the acquisition of equipment and machinery (both national and international), 17.2% for civil, electromechanical, and IT services, 17.1% for other general costs, 4.4% for management and engineering activities, and the remaining 5.7% allocated as contingency to account for potential cost changes or unforeseen needs. Please note that these percentages are subject to change until the completion of the project, as they are estimates for the investment request.

País/área e Bacia hidrográfica

Brasil	Não conhecido

Estágio da cadeia de valor
Cadeia de fornecimento

Tipo de risco e Principal fator de risco

Físico crônico	Estresse hídrico

Principal impacto potencial
Redução ou interrupção da capacidade produtiva

Descrição específica da empresa
In the Alumínio/SP production unit, CBA operates an integrated plant encompassing all stages of the aluminum production chain. Water is currently utilized in several crucial stages, including the refinery stage for raw material digestion, the smelter stage for gas treatment, and the casthouse and downstream stages for product cooling. It plays an indispensable role in the aluminium production process and in its essential inputs. At this site, CBA has an anode paste factory where inputs such as coal-tar pitch and petroleum coke are blended to form the anode paste, which is then cooked in the smelters, facilitating the reduction of alumina to obtain metallic aluminum. The quality of coal-tar pitch significantly impacts anode paste production and, consequently, the aluminum production process. The carbon content affects electrical conductivity, volatile matter influences porosity and gas evolution, binder properties affect paste stability, impurities can lead to increased consumption and reduced efficiency, and homogeneity ensures uniform paste composition. Maintaining a consistent and high-quality supply of coal-tar pitch is essential for stable and efficient anode paste production. Water plays a vital role in various stages of the coal-tar pitch manufacturing process, such as distillation, filtration, fractional distillation, and cooling. During distillation, water aids in separating the coal tar from solid coke residue. In the filtration stage, water is used to remove impurities. In fractional distillation, water helps control temperature and facilitates the separation of different fractions and it's used in the cooling stage to rapidly cool the heated pitch, enabling its solidification for easier handling and storage. In this regard, as an important, if not essential, input for coal-tar pitch production, the lack of water supply to the manufacturer, for any reason (such as water stress, regulatory demands, etc.), can lead to production disruptions.
Currently, the company relies on only one approved supplier for petroleum coke. Any shortage of supply or reduction in the quality of this input directly affects CBA, as the aluminum production process is highly dependent on it. The consequences can range from a decrease in production capacity to a complete halt in operations if the input is insufficient or fails to meet CBA's minimum quality standards. This risk has been identified by mapping the possibility of water scarcity at the supplier's location.

Prazo
De hoje até um ano

Magnitude do potencial impacto
Alta

Probabilidade
Improvável

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

Valor do potencial impacto financeiro (moeda)
3970000

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

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

Explicação do impacto financeiro
The financial impact was evaluated based on the assumption that if the petroleum coke supplier is unable to supply the required amount of material, either partially or entirely, for the company's regular operations, it will be necessary to procure the material from alternative sources.
Currently, as the approved supplier is the sole provider of petroleum coke for CBA, the alternative solution would be importing anode paste as a finished product instead of buying coke and coal-tar pitch and manufacturing the anode paste at the Alumínio/SP facility.
The financial impact was calculated based on the difference between the current cost of purchasing petroleum coke and coal tar pitch inputs for anode paste production at the Alumínio/SP unit and the worst-case scenario of importing all the required anode paste for liquid aluminum production. This scenario significantly increases the cost for CBA.

Principal resposta ao risco

Upstream	Diversificar os fornecedores

Descrição da resposta
Considering the increased risk of water shortages, as indicated by CBA's climate projections, and exacerbated by the drought period experienced by Brazil in 2021 and 2022, CBA has developed an action plan to better cope with potential coal-tar pitch shortages in the market and ensure enough anode paste in its Alumínio/SP site to maintain liquid aluminium production as is expected. The plan includes the following measures:
1) Coal-tar pitch melting plant enabling the expansion of the acquisition of imported pitch, with higher quality and lower melting cost, completed by April/22;
2) Developing alternative suppliers that are not exposed to water shortage risks and are able to meet CBA's demand - finished in December 2022;
3) Investing in storage rooms so that CBA can have enough room for 20 days of production (action already implemented);
4) Monthly monitoring of coal-tar pitch quality from national suppliers (action already implemented).
5) Upgrading the Anode Paste Factory, which aims to enhance the capacity of the paste plant, increasing it from 23.5 t/h to 29 t/h. This facility is responsible for supplying anode paste to all smelters within the organization, with a coal-tar pitch content ranging from 29 to 33%. The expansion will not only enable the restart of currently curtailed smelters but also result in reduced anode paste consumption and improved operational stability.
These measures aim to mitigate the potential risks associated with coal-tar pitch availability due to lack of water at CBA's supplier's plant and ensure a stable production of anode paste for CBA's operations.

Custo da resposta
96000000

Explicação do custo da resposta
Most of the actions identified by the company do not entail implementation costs and have already been promptly executed, such as monthly product quality monitoring and increasing stock levels using available storage space. The mentioned cost estimate includes the construction of infrastructure within the existing anode paste factory at the Alumínio/SP plant for melting coal-tar pitch. The primary objective of this project is to enhance CBA's access to this critical input. Currently, liquid coal-tar pitch is scarce in the market, and when the company procures solid coal-tar pitch, it necessitates hiring a service to melt the material and deliver it by truck. By establishing an area and acquiring equipment for internal melting, the risk of material shortage will be virtually eliminated. The total cost breakdown comprises 49.4% for the purchase of national equipment, 18% for civil construction, 14% for electromechanical assembly, 12% for procuring installation materials, 1.6% for consulting and project management, and the remaining 5% as a contingency for unforeseen circumstances. The percentages may be subject to change as they represent estimates for the investment request.

W4.3

(W4.3) Foi identificada alguma oportunidade relacionada à água com potencial para causar um impacto financeiro ou estratégico significativo nos negócios?
Sim, identificamos oportunidades, e algumas/todas estão sendo realizadas

W4.3a

(W4.3a) Forneça detalhes das oportunidades que estão sendo realizadas no momento e que podem causar um impacto financeiro ou estratégico significativo para os negócios.

Tipo de oportunidade
Eficiência

Principal oportunidade relacionada à água
Melhor eficiência hídrica nas operações

Descrição e estratégia específicas da empresa para realizar a oportunidade
More than twenty years ago, CBA identified the opportunity to use recycled water in some of its production stages that had high-water consumption. This initiative aimed to significantly reduce the company's negative impact on the surrounding community while increasing the water availability in the region for the population's supply. That's why the closed-loop system was implemented in 2002 as part of the water resilience project, aimed to treat effluents, harvest rainwater, and recirculate the water solely for industrial purposes.
In 2020, when developing its 2030 ESG Strategy, CBA set a goal to reduce the consumption of new water per ton of molten aluminum produced at the Integrated Aluminum Factory in Alumínio/SP by 2030. This plant accounts for 82% of CBA's annual water consumption. Since 2019, this key performance indicator (KPI) has already decreased by 17.2% until December 2022. Furthermore, all water used for production processes at this unit is already treated and internally reused, eliminating any external discharge. The current objective is to expand the reuse of treated water in additional processes that still rely on new potable water, and it does not have a timescale set up as it is expected to always be monitored and worked on new attributes, to increase its efficiency. Conceptual work has begun to assess and propose improvements to increase the potential for water recirculation within this system.
In 2022, 3,943 megaliters were reused at the Alumínio/SP unit. This project is of great significance to the company, as it reduces CBA's external dependence on water and, therefore, reduces its impact on society. By identifying more processes that can utilize recycled water, the company's need for water withdrawal decreases, ultimately contributing to increased water availability in the region for the benefit of society.
Additionally, with CBA's smelter technology upgrade project which, by replacing the current alumina feeding system in the smelters, will make the wet gas treatment system unnecessary, resulting in an expected reduction of 3.6 million cubic meters of water annually. In 2022, the Board of Directors approved the start of upgrade work at Pot Room 5, which will install the new point feeder system across all pots by 2025, in a total investment of R$ 620 million.

Prazo estimado para a realização
4 a 6 anos

Magnitude do potencial impacto financeiro
Baixa

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

Valor do potencial impacto financeiro (moeda)
68795.58

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

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

Explicação do impacto financeiro
CBA's closed-loop system (water resilience project) was not created with the aim of financial return. It was designed to prioritize water availability for the Alumínio/SP plant

and the environmental benefits that a reduction in freshwater withdrawal and consumption would bring to the surrounding community. The project has been in place for 20 years and opportunities for improvement are evaluated annually to enhance water recirculation efficiency. The financial impact mentioned relates to the cost savings from treating both drinking water (R$1.33/m³) and industrial water (R$1.79/m³) at the unit.
In 2022, in addition to projects already underway, an initiative at the Alumínio/SP unit brought significant gains in terms of reducing water consumption. This project was designed to recover clean condensate at the alumina refinery stage and was implemented to reduce the consumption of new drinking water in the area. With this project, there was a reduction in consumption of 51,726.00 m³ of drinking water. This led to an estimated annual cost savings of R$68,795.58 (Results = 51,726m³ * R$1.33).
The closed-loop system is continuously evaluated through collaborations with specialized companies to explore new opportunities within the existing system.

Tipo de oportunidade
Eficiência

Principal oportunidade relacionada à água
Melhor eficiência hídrica nas operações

Descrição e estratégia específicas da empresa para realizar a oportunidade
There is a project in progress at CBA aiming to reduce the humidity of waste disposed of in the Palmital dam at the Alumínio/SP unit, from 55% to 25% of water in tailings. To this end, Filter Presses will be installed to remove this liquid fraction before discharge in the dam, also giving rise to a possible 20-year increase in the dam's useful life. For disposal of dry waste to start in 2024 - planning according to schedule, new technology was implemented allowing water stored in the reservoir to be reused by the Refinery, reducing the need for inputs and water in the process.

Prazo estimado para a realização
4 a 6 anos

Magnitude do potencial impacto financeiro
Alta

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

Valor do potencial impacto financeiro (moeda)
31795206.6

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

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

Explicação do impacto financeiro
Approximately 94% of the entire project's estimated gain comes from reducing the consumption of caustic soda in the alumina refinery stage of the integrated unit in Alumínio/SP. The liquid layer of the tailing's sludge is essentially caustic and, with greater removal of this liquid and subsequent reuse (keeping the tailings with only 25% humidity), the consumption of virgin caustic soda can be minimized. It is estimated to reduce 1.43t/h of caustic soda and the purchase price used is R$2,399.74/ton and therefore we have Result = 1.43 t/h * 24h * 365days * R$2,399.74/t = R $30,061,063.00. Furthermore, with the installation of the three filter-press equipment included in this project, it will be possible to reduce the concentration of alumina in the tailings from 13.6 g/L to 4.5 g/L. This recovered mass will be reintroduced at the beginning of the aluminum manufacturing process and will accordingly increase the efficiency of the process. The rationale used for this was the reduction of alumina remaining in the tailings and a price of R$145.56/ton of bauxite based on the following: Result = 9.1 g/L * 24h * 365days * R$145.56/t = R$ 30,061,063.00.
The last opportunity mapped, but still without financial gain calculated, is the sale of solid tailings. Tests have already been carried out for new applications on a pilot scale and laboratory tests that prove the technical feasibility of the applications but are still in progress.

W5. Contabilização da água no nível das instalações

W5.1

(W5.1) Para cada instalação mencionada em W4.1c, dê as coordenadas, os dados de contabilização da água e uma comparação com o ano de reporte anterior.

Número de referência da instalação
Instalação 1

Nome da instalação (opcional)
Alumínio/SP - Refinery, Smelters, Casting and Transformation aluminum plant

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Tietê 2)

Latitude
-23.535007

Longitude
-47.261304

Localizada em área de estresse hídrico
Não

Fonte principal para a geração de eletricidade nesta instalação
<Not Applicable>

Divisão de negócios do setor de petróleo e gás
<Not Applicable>

Total de captação de água nesta instalação (megalitros/ano)
2182

Comparação da captação total com o ano de referência anterior
Igual

Captações de água doce de superfície, incluindo as águas da chuva, brejos, rios e lagos
1785

Captação de água salobra de superfície/água do mar
0

Captação de águas subterrâneas - renovável
397

Captação de água subterrânea - não-renovável
0

Captação de água produzida/arrastada
0

Captação de fontes terceirizadas
0

Total de descargas de água nesta instalação (megalitros/ano)
0

Comparação da descarga total com o ano de referência anterior
Igual

Descargas em água doce superficial
0

Descargas em água salobra de superfície/água do mar
0

Descargas em águas subterrâneas
0

Descargas em destinos terceirizados
0

Total de água consumida nesta instalação (megalitros/ano)
2182

Comparação do consumo total com o ano de reporte anterior
Igual

Explique
At the Alumínio/SP unit, CBA has a closed loop water system, which involves treating all water sources, including surface and underground withdrawals, at its Effluent Treatment Plant. The treated water is subsequently reused in areas where the use of potable water is not mandatory. Within this system, all effluent generated at the unit, including from bathrooms and administrative areas, undergoes treatment and is classified as industrial water. It is then reintroduced into the process in mapped and approved areas. Through all its activities, CBA strives to minimize their impact on water resources while ensuring sustainable operations at the Alumínio/SP unit.
Water consumption volume is determined by subtracting the volume of water discharged from the volume of water withdrawn, which is monitored through water meters installed at the site. Following the criteria established in this report for comparisons with previous years, variations of up to 10% are considered "equal," between 10% and 25% are considered "higher" or "lower," and above this threshold are considered "much higher" or "much lower."
In 2021, CBA conducted a study using the WRI Aqueduct and WWF Water Risk Filter tools to identify areas within the company that experienced water stress using the parameters based on the tool's baseline's results (year 2019), considering Medium-High and High as areas with water stress and Alumínio/SP has a Low-Medium risk. This study was reviewed in 2022 and the result was the same.

Número de referência da instalação
Instalação 2

Nome da instalação (opcional)
Itapissuma/PE - Casting and Transformation aluminum plant

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Brazilian East Atlantic Coast)

Latitude
-7.797339

Longitude
-34.905503

Localizada em área de estresse hídrico
Sim

Fonte principal para a geração de eletricidade nesta instalação
<Not Applicable>

Divisão de negócios do setor de petróleo e gás
<Not Applicable>

Total de captação de água nesta instalação (megalitros/ano)
236.79

Comparação da captação total com o ano de referência anterior
Igual

Captações de água doce de superfície, incluindo as águas da chuva, brejos, rios e lagos
0

Captação de água salobra de superfície/água do mar
0

Captação de águas subterrâneas - renovável
236.79

Captação de água subterrânea - não-renovável
0

Captação de água produzida/arrastada
0

Captação de fontes terceirizadas
0

Total de descargas de água nesta instalação (megalitros/ano)
167.69

Comparação da descarga total com o ano de referência anterior
Igual

Descargas em água doce superficial
167.69

Descargas em água salobra de superfície/água do mar
0

Descargas em águas subterrâneas
0

Descargas em destinos terceirizados
0

Total de água consumida nesta instalação (megalitros/ano)
69.1

Comparação do consumo total com o ano de reporte anterior
Igual

Explique
Water consumption volume is determined by subtracting the volume of water discharged from the volume of water withdrawn, which is monitored through water meters installed at the site. Following the criteria established in this report for comparisons with previous years, variations of up to 10% are considered "equal," between 10% and 25% are considered "higher" or "lower," and above this threshold are considered "much higher" or "much lower."
In 2021, CBA conducted a study using the WRI Aqueduct and WWF Water Risk Filter tools to identify areas within the company that experienced water stress. The parameters used for this identification were based on the tool's baseline's results (year 2019), considering Medium-High and High as areas with water stress and Itapissuma/PE was mapped as having a Medium-High risk. This study was reviewed in 2022 and the result was the same.

Número de referência da instalação
Instalação 3

Nome da instalação (opcional)
Miraí/MG - mining site

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Muriae)

Latitude
-21.058433

Longitude
-42.568312

Localizada em área de estresse hídrico
Não

Fonte principal para a geração de eletricidade nesta instalação
<Not Applicable>

Divisão de negócios do setor de petróleo e gás
<Not Applicable>

Total de captação de água nesta instalação (megalitros/ano)
18.3

Comparação da captação total com o ano de referência anterior
Maior

Captações de água doce de superfície, incluindo as águas da chuva, brejos, rios e lagos
9.94

Captação de água salobra de superfície/água do mar
0

Captação de águas subterrâneas - renovável
8.36

Captação de água subterrânea - não-renovável
0

Captação de água produzida/arrastada
0

Captação de fontes terceirizadas
0

Total de descargas de água nesta instalação (megalitros/ano)
16.63

Comparação da descarga total com o ano de referência anterior
Muito mais baixo

Descargas em água doce superficial
16.63

Descargas em água salobra de superfície/água do mar
0

Descargas em águas subterrâneas
0

Descargas em destinos terceirizados
0

Total de água consumida nesta instalação (megalitros/ano)
1.67

Comparação do consumo total com o ano de reporte anterior
Muito mais baixo

Explique
In 2021, the entire amount of water discharged from the reservoir of the Miraí unit was reported, without considering that a large part of that discharge was runoff (accumulated rainfall water simply discarded). For 2022, only the discharge of water after use (whether for bauxite processing or domestic uses) is being considered, according to the water balance conducted by those responsible for the topic at the unit. Due to this change in accounting and reporting, there is a significant disparity in the numbers reported in previous years.
Water consumption volume is determined by subtracting the volume of water discharged from the volume of water withdrawn, which is monitored through water meters installed at the site. Following the criteria established in this report for comparisons with previous years, variations of up to 10% are considered "equal," between 10% and 25% are considered "higher" or "lower," and above this threshold are considered "much higher" or "much lower."
In 2021, CBA conducted a study using the WRI Aqueduct and WWF Water Risk Filter tools to identify areas within the company that experienced water stress. The parameters used for this identification were based on the tool's baseline's results (year 2019), considering Medium-High and High as areas with water stress and Miraí/MG was mapped as having a Low-Medium risk. This study was reviewed in 2022 and the result was the same.

W5.1a

(W5.1a) Para as instalações mencionadas em W5.1, que proporção dos dados de contabilização da água foi verificada por terceiros?

Captação de água - volume total

Porcentagem verificada
76-100

Norma de verificação utilizada
All the data used in this report was verified by a third party during the verification process of the 2021 Annual Report. The verification was conducted in accordance with the GRI (Global Reporting Initiative) and SASB (Sustainability Accounting Standards Board) standards and audited in line with the ISAE 3000 Standard.
CBA also holds ISO 14001 certification and ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards in its units. These certifications and standards ensure that CBA follows internationally recognized practices and guidelines for environmental management and sustainability.

Explique
<Not Applicable>

Captação de água – volume por fonte

Porcentagem verificada
76-100

Norma de verificação utilizada
All the data used in this report was verified by a third party during the verification process of the 2021 Annual Report. The verification was conducted in accordance with the GRI (Global Reporting Initiative) and SASB (Sustainability Accounting Standards Board) standards and audited in line with the ISAE 3000 Standard.
CBA also holds ISO 14001 certification and ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards in its units. These certifications and standards ensure that CBA follows internationally recognized practices and guidelines for environmental management and sustainability.

Explique
<Not Applicable>

Captação de água – qualidade por parâmetro padrão de qualidade da água

Porcentagem verificada
76-100

Norma de verificação utilizada
All the data used in this report was independently assured during the assurance process of the 2021 Annual Report. The assurance was conducted in accordance with the GRI (Global Reporting Initiative) and SASB (Sustainability Accounting Standards Board) standards and audited in line with the ISAE 3000 Standard.
CBA also holds ISO 14001 certification and ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards in its units. These certifications and standards ensure that CBA follows internationally recognized practices and guidelines for environmental management and sustainability.
In terms of monitoring and compliance, CBA's program aligns with the legal parameters set by the CONAMA (Brazilian National Environment Council) Resolution 430/2011. This resolution establishes the conditions and standards for the discharge of effluents. Additionally, CBA's monitoring goes beyond regulatory requirements, as effluent sample analyses are carried out and reported to the relevant State Environmental Agencies.
CBA conducts continuous operational monitoring of effluent quality, which includes parameters such as pH, temperature, and dissolved oxygen. Daily monitoring also tests for parameters like COD (Chemical Oxygen Demand), color and suspended solids. Furthermore, CBA monitors various other parameters, including BOD (Biochemical Oxygen Demand), nitrogen, phosphorus, among others, to ensure comprehensive assessment and control of effluent quality.

Explique
<Not Applicable>

Descarga de água – volume total

Porcentagem verificada
76-100

Norma de verificação utilizada
All the data used in this report was verified by a third party during the verification process of the 2021 Annual Report. The verification was conducted in accordance with the GRI (Global Reporting Initiative) and SASB (Sustainability Accounting Standards Board) standards and audited in line with the ISAE 3000 Standard.
CBA also holds ISO 14001 certification and ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards in its units. These certifications and standards ensure that CBA follows internationally recognized practices and guidelines for environmental management and sustainability.

Explique
<Not Applicable>

Descarga de água – volume por destino

Porcentagem verificada
76-100

Norma de verificação utilizada
All the data used in this report was verified by a third party during the verification process of the 2021 Annual Report. The verification was conducted in accordance with the GRI (Global Reporting Initiative) and SASB (Sustainability Accounting Standards Board) standards and audited in line with the ISAE 3000 Standard.
CBA also holds ISO 14001 certification and ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards in its units. These certifications and standards ensure that CBA follows internationally recognized practices and guidelines for environmental management and sustainability.

Explique
<Not Applicable>

Descargas de água – volume por nível de tratamento final

Porcentagem verificada
76-100

Norma de verificação utilizada
All the data used in this report was verified by a third party during the verification process of the 2021 Annual Report. The verification was conducted in accordance with the GRI (Global Reporting Initiative) and SASB (Sustainability Accounting Standards Board) standards and audited in line with the ISAE 3000 Standard.
CBA also holds ISO 14001 certification and ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards in its units. These certifications and standards ensure that CBA follows internationally recognized practices and guidelines for environmental management and sustainability.

Explique
<Not Applicable>

Descargas de água – qualidade por parâmetros de qualidade da água padrão

Porcentagem verificada
76-100

Norma de verificação utilizada
All the data used in this report was verified by a third party during the verification process of the 2021 Annual Report. The verification was conducted in accordance with the GRI (Global Reporting Initiative) and SASB (Sustainability Accounting Standards Board) standards and audited in line with the ISAE 3000 Standard.
CBA also holds ISO 14001 certification and ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards in its units. These certifications and standards ensure that CBA follows internationally recognized practices and guidelines for environmental management and sustainability.
In terms of monitoring and compliance, CBA's program aligns with the legal parameters set by the CONAMA (Brazilian National Environment Council) Resolution 430/2011. This resolution establishes the conditions and standards for the discharge of effluents. Additionally, CBA's monitoring goes beyond regulatory requirements, as effluent sample analyses are carried out and reported to the relevant State Environmental Agencies.
CBA conducts continuous operational monitoring of effluent quality, which includes parameters such as pH, temperature, and dissolved oxygen. Daily monitoring also encompasses parameters like COD (Chemical Oxygen Demand), color, and suspended solids. Furthermore, CBA monitors various other parameters, including BOD (Biochemical Oxygen Demand), nitrogen, phosphorus, among others, to ensure comprehensive assessment and control of effluent quality.

Explique
<Not Applicable>

Consumo de água – volume total

Porcentagem verificada
76-100

Norma de verificação utilizada
All the data used in this report was verified by a third party during the verification process of the 2021 Annual Report. The verification was conducted in accordance with the GRI (Global Reporting Initiative) and SASB (Sustainability Accounting Standards Board) standards and audited in line with the ISAE 3000 Standard.
CBA also holds ISO 14001 certification and ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards in its units. These certifications and standards ensure that CBA follows internationally recognized practices and guidelines for environmental management and sustainability.

Explique
<Not Applicable>

W6. Governança

W6.1

(W6.1) A organização dispõe de uma política hídrica?
Sim, temos uma política hídrica documentada publicamente disponível

W6.1a

(W6.1a) Selecione as opções que melhor descrevem o escopo e o conteúdo da política hídrica.

	Escopo	Conteúdo	Explique
Linha 1	Na empresa como um todo	Descrição do escopo (incluindo os estágios da cadeia de valor) abrangidos pela política Descrição da dependência da empresa em relação à água Descrição do impacto da empresa para a água Compromisso de se alinhar com quadros, normas e iniciativas internacionais relacionadas à água amplamente reconhecidas Compromisso de prevenir, minimizar e controlar a poluição Compromisso de reduzir os volumes de captação e/ou consumo de água nas operações diretas Compromisso de reduzir os volumes de captação e/ou consumo de água na cadeia de fornecimento Compromisso com serviços de Água, Saneamento e Higiene (WASH) gerenciados com segurança no local de trabalho Compromisso com a instrução e a capacitação das partes interessadas sobre a segurança hídrica Compromisso com a governança da água e/ou a ação coletiva Compromisso com a conservação dos ecossistemas de água doce Compromissos além da conformidade regulatória Referência a metas hídricas da empresa Reconhecimento do direito humano à água e ao saneamento Reconhecimento das vinculações ambientais, por exemplo, devido às mudanças climáticas	CBA recently published a Water Resources Policy that provides a strategic view of the company's dependency on water in its business operations. This policy addresses not only water management within CBA units but also throughout the entire value chain, including training and engaging. The aluminum manufacturing process has high water consumption compared to other production processes and therefore plays a crucial role in conserving water resources. CBA recognizes the importance of water and, as such, outlines in its Policy the ESG Strategy 2030's goal to reduce water consumption by 20% per ton of molten aluminum produced. To support this objective, technological innovation is emphasized both within and outside the company, focusing on improving parameters and reuse processes, while complying with legal requirements and ensuring access to potable water for all individuals within CBA locations, as it is a basic human right. The Policy also mentions CBA's internal Water and Liquid Effluent Management Program, which highlights the need for training and qualification of all individuals involved in water collection and treatment, as well as raising awareness among employees and third parties on water conservation, with management guided by ASI and ISO standards. CBA's relationship and engagement with companies, institutions, and public initiatives such as the SDGs and the UN Global Compact are included in the Policy, as is the commitment to participate in water-related forums and committees. Currently, the company is an active member of Basin Committees and CEBDS (Brazilian Business Council for Sustainable Development). Regarding environmental issues and impacts, the company relates water issues to other environmental impacts, such as climate change and its adverse consequences. The Company also establishes connections with various other company policies, such as Stakeholder Engagement and Human Rights Policy, emphasizing the importance of the topic and the involvement of the entire value chain, in addition to meeting basic sanitation requirements. Furthermore, through the Sustainable Procurement Program, CBA outlines how it relates to and engages its suppliers in the pursuit of water sustainability and resilience. In the policy, the company also emphasizes the importance of aligning with internationally recognized frameworks, standards and initiatives related to water, as well as engaging with other stakeholders, in order to achieve a common goal.

W6.2

(W6.2) Existe supervisão das questões hídricas por parte do conselho na organização?

Sim

W6.2a

(W6.2a) Identifique o(s) cargo(s) do(s) indivíduo(s) (não inclua nenhum nome) do Conselho com responsabilidade pelas questões hídricas.

Cargo do indivíduo ou comitê	Responsabilidades por questões hídricas
Diretor Executivo (CEO)	CBA's CEO is a member of the Sustainability Committee and the Executive Sustainability Committee. He is responsible for approving water-related projects and decisions. For example, he was responsible for approving the climate adaptation analysis (directly linked to water) and participated in preparing and approving the 2030 ESG Strategy, which provides for freshwater consumption reduction. In addition, he frequently monitors the achievement of the company's ESG goals and is directly linked to the approval of projects to reduce water consumption, such as the smelters technology update project, the filter press project and the water resilience project at the Alumínio/SP unit, both already under implementation. The committee is also responsible for approving the allocation of funds for projects through the annual CAPEX budget in the company. This highlights the significance of their engagement in the subject.
Diretor Financeiro (CFO)	CBA's CFO also accumulates the responsibilities of CRO, CIO and CCO. He is also part 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 the elaboration and approval of the 2030 ESG Strategy, which contemplates goals for freshwater consumption reduction. The CFO also plays a critical role in analyzing and approving CAPEX projects, further emphasizing the significance of their engagement in the subject.
Diretor Operacional (COO)	CBA's COO of processed aluminum products is also part of the Executive Sustainability Committee. His role on the Committee is to assess sustainability risks and opportunities for operations and customers, including water-related issues. For example, he also participated in the elaboration and approval of the 2030 ESG Strategy, which contemplates goals for freshwater consumption reduction.
Diretor de Compras (CPO)	CBA's CPO is also part of the Executive Sustainability Committee. Her role is to assess sustainability opportunities and risks in the supply chain, including water-related issues. For example, she was responsible for approving the Sustainable Procurement Program that aims to engage our main suppliers on relevant issues. She also participated in the elaboration and approval of the 2030 ESG Strategy, which contemplates goals for freshwater consumption reduction.
Diretor de Sustentabilidade (CSO)	CBA's organizational human development, health, safety, environment, and Sustainability director participates in the sustainability executive committee and is responsible for monitoring the main sustainability projects (including those focused on water-related issues) that are and will be developed by the company. This representative participated in the approval of initiatives such as the first submission of CDP's water questionnaire, among others.
Outro, especifique (Engineering and Technology Director)	The Engineering and Technology Director is also part of the Executive Sustainability Committee. He is responsible for evaluating possible improvements that can be made through projects and innovation. For example, he was responsible for approving the inclusion of sustainability issues in the prioritization of projects, such as the smelters technology update, which will avoid the consumption of 3,600 megaliters of water. He is also responsible for implementing the projects that will contribute to water-related issues in CBA's operations and for the search for new technologies that can contribute to the achievement of the ESG 2030 Strategy goals.
Comitê do conselho	CBA has a Sustainability committee which operates on a permanent basis to advise the Board of Directors of Company on the following issues, among others: (i) Recommend to the Board of Directors the approval of the Sustainability strategy and objectives; (ii) Recommend to the Board of Directors the approval of the GRI Annual Report; (iii) Evaluate, monitor and recommend the 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 that are requested by the Board of Directors. The Sustainability Committee is an advisory body to the Company's board of directors and has bylaws own internal.
Outro, especifique (Sustainability General Manager)	The Sustainability General Manager is responsible for defining relevant topics, scheduling meetings, support and monitoring the decisions of the Executive Sustainability Committee. He is responsible to analyze the new topics that appear into the Executive Sustainability Committee and share it with his team to evaluate and structure new sustainability projects and initiatives.
Outro, especifique (Environment Manager)	The Environmental Manager is also part of the Executive Sustainability Committee. He is responsible for bringing the environmental vision to 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). CBA is ASI certified since 2019, with excellent results in audits, including the water management.
Outro, especifique (Casting General Manager)	The Casting General Manager is also part of the Executive Sustainability Committee. He is responsible for the operational and primary aluminum customer view on sustainability issues, including water-related issues.
Outro, especifique (Legal, Governance and Compliance Director)	The Legal, Governance and Compliance Director is also part of the Executive Sustainability Committee. He is responsible for bringing the legal aspects of the decisions made by this board and support the assessment of legal impacts of the company's activities in terms of sustainability themes and projects.
Outro, especifique (Independent members)	CBA's Executive Sustainability Committee has three independent members. The two first independent members are the director of the Votorantim Institute and the general manager of the Votorantim Reserves. They are responsible for bringing an external view of relevant sustainability issues, including water-related issues. The last independent member is a Brazilian reference in Sustainability and is responsible to bring an external view to the Committee discussions, benchmarks, and transparency to CBA's activities.
Presidente do Conselho	A member of the board is also part of the Sustainability Committee. He is responsible for bringing the board demands to the discussions. He also manages the Sustainability Committee of the Board, which the Chairman is part. The Sustainability Committee is responsible for providing technical support to the board about sustainability issues, including water topics.

W6.2b

(W6.2b) Forneça mais detalhes sobre a supervisão das questões hídricas pelo conselho.

	Frequência na qual as questões hídricas são um item programado da agenda	Mecanismos de governança nos quais as questões hídricas estão integradas	Explique
Linha 1	Programada – algumas reuniões	Monitoramento da implementação e do desempenho Monitoramento do progresso das metas corporativas Supervisão de grandes gastos de capital Supervisão da definição de metas corporativas Supervisão do engajamento com a cadeia de valor Análise e orientação de orçamentos anuais Análise e orientação da estratégia de responsabilidade corporativa Análise e orientação dos principais planos de ação Análise e orientação de políticas de gestão de riscos Análise e orientação de estratégia Análise das prioridades de inovação / P&D Definição de objetivos de desempenho	Since 2019, CBA has a Sustainability Committee to advise the Board of Directors, and the Executive Sustainability Committee, including independent members, on good governance practices that better inform decision-making at the strategic level. We understand the importance of a high level of integration across social, environmental and governance spheres. 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 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. The Sustainability Committee is responsible for (i) Recommending to the Board of Directors the strategy's approval and Sustainability objectives; (ii) Recommending to the Board of Directors approval of the GRI Annual Report; (iii) Evaluating, monitoring and recommending improvement of policies involving Company sustainability issues to the Executive Board, and when applicable to the Board of Directors; and (iv) Meeting any other sustainability demands that are requested by the Board of Directors. The Sustainability Committee is an advisory body to the Company's board of directors and has its own bylaws. In addition, CBA's board of directors and its individual members have activities directly related to water resources management. The CEO and CFO are responsible for approving and monitoring expenditures related to water management, both OPEX and CAPEX. The Supply Chain director, as the sponsor of the Sustainable Supply Program, monitors supplier engagement on sustainable water practices. The legal director oversees the risk management policy, which includes water scarcity concerns in both direct operations and the supply chain. All directors take part in the process of setting annual goals related to financial incentives, which may or may not include specific targets for water management, such as water consumption reduction. Annually, the corporate goals of the ESG 2030 Strategy are evaluated by CBA's Board of Directors and Executive Board.

W6.2d

(W6.2d) A organização tem pelo menos um membro do conselho com competências para questões hídricas?

	O(s) membro(s) do conselho tem(têm) competências para questões hídricas	Critérios utilizados para avaliar as competências do(s) membro(s) do conselho para questões hídricas	Razão principal para que não haja competências no conselho para questões hídricas	Explique por que a organização não tem pelo menos um membro do conselho com competências para questões hídricas, e se há eventuais planos para abordar as competências por parte do conselho no futuro
Linha 1	Sim	One of CBA's board members is an independent member who possesses expertise in sustainability, being also a member of the boards of directors of Paccar Inc. Minerals Technologies Inc. Prumo Logística S.A., AES Brasil S.A., and FS Bioenergia, Instituto Ethos, and WRI Brasil. As stated in CBA's 2022 Annual Report, this member holds positions on the Advisory Board of Instituto Ethos and WRI Brasil (World Resources Institute), esteemed organizations renowned for their dedication to water-related concerns, natural resources, and SDGs. Given the significance of these roles within reputable institutions, it is evident that the member possesses extensive technical knowledge in water-related subjects. CBA also has a Sustainability Committee composed of three members, including the board member mentioned before. The second independent member is deeply involved in the field of sustainability and is recognized as an SDG Pioneer by the UN Global Compact. Additionally, they hold the position of President of the Advisory Board of GRI Brazil, Vice-President of the Advisory Technical Council of CDP LA, and member of the Technical Council of Instituto Ekos Brazil. With a 15-year track record dedicated to sustainability, this individual also serves as an advisor to companies. The involvement of these members in the Sustainability Committee brings valuable expertise and experiences that contribute to advising the CBA Board of Directors in this critical field. The primary role of the Sustainability Committee is to provide guidance to the CBA Board and offer valuable insights based on their market perspective and extensive knowledge of industry best practices, with the aim of driving continuous improvements.	<Not Applicable>	<Not Applicable>

W6.3

(W6.3) Forneça o(s) cargo(s) de gerência ou comitê(s) de nível mais alto com responsabilidade pelas questões hídricas (não inclua os nomes dos indivíduos).

Nome do(s) cargo(s) e/ou comitê(s)
Diretor Executivo (CEO)

Responsabilidades relacionadas à água deste cargo
Avaliação de riscos e oportunidades hídricas
Gestão de riscos e oportunidades hídricas
Definição de metas hídricas corporativas
Monitoramento do progresso com relação às metas hídricas corporativas
Gestão do engajamento com a cadeia de valor sobre questões hídricas
Gestão dos orçamentos anuais relativos à segurança hídrica
Gestão de grandes capitais e/ou despesas operacionais relacionadas a produtos ou serviços de baixo impacto hídrico (incluindo P&D)

Frequência de reporte para o conselho das questões hídricas
Frequência maior que trimestral

Explique
In 2019, CBA established the Sustainability Committee, including CEO, Directors, General Managers, and independent members with sustainability expertise. This committee assumes crucial responsibilities concerning water-related matters, including reviewing the performance strategy, monitoring trends, assessing risks and opportunities, approving projects, providing resources for implementation, defining goals, and monitoring results. Water and wastewater management is still considered a material topic after the 2022 materiality matrix review. CBA's CEO actively participated reviewing the 2030 ESG Strategy, which already had a specific target for reducing freshwater intake and now, has a new target to implement water stewardship initiatives.
The CEO consistently oversees the company's progress towards its ESG goals and plays a direct role in approving projects aimed at reducing water consumption, such as the Smelter Technology Update project and the closed-circuit project at Alumínio/SP.

Nome do(s) cargo(s) e/ou comitê(s)
Diretor Financeiro (CFO)

Responsabilidades relacionadas à água deste cargo
Avaliação de riscos e oportunidades hídricas
Gestão de riscos e oportunidades hídricas
Definição de metas hídricas corporativas
Monitoramento do progresso com relação às metas hídricas corporativas
Gestão do engajamento com a cadeia de valor sobre questões hídricas
Gestão dos orçamentos anuais relativos à segurança hídrica
Gestão de grandes capitais e/ou despesas operacionais relacionadas a produtos ou serviços de baixo impacto hídrico (incluindo P&D)

Frequência de reporte para o conselho das questões hídricas
Frequência maior que trimestral

Explique
In addition to their role in the Executive Sustainability Committee, the CFO of CBA holds a crucial responsibility in implementing the company's financial strategy. Apart from overseeing the financial resources, the CFO plays a vital role in assessing risks and developing action plans to mitigate them. If there are identified risks that require preventive measures, the CFO takes on the responsibility of prioritizing investments to address these risks effectively. This ensures that water management and related initiatives receive the necessary financial support and attention within CBA's overall strategic framework.

Nome do(s) cargo(s) e/ou comitê(s)
Comitê de Sustentabilidade

Responsabilidades relacionadas à água deste cargo
Avaliação das futuras tendências de demanda de água
Avaliação de riscos e oportunidades hídricas
Gestão de riscos e oportunidades hídricas
Monitoramento do progresso com relação às metas hídricas corporativas

Frequência de reporte para o conselho das questões hídricas
Frequência maior que trimestral

Explique
The Sustainability Committee, established in April 2021, serves as the highest governing body responsible for addressing water-related issues within CBA. Its primary objective is to provide guidance and advice to the Board of Directors in the development and execution of the Sustainability Strategy, which encompasses corporate policies and actions pertaining to environmental, social, and governance matters. The committee comprises key members of the board, including the Chairman, as well as the CEO of CBA. This ensures that top-level decision-makers are actively involved in shaping the organization's approach to water management and sustainability practices.

W6.4

(W6.4) São dados incentivos aos membros do conselho ou do C-suite pela gestão das questões hídricas?

	Dar incentivos pela gestão das questões hídricas	Explique
Linha 1	Sim	Emphasizing the significance placed on ESG practices, CBA has established corporate targets that align with its 2030 ESG Strategy. These targets are directly linked to variable compensation for eligible employees working within the Aluminum and Energy business units. The specific targets assigned to each employee are tailored to their respective roles within the organization. Additionally, the target for senior management is determined based on the average performance across the entire business. This approach ensures that the ESG objectives are integrated into the performance evaluation and incentivization structure of CBA, reinforcing the company's commitment to sustainable practices.

W6.4a

(W6.4a) Quais incentivos são dados a funcionários do C-suite ou a membros do conselho pela gestão de questões hídricas (não inclua os nomes dos indivíduos)?

	Função(ões) com direito a incentivo	Indicador de desempenho	Contribuição de incentivos para o cumprimento dos compromissos hídricos da organização	Explique
Recompensa monetária	Diretor Executivo (CEO) Diretor Financeiro (CFO) Diretor Operacional (COO) Diretor de Compras (CPO) Diretor de Riscos (CRO) Diretor de Sustentabilidade (CSO) Outro Diretor do C-suite	Redução das captações da água – operações diretas Redução dos volumes de consumo de água – operações diretas Melhorias na eficiência hídrica – operações diretas Implementação de projeto hídrico comunitário Engajamento da cadeia de suprimentos	In CBA's ESG 2030 Strategy, two goals have been established regarding water management: to reduce water withdrawal by 20% per ton of liquid aluminum produced and to implement water stewardship initiatives to improve water security in partnership with stakeholders. Annually, the company sets different goals in its variable compensation program that directly support the achievement of these objectives. In 2022, As an example of the value placed on ESG practices, 10% of the variable compensation for all eligible employees is already tied to ESG goals, which are defined according to each professional's area of expertise. The goal for the executive board is calculated as an average of all consolidated results. This link emphasizes the importance of the topic for all employees and highlights the company's responsibility in environmental issues, including goals related to water management. In 2022, the corporate ESG goal most directly related to water focused on establishing a task force dedicated to Water Resilience, with a strong emphasis on operating within the river basin committees where CBA is present. Additionally, the corporate ESG goal of the Sustainable Supply Program involved advancing the ESG certification of suppliers, allowing for an assessment of the current landscape of CBA's suppliers on various topics, including water management.	In addition to the corporate goals, specific members of the board also had individual targets related to projects and initiatives directly impacting water consumption and sourcing at the company's units, particularly the Alumínio/SP unit, which represents 82% of the company's total water volume. For instance, the CEO and directors of engineering, primary business, and supply chain had specific targets on their dashboards regarding the progress, implementation, and results of projects such as the Filter Press Project and the modernization of furnace room technology, among others. Since these are annual goals, all the mentioned targets pertain to the progress achieved during the year 2022 (January to December). On a monthly basis, the board is updated on the goals that affect them through presentations and specific meetings, including the use of performance indicators categorized as "green," "yellow," and "red" to signal achieved performance levels.
Recompensa não-monetária	Ninguém tem direito a esses incentivos	<Not Applicable>	<Not Applicable>	Monetary reward is the only form of variable compensation based on goal achievement that CBA offers, as described earlier. Therefore, this option is not applicable.

W6.5

(W6.5) A empresa está engajada em atividades que possam, direta ou indiretamente, influenciar a política pública na área hídrica por meio de alguma das seguintes formas?

Sim, engajamento direto com os formuladores de políticas públicas
Sim, associações do setor
Sim, financiando organizações de pesquisa

W6.5a

(W6.5a) Quais processos estão em vigor na organização para garantir que todas as suas atividades diretas e indiretas que buscam influenciar as políticas estejam em consistência com seus compromissos com a água/com políticas relativas à água?

CBA partners with universities in the regions where it operates, providing scholarships for the development of water-related projects. The company adheres to policies and regulations at the national, state, and municipal levels, governing its activities accordingly. CBA actively contributes to the formulation of public policies by engaging in forums such as the Brazilian Business Council for Sustainable Development (CEBDS), where knowledge and best practices are shared with other companies. As a signatory of the Global Compact and the 2030 Agenda, CBA is committed to supporting the 17 SDGs outlined by the United Nations. The company actively participates in industry associations and initiatives such as ABAL (Brazilian Aluminum Association), IAI (International Aluminum Institute) and ASI (Aluminum Stewardship Initiative). CBA demonstrates transparency and accountability by publishing its Annual Report, which adheres to GRI and ANEEL standards, providing detailed information on water-related matters to stakeholders throughout its value chain.

CBA maintains a comprehensive code of conduct for its employees and suppliers. In cases of suspected misconduct, the company provides an Ethics Hotline, the official channel for reporting violations of the Code of Conduct, laws, and regulations, as well as internal policies and standards. This hotline is available to all stakeholders, including employees, community members, suppliers, and business partners, in Portuguese and English.

W6.6

(W6.6) A organização incluiu informações sobre sua resposta aos riscos hídricos em sua declaração financeira convencional mais recente?

Sim (é possível anexar o relatório – opcional)
2022 Caderno_Divulgacoes_Complementares_CBA English.pdf
2022 RA_CBA English.pdf

W7. Estratégia de negócios

W7.1

(W7.1) As questões hídricas estão integradas a algum aspecto do plano de negócios estratégico de longo prazo? Em caso afirmativo, como?

	As questões hídricas estão integradas?	Horizonte de longo prazo (anos)	Explique
Objetivos comerciais de longo prazo	Sim, as questões hídricas estão integradas	5-10	CBA understands the need to have products of a lower ecological footprint and is aware of the impact that water use (especially in areas of water stress) directly influences this aspect. Considering that sustainability is an essential pillar for CBA's business, these topics are fully related to the long-term business strategy. CBA has the ambition of becoming a reference in sustainability and works actively to achieve this outcome. Therefore, it always seeks new solutions and technologies to reduce water needs in its production process, or to increase efficiency of water reuse. The Company has specific Competitiveness Management and Market Development & Innovation areas that are constantly seeking new products with improved environmental performance, both for the company itself and for its customers. Some examples have already been mentioned, but one of the projects that most reinforces this company objective is modernizing the pot room technology, providing an estimated reduction of millions of m³ of water in the gas treatment process.
Estratégia para alcançar objetivos de longo prazo	Sim, as questões hídricas estão integradas	5-10	CBA has implemented a comprehensive 2030 ESG Strategy aligned with the 2030 Agenda and the SDGs. The strategy has 10 levers divided into 15 programs and 33 goals. One of these goals focuses on water management at the Alumínio/SP site, which accounted for 82% of CBA's total water withdrawals in 2022. The goal is to reduce 20% water withdrawals per metric ton of molten aluminum compared to the 2019 baseline. As of now, this indicator has already decreased by 17.2%, with its progress monitored monthly and information shared with CBA's Board of Directors. The annual status is published in CBA's Annual Report. CBA also included a new commitment during the review process, which aims to implement water stewardship initiatives to improve water security in partnership with stakeholders. As part of this initiative, CBA established a Water Resilience Working Group, which assessed business risks and opportunities related to water, including dam management and preparedness for water crises. CBA actively engages with River basin Committees in the regions where it operates. These engagements involve discussions on various matters related to the operation of the company's hydroelectric plants, such as safety policies, land and water use and conservation, sewage treatment, headwater preservation and rehabilitation, and other initiatives to improve water resource management. CBA seeks to ensure sustainable and responsible practices in its water-related operations.
Planejamento financeiro	Sim, as questões hídricas estão integradas	> 30	Water-related risks and opportunities have played a significant role in shaping CBA's cost management strategy, focusing on reducing water consumption and enhancing process efficiency. The company's 2030 ESG Strategy, designed for a 10-year time horizon, has a specific lever dedicated to natural resources management. To ensure effective planning and investment, CBA conducts an annual Strategic Planning exercise, known as PE, which outlines the company's projected investments for the next five years. This analysis encompasses all potential projects, with a particular focus on initiatives that aim to reduce water usage or improve water reuse which will be then incorporated into the investment portfolio. In 2021, CBA made its debut on the São Paulo Stock Exchange (B3) and offered a portion of its shares to the market. The proceeds from the Initial Public Offering (IPO) were strategically allocated to fuel the company's organic growth for the following two years. Specifically, the funds were directed towards several key projects, including the smelter technology update, the filter press project, and the expansion of aluminum production through recycling. The net proceeds from the IPO amounted to R$ 663,385.80, with 70% allocated to organic growth initiatives and 30% designated for inorganic growth through mergers and acquisitions (M&A). This allows CBA to advance its growth objectives while prioritizing sustainable practices and water conservation efforts.

W7.2

(W7.2) Qual é a tendência de despesas de capital (CAPEX) e de despesas operacionais (OPEX) da organização relativas à água para o ano de reporte e a tendência prevista para o próximo ano de reporte?

Linha 1

CAPEX relativas à água (+/- % de mudança)

988.54

Tendência futura prevista para o CAPEX (+/- % de mudança)

-55

OPEX relativas à água (+/- % de mudança)

0

Tendência futura antecipada para o OPEX (+/- % de mudança)

0

Explique

In 2022, the water-related CAPEX, including projects related to wastewater treatment, potable water, dams, and water efficiency, amounted to nearly R$300 million. This represents a significant increase compared to the previous year, with the investment value being almost 10 times higher. These investments are for the smelter technology upgrade project, the filter press projects, improvements in water and wastewater treatment plants and other smaller projects. As some projects and investments are expected to be completed this year, there is a preliminary expectation of a decrease in investment for the following year.
For 2022, there were no significant changes in the OPEx investments of the units and there are no anticipated changes for 2023.
Both forecasts for 2023 can be subject to change as they need to be evaluated and approved during the Company's Strategic Planning process.

W7.3

(W7.3) A organização usa a análise de cenários para informar sua estratégia de negócios?

	Uso da análise de cenários	Explique
Linha 1	Sim	In 2021, CBA conducted a climate change adaptation study, focusing on projecting climate scenarios for its direct operations for 2030, 2040, 2050 and 2060. The study utilized recognized tools such as Aqueduct (from WRI), World Clim and INPE to assess the potential impact of various identified risks on the company's operations. The projections considered the geographic coordinates of the plants and evaluated factors such as temperature, rainfall, drought risk, seasonal and inter-annual changes, and water stress. In 2023, the study was reviewed, and additional elements were incorporated into the analysis. This included assessing the impact on Alux and the hydropower plants. Furthermore, a new analysis was conducted using the WWF Water Risk Filter to evaluate water-related risks across all sites. These studies aimed to provide a more comprehensive understanding of the potential climate-related challenges and water risks that CBA's operations may face in the future.

W7.3a

(W7.3a) Dê detalhes da análise de cenários, quais resultados relacionados à água foram identificados e como eles influenciaram a estratégia de negócios da organização.

	Tipo de análise de cenários utilizado	Parâmetros, suposições, escolhas analíticas	Descrição de possíveis resultados hídricos	Influência na estratégia de negócios
Linha 1	Hídricos Climáticos	The opportunity to hold the climate adaptation study (using scenario analysis) was discussed when preparing the CBA ESG Strategy 2030 on the GHG Emissions Management program and related to the TCFD (Task force on Climate-Related Financial Disclosures) guidelines). During the study, transition risks and physical risks were plotted. Transition risks are those that arise on the way to a low-carbon economy, which can be regulatory, legal, technological, market or reputational. On the other hand, physical risks are those that threaten integrity of physical structures and safety of populations and can cause direct or indirect financial impacts, being acute (triggered by one-off extreme weather events) or chronic (relating to consequences to come in the long term). CBA used three different platforms/tools to structure its climate-related scenario analysis (AqueDuct, WRI, INPE and WorldClim). For each platform used, different time horizons were analyzed and in World Clim scenario assessment was carried out between 2041 and 2060, in INPE it was between 2005 and 2060 and in Aqueduct, baseline and years 2030 and 2040. We used the coordinates of each of our plants to study our business-specific climate-change projections. In all the platforms/tools, we evaluated all the following aspects: temperature, rainfall, drought risk, seasonal and inter-annual change, and water stress. Every scenario analysis was performed for each area according to the following ratings: Area 1: Alumínio/SP, Araçariguama/SP and Sorocaba/SP plants; Area 2: Itapissuma/PE; Area 3: Miraí/MG and Itamarati de Minas/MG mining plants; Areas 4 and 5 of the study do not include any of the plants planned in this questionnaire (exclusions detailed in W0.6a). Every analysis is based on RCP 4.5 and RCP 8.5.	Within the three areas evaluated in the study, the following possible impacts were found: Area 1: There is a 10-20% chance of water stress occurring in the town of Alumínio/SP in the three time horizons by Aque Duct and the Araçariguama/SP unit has a 40-80% chance as a baseline, which drops to 10-20% in 2030 and 2040. There is an INPE prediction of seasonal rainfall change, also verified by AqueDuct, with risks being high from low-medium to medium-high for 2030 and 2040. Finally, plotted risks of medium drought by both the INPE and the Aqueduct. Area 2: WorldClim and INPE predict a reduction in rainfall averages by about 10% in the highest volume months, in synergy with the medium drought risk and increase to high risk of water stress results plotted by AqueDuct. INPE and AqueDuct also detected possible seasonal changes in rainfall. Area 3: INPE anticipates a possible reduction in rainfall in practically every month of the year, with an increase in periods of extreme drought. AqueDuct plotted drought risk remaining as medium for the three time horizons and increasing seasonal rainfall change from medium-high in 2030 to high in 2040. Finally, AqueDuct also detected a change from low-medium to low between the base date, 2030 and 2040. When the tools are not mentioned in the areas, this is because they did not show results for the evaluated scenario.	CBA used the results found during this climate-related scenario analysis as input for the company's risk assessment process. When discussing budgets for projects and investments, if they are related to an action plan created to prevent an assessed risk from happening, they will be prioritized. This ensures that the company will always be working to avoid an impact, instead of working on action plans to correct damage already caused. CBA understands the need not only to act on the consequences of climate change, but also to avoid greater impacts. Thus, the company made large investments in projects such as the smelter technology upgrade and the change to a biomass boiler, which is the project with the greatest potential for GHG reduction. All these investments resulted in significant indicators - in the electrolysis stage in 2022, CBA reached an indicator of 3.03 ton CO2e per ton of produced aluminum with world average at 10.69 ton CO2e per ton of produced aluminum; and in the refinery stage, the CBA indicator was 0.23 ton CO2e per ton of alumina while the world average was 2.29 ton CO2e per ton of alumina. The reported data were obtained with data from scopes 1 and 2 of the CRU tool, launched by the CRU Group.

W7.4

(W7.4) Sua empresa usa um preço interno sobre a água?

Linha 1

A empresa usa um preço interno sobre a água?

Sim

Explique

In 2022, CBA implemented an internal pricing pilot for water consumption in its CAPEX projects. The engineering department utilizes a tool called the "Feasibility Sheet" for project analysis, which includes a specific tab for sustainability. This tab already assesses carbon gains, including pricing and now also incorporates internal pricing for water, with a distinction between potable water and reuse water. The pricing for each type of water is based on the average cost incurred in the previous year for the required treatment. Over the next two years, there are plans to include a similar methodology for the Competitiveness Management and Market Development & Innovation sectors. This approach allows for a more comprehensive assessment of the economic implications of water consumption and encourages responsible water management practices within CBA's project evaluations.

W7.5

(W7.5) A organização classifica algum dos seus produtos e/ou serviços atuais como de baixo impacto hídrico?

	Produtos e/ou serviços classificados como de baixo impacto hídrico	Definição utilizada para classificar o baixo impacto hídrico	Razão principal para que a organização não classifique nenhum dos seus produtos e/ou serviços atuais como de baixo impacto hídrico	Explique
Linha 1	Sim	CBA recognizes the significance of investing in process improvements and technological advancements to minimize water requirements and enhance water reuse. As a result, ongoing projects and investments are continuously undertaken across our operations and facilities to support the company's objective outlined in the ESG Strategy 2030, which aims to reduce water needs by 20% at the primary production unit in Alumínio/SP. Notably, the Engineering department, responsible for CAPEX projects, works in conjunction with the Competitiveness Management and Market Development & Innovation sectors to evaluate ESG criteria, including water usage, in all their initiatives, prioritizing sustainability gains. These departments also collaborate with clients to address water-related challenges in their businesses. According to CBA's 2022 Annual Report, water intensity at the integrated Alumínio/SP unit, encompassing mining, refining, smelting, casthouse and downstream activities, was recorded at 6.28 m³/ton of aluminum produced, reflecting a 7.78% reduction compared to the 2021 indicator. This reduction can be attributed to the implementation of water reduction projects and the water resilience initiative at the Alumínio/SP unit. The water resilience project ensures that all effluents undergo treatment and are reused as industrial water in relevant processes, although some processes necessitate the use of potable water to prevent impurities in the products. The Alumínio/SP unit manufactures both primary products (ingots, rods, billets, caster rolls and plate sheets) and processed products (foil, sheets and extruded profiles). To ensure fair comparisons, the same steps considered in the CBA water intensity indicator were applied to all evaluations and values obtained. These indicators encompass the entire process, starting from the refinery to the plastic transformation stage. Furthermore, during the criteria definition process, it was recognized that the Alumínio/SP unit, among the three CBA aluminum manufacturing units (Alumínio/SP, Araçariguama/SP and Itapissuma/PE), accounts for over 77% of the company's total production, making it the most representative plant in terms of water footprint. In addition to evaluating the water intensity indicator, CBA employs various strategies to reduce its water footprint not only within its direct operations but also in collaboration with its customers. The company strives to serve its customers by actively engaging in specific projects aimed at addressing challenges together. An illustrative example is the joint development of an aluminum spray bar to reduce weight in a particular section. This weight reduction enables an increased spray bar size, resulting in productivity gains in the field, reduced fuel consumption and minimized soil compaction. The introduction of this innovative product promotes best practices in modern agricultural production technologies, facilitating more efficient water usage, particularly in the lime tanks employed for diluting agricultural pesticides. It is important to note that the reduction in water consumption in this project is subject to the customer's specific mix and requirements, rather than being solely volume-dependent.	<Not Applicable>	In the evaluation of the information published in annual reports, seven aluminum manufacturers with a similar size to the CBA were evaluated and the following results were obtained: 1) United States: 12.2 m³/ton, 2) Russia: 14.74 m³/ton, 3) India: 50.4 m³/ton, 4) South Africa: 44.6 m³/ton. Companies located in Norway did not disclose information regarding water consumption in their production process, and companies located in Australia did not disclosure the information necessary to calculate the indicator. As previously mentioned, the Alumínio/SP unit accounts for over 77% of CBA's total production and has a water intensity indicator of 6.28 m³/ton, which is 30% lower than the lowest indicator observed among manufacturers of similar size. Based on this data, it can be concluded that CBA products have a relatively low impact on water resources compared to other manufacturers.

W8. Metas

W8.1

(W8.1) A organização tem metas relacionadas à água?

Sim

W8.1a

(W8.1a) Indique se a organização tem metas relacionadas à poluição da água, à captação de água, aos serviços de WASH ou a outras categorias relacionadas à água.

	Meta definida nesta categoria	Explique
Poluição da água	Não, e não planejamos fazê-lo nos próximos dois anos	CBA does not emit any critical pollutants into the environment, such as substances classified as hazardous, and therefore does not plan to set a specific goal regarding this issue. Currently, the company complies with all effluent disposal standards as required by the regulations in each location.
Captação de água	Sim	<Not Applicable>
Serviços de água, saneamento e higiene (WASH)	Não, e não planejamos fazê-lo nos próximos dois anos	Considering all the policies, programs, and actions of the company, CBA understands that setting specific goals regarding water supply and sanitation is not necessary. The importance of water supply and sanitation for employees and communities in the region is already addressed in the CBA's Code of Conduct, including the Supplier Code of Conduct.
Outros	Sim	<Not Applicable>

W8.1b

(W8.1b) Dê detalhes sobre as metas relacionadas à água da organização e os progressos realizados.

Número de referência da meta

Meta 1

Categoria da meta

Captação de água

Abrangência da meta

Na empresa como um todo (somente nas operações diretas)

Métrica quantitativa

Redução na captação total de água

Ano em que a meta foi definida
2020

Ano-base
2019

Valor no ano-base
2638

Ano da meta
2030

Valor no ano da meta
2110.4

Valor no ano de reporte
2183

Porcentagem da meta alcançada com relação ao ano-base
86.2395754359363

Status da meta no ano de reporte
Em andamento

Explique
CBA has set a target in its 2030 ESG Strategy to reduce water withdrawals per metric ton of molten aluminum by 20% at its Alumínio/SP unit, which represents 82% of the company's total water withdrawal volume. This target was disclosed in the 2022 Annual Report and is applicable to the entire company, despite being specific to Alumínio/SP.
The 2022 Annual Report reveals that freshwater withdrawal decreased from 2,638 megaliters in 2019 to 2,183 megaliters in 2022, representing a reduction of 17.2%. The Alumínio/SP site operates a closed-loop system, which ensures internal water reuse and eliminates external discharge.
To enhance process efficiency, CBA is implementing various initiatives, including the Smelter Technology Update project. This project is estimated to reduce water usage by more than 3,600 megaliters annually. Despite considering water as a highly important theme, CBA has not identified the need to revise its goal as part of the annual reviews of the 2030 ESG Strategy.

Número de referência da meta
Meta 2

Categoria da meta
Reciclagem/reutilização da água

Abrangência da meta
Unidade/instalação

Métrica quantitativa
Aumento no uso de água atendido por meio da reciclagem/reutilização

Ano em que a meta foi definida
2022

Ano-base
2021

Valor no ano-base
97

Ano da meta
2022

Valor no ano da meta
99

Valor no ano de reporte
99.54

Porcentagem da meta alcançada com relação ao ano-base
127

Status da meta no ano de reporte
Alcançada

Explique
CBA's mining units have recognized the importance of water management and have set specific goals for 2022. In line with this commitment, the Miraí/MG site aimed to achieve a remarkable recirculated water rate of 99%, allowing only 1% of the withdrawn water to be discharged. This ambitious target is an integral part of the site's annual objectives and is accompanied by monetary compensation.
The efforts at the Miraí/MG site have yielded impressive results, as they achieved a recirculation rate of 99.54%. This accomplishment signifies that a substantial portion of the withdrawn water underwent treatment and was successfully recycled back into the mining processes. The site's dedication to maximizing water reuse demonstrates the company's unwavering commitment to sustainable practices throughout the entire aluminum production process.
By achieving such a high recirculation rate, CBA's Miraí/MG site sets a significant example within the industry, showcasing the importance of responsible water management. This achievement not only contributes to the conservation of water resources but also underscores the site's commitment to minimizing environmental impact and promoting sustainable operations.

Número de referência da meta
Meta 3

Categoria da meta
Intensidade hídrica dos produtos

Abrangência da meta
Unidade/instalação

Métrica quantitativa
Redução por produto

Ano em que a meta foi definida
2022

Ano-base
2021

Valor no ano-base
6.82

Ano da meta
2022

Valor no ano da meta
7.06

Valor no ano de reporte
6.28

Porcentagem da meta alcançada com relação ao ano-base
-225.000000000001

Status da meta no ano de reporte
Alcançada

Explique
CBA acknowledges the importance of water management and has implemented specific goals for 2022 to ensure sustainable practices. With a strong commitment to achieving its 2030 ESG Strategy, the Alumínio/SP site, accounting for 82% of the company's total water withdrawal, aimed to achieve a water intensity indicator of 7.06 m³ per metric ton of molten aluminum.
This ambitious target was established as a crucial component of the site's annual objectives and it's a part of its monetary reward program. Rather than specifying a percentage reduction, the site set a maximum desired indicator. By the end of the year, the Alumínio/SP site successfully achieved an impressive indicator of 6.28 m³ per metric ton, surpassing its target by a remarkable 11%.
This achievement highlights the site's unwavering dedication to water management and sustainability. The significant reduction in water intensity showcases the effectiveness of the site's efforts in optimizing water usage and implementing efficient processes. By surpassing their target, the Alumínio/SP site exemplifies CBA's commitment to responsible water management and contributes to the realization of the company's long-term sustainability goals.

W9. Verificação

W9.1

(W9.1) A organização verifica alguma outra informação sobre a água relatada na sua divulgação para o CDP (ainda não abrangida por W5.1a)?
Sim

W9.1a

(W9.1a) Quais dados da divulgação para o CDP foram verificados, e quais normas foram usadas?

Módulo de reporte	Dados verificados	Norma de verificação	Explique
W0 Introdução	Company's specific information	ISAE 3000	The data presented in this module has undergone an independent third-party audit to ensure transparency, as stated in CBA's 2021 Annual Report. The Annual Report was prepared in accordance with the standards set by the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB) and the Brazilian National Electric Energy Agency (ANEEL). The evidence and data collection methods employed by CBA were thoroughly examined and verified by a third-party during the audit process. The assurance report, which provides additional credibility to the reported information, is publicly available and disclosed alongside the Annual Report. This external verification ensures the accuracy and reliability of the data presented in the report, reinforcing CBA's commitment to transparency and accountability in its sustainability reporting.
W1 Estado atual	Water accounting (volumes of water collection, disposal and recycling)	ISAE 3000	The data presented in this module has undergone an independent third-party audit to ensure transparency, as stated in CBA's 2021 Annual Report. The Annual Report was prepared in accordance with the standards set by the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Brazilian National Electric Energy Agency (ANEEL). The evidence and data collection methods employed by CBA were thoroughly examined and verified by a third-party during the audit process. The assurance report, which provides additional credibility to the reported information, is publicly available and disclosed alongside the Annual Report. This external verification ensures the accuracy and reliability of the data presented in the report, reinforcing CBA's commitment to transparency and accountability in its sustainability reporting.
W4 Riscos e oportunidades	Detailed opportunities data	ISAE 3000	The data presented in this module has undergone an independent third-party audit to ensure transparency, as stated in CBA's 2021 Annual Report. The Annual Report was prepared in accordance with the standards set by the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Brazilian National Electric Energy Agency (ANEEL). The evidence and data collection methods employed by CBA were thoroughly examined and verified by a third-party during the audit process. The assurance report, which provides additional credibility to the reported information, is publicly available and disclosed alongside the Annual Report. This external verification ensures the accuracy and reliability of the data presented in the report, reinforcing CBA's commitment to transparency and accountability in its sustainability reporting.
W7 Estratégia	Integration of water-related issues to the 2030 ESG Strategy	ISAE 3000	The data presented in this module has undergone an independent third-party audit to ensure transparency, as stated in CBA's 2021 Annual Report. The Annual Report was prepared in accordance with the standards set by the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Brazilian National Electric Energy Agency (ANEEL). The evidence and data collection methods employed by CBA were thoroughly examined and verified by a third-party during the audit process. The assurance report, which provides additional credibility to the reported information, is publicly available and disclosed alongside the Annual Report. This external verification ensures the accuracy and reliability of the data presented in the report, reinforcing CBA's commitment to transparency and accountability in its sustainability reporting.
W8 Metas	Water-related targets and goals	ISAE 3000	The data presented in this module has undergone an independent third-party audit to ensure transparency, as stated in CBA's 2021 Annual Report. The Annual Report was prepared in accordance with the standards set by the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Brazilian National Electric Energy Agency (ANEEL). The evidence and data collection methods employed by CBA were thoroughly examined and verified by a third-party during the audit process. The assurance report, which provides additional credibility to the reported information, is publicly available and disclosed alongside the Annual Report. This external verification ensures the accuracy and reliability of the data presented in the report, reinforcing CBA's commitment to transparency and accountability in its sustainability reporting.
SW Módulo Supply Chain	Water-related targets and goals and water intensity by product	ISAE 3000	The data presented in this module has undergone an independent third-party audit to ensure transparency, as stated in CBA's 2021 Annual Report. The Annual Report was prepared in accordance with the standards set by the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Brazilian National Electric Energy Agency (ANEEL). The evidence and data collection methods employed by CBA were thoroughly examined and verified by a third-party during the audit process. The assurance report, which provides additional credibility to the reported information, is publicly available and disclosed alongside the Annual Report. This external verification ensures the accuracy and reliability of the data presented in the report, reinforcing CBA's commitment to transparency and accountability in its sustainability reporting.

W10. Plásticos

W10.1

(W10.1) A organização mapeou onde na sua cadeia de valor os plásticos são utilizados e/ou produzidos?

	Mapeamento dos plásticos	Estágio da cadeia de valor	Explique
Linha 1	Sim	Operações diretas	CBA recognizes the importance of a comprehensive understanding of the impact associated with plastics. Currently, the company exclusively uses plastics for packaging purposes in its final products for customers. As part of its approach, CBA has implemented measures to control and reduce the consumption of these packaging materials, including initiatives from Competitiveness Management, which assess sustainability gains such as reduced input consumption and waste generation, or improvements in disposal methods. Additionally, CBA adopts an efficient waste management system and emphasizes the prioritization of recycling these plastics across all its operational units.

W10.2

(W10.2) Na sua cadeia de valor, a organização avaliou os potenciais impactos ambientais e para a saúde humana do seu uso e/ou produção de plásticos?

	Avaliação do impacto	Estágio da cadeia de valor	Explique
Linha 1	Sim	Operações diretas Cadeia de fornecimento	During the assessments of environmental aspects and impacts in various areas, multiple factors that can have positive or negative impacts on the environment are evaluated. Considering that CBA is a primary aluminum manufacturer and does not produce plastics, all the identified impacts are related to the consumption of plastics within its operations, excluding other stages of the material's life cycle. Regarding the consumption of materials, whether plastics or others, the related impact is the depletion of natural resources. As for the aspect of waste generation, whether it includes plastic as an input or is contaminated with oils, the potential identified impact is the alteration of soil and/or water quality. Considering that CBA conducts life cycle assessment studies for all its products using a cradle-to-gate scope, it is understood that the impacts related to the manufacturing of plastic for use in its direct operations have also been evaluated and mapped. Since the studies do not consider the stages after the manufacturing of CBA's products, the option of the product's use phase was not selected.

W10.3

(W10.3) Na sua cadeia de valor, a organização está exposta a riscos relacionados ao plástico com potencial para causar um impacto financeiro ou estratégico significativo nos seus negócios? Em caso positivo, dê detalhes.

	Exposição a riscos	Estágio da cadeia de valor	Tipo de risco	Explique
Linha 1	Não, riscos avaliados e nenhum considerado significativo	<Not Applicable>	<Not Applicable>	CBA utilizes plastic in its operations solely in the final stage of some of its products, using the material for packaging purposes to prevent damage during transportation and handling until the products reach their customers. Therefore, it is understood that there are no regulatory, reputational, technological, or physical risks associated with the use or absence of plastic in CBA's operations.

W10.4

(W10.4) A organização tem metas relacionadas ao plástico? Em caso positivo, de que tipo?

	Metas em vigor	Tipos de energia/eletricidade abrangidos pela meta	Métrica da meta	Explique
Linha 1	Não – e não planejamos fazer isso nos próximos dois anos	<Not Applicable>	<Not Applicable>	CBA utilizes plastic in its operations solely in the final stage of some of its products, using the material for packaging purposes to prevent damage during transportation and handling until the products reach their customers. Therefore, it is understood that there are no regulatory, reputational, technological, or physical risks associated with the use or absence of plastic in CBA's operations. Furthermore, the consumption of plastics in CBA's operations is of very little significance when compared to the inputs in the aluminum value chain specifically. Nevertheless, CBA consistently collaborates with its suppliers and partners to explore alternative solutions in the market for replacing plastic packaging. Currently, there are no plans to establish specific targets for reducing the consumption of this input within the Company.

W10.5

(W10.5) Indique se a organização se engaja nas seguintes atividades.

	A atividade se aplica	Explique
Produção de polímeros plásticos	Não	CBA is the only vertically integrated aluminum producer in Brazil, and one of the few in the world, with operations that span from bauxite mining to the production of a comprehensive portfolio of primary aluminum (ingots, slabs, billets, and rod) and downstream products (sheets and coils, foils, and extruded profiles). None of its products consist of plastic (polymers or contents).
Produção de componentes duráveis em plástico	Não	CBA is the only vertically integrated aluminum producer in Brazil, and one of the few in the world, with operations that span from bauxite mining to the production of a comprehensive portfolio of primary aluminum (ingots, slabs, billets, and rod) and downstream products (sheets and coils, foils, and extruded profiles). None of its products consist of plastic (polymers or contents).
Produção / comercialização de produtos duráveis em plástico (incluindo materiais mistos)	Não	CBA is the only vertically integrated aluminum producer in Brazil, and one of the few in the world, with operations that span from bauxite mining to the production of a comprehensive portfolio of primary aluminum (ingots, slabs, billets, and rod) and downstream products (sheets and coils, foils, and extruded profiles). None of its products consist of plastic (polymers or contents).
Produção / comercialização de embalagens plásticas	Não	CBA is the only vertically integrated aluminum producer in Brazil, and one of the few in the world, with operations that span from bauxite mining to the production of a comprehensive portfolio of primary aluminum (ingots, slabs, billets, and rod) and downstream products (sheets and coils, foils, and extruded profiles). None of its products consist of plastic (polymers or contents).
Fabricação de produtos embalados em plástico	Não	CBA is the only vertically integrated aluminum producer in Brazil, and one of the few in the world, with operations that span from bauxite mining to the production of a comprehensive portfolio of primary aluminum (ingots, slabs, billets, and rod) and downstream products (sheets and coils, foils, and extruded profiles). None of its products consist of plastic (polymers or contents). The consumption of plastic for packaging purposes is minimal and insignificant when compared to the production volume of CBA's products. This is primarily due to the fact that only a few products actually require plastic packaging during their packaging stage.
Fornecimento / comercialização de bens ou serviços que usam embalagens plásticas (por ex., varejo e serviços alimentares)	Não	CBA is the only vertically integrated aluminum producer in Brazil, and one of the few in the world, with operations that span from bauxite mining to the production of a comprehensive portfolio of primary aluminum (ingots, slabs, billets, and rod) and downstream products (sheets and coils, foils, and extruded profiles). None of its products consist of plastic (polymers or contents). CBA is also a B2B company (Business to Business), meaning that there's no commercialization of product directly to the final consumer.

W11. Aprovação

W-FI

(W-FI) Use este campo para fornecer informações ou contextos adicionais que podem ser consideradas relevantes para a resposta da organização. Observe que este campo é opcional e não é pontuado.

-

W11.1

(W11.1) Dê detalhes sobre a pessoa que assinou (aprovou) as respostas sobre segurança hídrica para o CDP.

	Cargo	Categoria de cargo correspondente
Linha 1	President-Director	Diretor Executivo (CEO)

SW. Módulo do programa Supply Chain

SW0.1

(SW0.1) Qual é a receita anual da sua organização para o período de divulgação?

	Receita anual
Linha 1	8625000000

SW1.1

(SW1.1) Alguma das instalações indicadas em W5.1 pode exercer impacto para um membro solicitante do programa Supply Chain do CDP?

Sim, os membros do programa Supply Chain do CDP compram bens e serviços das instalações indicadas em W5.1

SW1.1a

(SW1.1a) Indique quais instalações mencionadas em W5.1 podem causar impactos para um membro solicitante do programa Supply Chain do CDP.

Número de referência da instalação
Instalação 1

Nome da instalação
Alumínio/SP - Refinery, Smelters, Casting and Transformation aluminum plant

Membro solicitante
Ambev S.A

Descrição do potencial impacto para o membro
Currently, the company AMBEV carries out the indirect purchase of products produced by CBA, as it passes through converters for the manufacture of hygienic seals on beverage cans and for 'necks' of glass bottles. Today, we are not aware of the amount of our product sold to the converters that are purchased by AMBEV and how representative this is in their total consumption of this material. Therefore, we have no way of estimating the real impact for AMBEV if CBA must reduce or paralyze its operations.

Explique
The same product (foil) is purchased from both units (Alumínio/SP and Itapissuma/PE), but in bigger quantity from Alumínio/SP.

Número de referência da instalação
Instalação 2

Nome da instalação
Itapissuma/PE - Casting and Transformation aluminum plant

Membro solicitante
Ambev S.A

Descrição do potencial impacto para o membro
Currently, the company AMBEV carries out the indirect purchase of products produced by CBA, as it passes through converters for the manufacture of hygienic seals on beverage cans and for 'necks' of glass bottles. Today, we are not aware of the amount of our product sold to the converters that are purchased by AMBEV and how representative this is in their total consumption of this material. Therefore, we have no way of estimating the real impact for AMBEV if CBA must reduce or paralyze its operations.

Explique
The same product (foil) is purchased from both units (Alumínio/SP and Itapissuma/PE), but in bigger quantity from Alumínio/SP.

SW1.2

(SW1.2) É possível fornecer dados de geolocalização das instalações?

	É possível fornecer dados de geolocalização das instalações?	Explique
Linha 1	Sim, para todas as instalações	As mentioned in the previous question, it was found that the CBA products used at AMBEV are the products produced at the integrated unit in Alumínio/SP and the Itapissuma/PE plants.

SW1.2a

(SW1.2a) Forneça todos os dados de geolocalização disponíveis para as instalações.

Identificador	Latitude	Longitude	Explique
Alumínio/SP - Refinery, Smelters, Casting and Transformation aluminium plant	-23.535007	-47.261304	Indicator facilities refer only to facilities with potential water risks (not necessarily water stressed areas) that could impact CBA's client. Geolocation data from other units without mapped risks is not being presented at this time.
Itapissuma/PE - Casting and Transformation aluminium plant	-7.797339	-34.905503	Indicator facilities refer only to facilities with potential water risks (not necessarily water stressed areas) that could impact CBA's client. Geolocation data from other units without mapped risks is not being presented at this time.

SW2.1

(SW2.1) Proponha algum projeto relacionado à água mutuamente benéfico no qual você possa colaborar junto com membros específicos da cadeia de valor do CDP.

SW2.2

(SW2.2) Algum projeto hídrico já foi implantado devido ao engajamento com um membro do programa Supply Chain do CDP?
Não

SW3.1

(SW3.1) Dê eventuais valores de intensidade hídrica disponíveis para os produtos ou serviços da organização.

Nome do produto
Liquid aluminium

Valor da intensidade hídrica
6.28

Numerador: Aspecto hídrico
Captação de água

Denominador
Production of liquid aluminium (used for both primary and downstream aluminium).

Explique
Water intensity calculations consider water consumption equivalent to water abstractions. The denominator used deals with the production of liquid aluminum which is the primary product for the manufacture of all others in the unit. At the Alumínio/SP unit, where the highest consumption of water occurs at CBA (87% of the total in 2021), the closed loop project has been implemented since 2002 to minimize water abstraction, which has already brought a significant reduction of 17.2% when compared to 2019.

Nome do produto
Beneficiated bauxite

Valor da intensidade hídrica
0.05

Numerador: Aspecto hídrico
Captação de água

Denominador
Extraction and processing of bauxite

Explique
Water intensity calculations consider water consumption equivalent to water abstractions. The denominator used refers to the volume of ore (bauxite) extracted and processed in our mining units.

Envie sua resposta

Sua resposta está sendo enviada em qual idioma?
Inglês

Confirme como a sua resposta deve ser gerenciada pela CDP

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

Indique seu consentimento para que o CDP compartilhe os detalhes de contato com o Pacific Institute para respaldar o conteúdo do site Water Action Hub.
Sim, o CDP poderá compartilhar detalhes de contato do nosso Usuário Principal com o Pacific Institute

Confirme abaixo
Li e aceito os Termos aplicáveis